

Tracey Bretag
Editor

Handbook of Academic Integrity

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With 42 Figures and 23 Tables

 Springer Reference

Editor
Tracey Bretag
School of Management
University of South Australia
Adelaide, SA, Australia

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Preface

Since the 1990s, academic integrity has become a central preoccupation for all stakeholders in education. What may have seemed like a relatively easy topic to address has, in fact, turned out to be a very complex, interdisciplinary field of research requiring contributions from linguists, psychologists, social scientists, anthropologists, teaching and learning specialists, mathematicians, accountants, medical doctors, lawyers, and philosophers, to name just a few. Despite or perhaps because of this broad interest and input, until now there has been no single authoritative reference work which brings together the vast, growing, interdisciplinary, and at times contradictory body of literature.

The *Handbook of Academic Integrity* brings together diverse views from around the world and provides a comprehensive overview, beginning with different definitions of academic integrity through how to create the ethical academy. The *Handbook* also engages with some of the vigorous debates in the field such as the context and causes of academic integrity breaches and how best to respond to those breaches. For established researchers/practitioners and those new to the field, the *Handbook* provides both a one-stop shop and a launching pad for new explorations and discussions.

The *Handbook of Academic Integrity* is divided into 10 sections based on key discussions/themes in the field, introduced by Section Editors who are internationally recognized researchers and writers on academic integrity. Double-blind peer review of every chapter has added to the rigor of the *Handbook* as the definitive work on this subject.

The *Handbook* is available as a print edition and as a fully searchable online version.

January 2016

Tracey Bretag
Adelaide, South Australia

Acknowledgments

I would like to express my deep gratitude to the hundreds of people who have contributed to this book. Many thanks to my dear colleagues who accepted the challenge and responsibility for being section editors: Tricia Bertram Gallant, Becky Moore Howard, Mike Kalichman, Helen Marsden, Brian Martin, Erica J. Morris, and Wendy Sutherland-Smith. Your knowledge, expertise, networks, firm editing hand, and dogged commitment to the project have been invaluable to the success of the *Handbook*. You pushed the authors when they didn't want to be pushed and ensured that we met all of our publishing deadlines.

A debt of gratitude is owed to the authors from all around the world who spent countless hours drafting, revising, refining, and finalizing their chapters. The book belongs to you. I hope you gained as much from writing your contribution as the field of academic integrity has benefited from the inclusion of your voice. A special thank you to our cherished colleague Professor Don McCabe, for offering pearls of wisdom, based on decades of research.

To the often unsung heroes of the academic world, the peer reviewers, I offer my heartfelt thanks. Your supportive but critical eyes have strengthened the book in myriad ways and ensured that every contribution met the highest standards of scholarly endeavor. No author will thank you for the extra work of revisions, but your insistence on coherent and logical argument, engagement with the broader literature, critical insight, and, not least of all, meticulous adherence to academic conventions is what makes the *Handbook* both an exploration and an exemplar of academic integrity.

I would also like to offer my appreciation to the team at Springer who have worked tirelessly with me over the last 2 years to see this project to fruition. Thank you to Nick Melchior for suggesting that I lead this project way back in October 2013; thank you to Neha Thapa for your patience with emails too numerous to count; and a big thanks to the production team who brought it all together at the end.

Finally I would like to acknowledge the generous support and encouragement of the UniSA Business School. To my colleague Tina Morganella, thank you for your assistance with copy editing, and to my Head of School Thomas Maak and Pro Vice

Chancellor Marie Wilson, I am sincerely grateful that you understood the value of this project and allowed me the time and space to complete it. I believe that the insights I have acquired during the process will be of direct benefit to the University of South Australia.

Tracey Bretag
Adelaide, South Australia

Editor's Note

All chapters in *The Handbook of Academic Integrity* have undergone “double-blind” peer review. That is, every chapter was independently evaluated by two reviewers who did not know the identity of the author. In sections where the Section Editor was also a contributor, the chapter was sent to another Section Editor who maintained the confidentiality of the peer review process. Chapters were assessed against the following criteria:

- Adequate coverage of issue, appropriately situated in the broader academic integrity literature
- Critical and/or analytic insight
- Coherence, readability, and accessibility
- Referencing and academic conventions

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About the Editor



Tracey Bretag

School of Management
University of South Australia
Adelaide, SA, Australia

Tracey Bretag, B.A. (Hons), M.A., Ed.D., has an eclectic background in English literature, gender studies, Teaching English to Speakers of Other Languages, and education. She teaches communication, ethics, and professional development courses in the School of Management at the University of South Australia.

Tracey’s research for over a decade has focused on all aspects of academic integrity. In 2014 she completed an Australian Government Office for Learning and Teaching–funded project, *Extending and embedding exemplary academic integrity policy across the higher education sector*, and previously led the Australian Learning and Teaching Council–funded project, *Academic integrity standards: Aligning policy and practice in Australian universities* (2010–2012).

Tracey is the founding Editor of the *International Journal for Educational Integrity*, former Chair of the *Asia-Pacific Forum on Educational Integrity*, and President of the Executive Board to the *International Center for Academic Integrity* in the United States. Her most recent publications have included papers on academic integrity policy and practice, publication ethics, and issues of integrity for postgraduate research students.

Section Editors



Tracey Bretag School of Management, University of South Australia, Adelaide, SA, Australia



Tricia Bertram Gallant Academic Integrity Office, University of California, San Diego, CA, USA



Rebecca Moore Howard Syracuse University, Syracuse, NY, USA



Michael Kalichman Research Ethics Program, University of California, San Diego, La Jolla, CA, USA



Helen Marsden Graduate Research and Researcher Development, University of Canberra, Canberra, ACT, Australia



Brian Martin Humanities and Social Inquiry, University of Wollongong, Wollongong, NSW, Australia



Erica J. Morris Anglia Learning and Teaching, Anglia Ruskin University, Cambridge, Cambridgeshire, UK



Wendy Sutherland-Smith Teaching and Learning (Pedagogy and Quality Improvement), School of Psychology, Faculty of Health, Deakin University, Burwood, VIC, Australia

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- Kim Sawyer** University of Melbourne, Victoria, Australia
- Jeff Schmidt** independent scholar, Los Angeles, USA
- Dianne Schmitt** Nottingham Trent University, England, UK
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- Christina Vanathas** Taylors University, Selangor, Malaysia

-
- Joelle Vandermensbrugge** University of Canberra, Canberra, Australia
Robert Vaughn American University Washington, Washington, USA
Ruth Walker University of Wollongong, New South Wales, Australia
Lisa Wallace Cardiff University, Cardiff, Wales
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Anthony Welch University of Sydney, New South Wales, Australia
Holly White Syracuse University, New York, USA
Daniel Wueste Clemson University, South Carolina, USA
Vivian Yenika-Agbaw Penn State University, Pennsylvania, USA
Fumiko Yoshimura Tohoku Gakuin University, Sendai, Japan
Sarah Zappe Penn State University, Pennsylvania, USA
Michael Zigmond University of Pittsburgh, Pittsburgh, USA

Contributors

Mohamed Nagib Abou-Zeid Department of Construction & Architectural Engineering, The American University in Cairo, Cairo, Egypt

Jamal A. Adam Organizational Leadership, Policy, and Development, University of Minnesota, Minneapolis, MN, USA

Lee Adam Faculty of Dentistry, University of Otago, Dunedin, New Zealand

Claire Aitchison School of Education, Western Sydney University, Penrith, NSW, Australia

Melissa S. Anderson Organizational Leadership, Policy, and Development, University of Minnesota, Minneapolis, MN, USA

Giselle Basanta Academic Integrity Office, Ryerson University, Toronto, ON, Canada

Samantha Bernstein-Sierra Rossier School of Education, University of Southern California, Los Angeles, CA, USA

Tricia Bertram Gallant Academic Integrity Office, University of California, San Diego, CA, USA

Susan D. Blum Department of Anthropology, The University of Notre Dame, Notre Dame, IN, USA

Annette Braunack-Mayer School of Public Health, The University of Adelaide, Adelaide, SA, Australia

Tracey Bretag School of Management, University of South Australia, Adelaide, SA, Australia

Mark Brimble Griffith Business School, Griffith University, Brisbane, QLD, Australia

Jude Carroll Independent Educational Development Consultant, Formerly at Oxford Brookes University, Oxford, Oxfordshire, UK

Joyce Kim Sim Cheah Taylor's Business School, Taylor's University, Selangor, Malaysia

Shuangye Chen Department of Educational Administration and Policy, Chinese University of Hong Kong, Shatin, Hong Kong

Julia Christensen Hughes College of Business and Economics, University of Guelph, Guelph, ON, Canada

Gina Cinali Gulf/2000, Columbia University, New York, NY, USA
Institutional Research and Effectiveness, AlAkhawayn University, Ifrane, Morocco

Robert Clarke School of Computing, Telecommunications and Networks, Birmingham City University, Birmingham, UK

Alejandro Cortés-Arbeláez Universidad EAFIT, Medellin, Colombia, South America

Laura J. Panning Davies English Department, State University of New York College at Cortland, Cortland, NY, USA

Jason A. Delborne Department of Forestry and Environmental Resources, North Carolina State University, Raleigh, NC, USA

Tom Devine Government Accountability Project, Washington, DC, USA

Pieter Drenth Department of Psychology, VU University, Amsterdam, The Netherlands

Patrick Drinan College of Arts and Science, University of San Diego, San Diego, CA, USA

Julianne East La Trobe University, Melbourne, VA, Australia

David Feldon Instructional Technology and Learning Sciences, Utah State University, Logan, UT, USA

Teresa ‘Teddi’ Fishman International Center for Academic Integrity, Clemson University, Clemson, SC, USA

Nicole Foeger Austrian Agency for Research Integrity, Vienna, Austria

Gigi Foster School of Economics, UNSW Business School, Sydney, NSW, Australia

Nathalia Franco-Pérez Universidad EAFIT, Medellin, Colombia, South America

Mark S. Frankel American Association for the Advancement of Science, Washington, DC, USA

Mauricio García-Villegas Universidad Nacional de Colombia, Bogotá, Colombia

Joanna Gilmore Charleston County School District, Charleston, SC, USA

Irene Glendinning Coventry University, Coventry, UK

Elizabeth Heitman Center for Biomedical Ethics and Society, Vanderbilt University Medical Center, Nashville, TN, USA

Brian L. Heuser Department of Leadership, Policy and Organizations, Peabody College, Vanderbilt University, Nashville, TN, USA

Rebecca Moore Howard Syracuse University, Syracuse, NY, USA

Mark Israel Faculty of Law, University of Western Australia, Crawley, WA, Australia

Colin James ANU Legal Workshop, ANU College of Law, Australian National University, Canberra, ACT, Australia

Faculty of Business and Law, Newcastle Law School, University of Newcastle, Newcastle, NSW, Australia

Sandra Jamieson Drew University, Madison, NJ, USA

Michael Kalichman Research Ethics Program, University of California, San Diego, La Jolla, CA, USA

Adrianna Kezar School of Education, University of Southern California, Los Angeles, CA, USA

Daniel Lee Kleinman Department of Community and Environmental Sociology, University of Wisconsin-Madison, Madison, WI, USA

Erika Löfström Institute of Behavioural Sciences, Centre for Research and Development of Higher Education, University of Helsinki, Helsinki, Finland

Thomas Lancaster School of Computing, Telecommunications and Networks, Birmingham City University, Birmingham, UK

Christopher Lang Office of Appeals, Discipline and Faculty Grievances, University of Toronto, Toronto, ON, Canada

David J. Lazo Department of Leadership, Policy and Organizations, Peabody College, Vanderbilt University, Nashville, TN, USA

In Jae Lee Department of Ethics Education, Seoul National University of Education, Seocho-gu, Seoul, South Korea

Alan I. Leshner American Association for the Advancement of Science, Washington, DC, USA

Sergio Litewka University of Miami Ethics Programs and The Collaborative Institutional Training Initiative (CITI) Program, University of Miami, Miami, FL, USA

Bruce Macfarlane Centre for Higher Education at Southampton, School of Education, University of Southampton, Southampton, UK

Michelle Maher School of Education, University of Missouri-Kansas City, Kansas, MO, USA

Saadia Mahmud Business School, University of South Australia, Adelaide, SA, Australia

Helen Marsden Graduate Research and Researcher Development, University of Canberra, Canberra, ACT, Australia

Brian Martin Humanities and Social Inquiry, University of Wollongong, Wollongong, NSW, Australia

Allie E. Martindale Department of Leadership, Policy and Organizations, Peabody College, Vanderbilt University, Nashville, TN, USA

Donald McCabe Rutgers Business School, Newark, NJ, USA

Sue McGowan School of Commerce, University of South Australia, Adelaide, South Australia, Australia

Sachidananda Mohanty Department of English, University of Hyderabad, Hyderabad, India

Erica J. Morris Anglia Learning and Teaching, Anglia Ruskin University, Cambridge, Cambridgeshire, UK

Susan Mowbray Learning and Teaching Unit, Western Sydney University, Penrith, NSW, Australia

Philip M. Newton College of Medicine, Swansea University, Swansea, UK

Lars-Erik Nilsson School of Education and Environment, Kristianstad University, Kristianstad, Sweden

Stella-Maris Orim Lecturer in Information Systems, Department of Information Systems, Faculty of Engineering and Computing, Coventry University, Coventry, UK

Diane Pecorari Department of Languages, Linnaeus University, Växjö, Sweden

Alicia Reaves Government Accountability Project, Washington, DC, USA

Ann M. Rogerson Faculty of Business, University of Wollongong, Wollongong, NSW, Australia

Miguel Roig Department of Psychology, St. John's University, Staten Island, NY, USA

Sonia Saddiqui Macquarie University, Sydney, NSW, Australia

Dimas Armand Santosa Faculty of Psychology, Universitas Surabaya, Surabaya, East Java, Indonesia

Jon Scott University of Leicester, Leicester, UK

Michael R. Scott School of Education, Virginia Commonwealth University, Richmond, VA, USA

Tricia Serviss English Department, Santa Clara University, Santa Clara, CA, USA

Ide Bagus Siaputra Faculty of Psychology, Universitas Surabaya, Surabaya, Jawa Timur, Indonesia

Simon School of Design, Communication, and Information Technology, University of Newcastle, Ourimbah, NSW, Australia

Seth C. Snyder Organizational Leadership, Policy, and Development, University of Minnesota, Minneapolis, MN, USA

Cheryl K. Stenmark Department of Psychology, Sociology, and Social Work, Angelo State University, San Angelo, TX, USA

Jason M. Stephens The University of Auckland, Auckland, New Zealand

Jackie Street School of Public Health, The University of Adelaide, Adelaide, SA, Australia

Wendy Sutherland-Smith Teaching and Learnin (Pedagogy and Quality Improvement), School of Psychology, Faculty of Health, Deakin University, Burwood, VIC, Australia

Jane Thomas Swansea Academy of Learning & Teaching (SALT), Swansea University, Swansea, UK

Sonia Vasconcelos Science Education Program/Institute of Medical Biochemistry Leopoldo de Meis (IBqM), Univerdidade Federal do Rio de Janeiro (UFRJ), Rio de Janeiro, RJ, Brazil

David L. Vaux The Walter and Eliza Hall Institute, Parkville, VIC, Australia
Department of Medical Biology, The University of Melbourne, Parkville, VIC, Australia

Guofang Wan School of Education, Virginia Commonwealth University, Richmond, VA, USA

David B. Wangaard The School for Ethical Education, Milford, CT, USA

Debora Weber-Wulff FB 4, University of Applied Sciences, HTW Berlin, Berlin, Germany

Greg Wheeler Sapporo Medical University, Sapporo, Hokkaido, Brazil

Nicolette A. Winn Department of Psychology, Sociology, and Social Work, Angelo State University, San Angelo, TX, USA

Wei Yang National Natural Science Foundation of China, Haidian District, Beijing, China

Susan Zimmerman Secretariat on Responsible Conduct of Research, Ottawa, ON, Canada

Section I

Defining Academic Integrity: International Perspectives

Tracey Bretag

Defining Academic Integrity: International Perspectives – Introduction

1

Tracey Bretag

Abstract

In the first section of the *Handbook of Academic Integrity* it is appropriate and necessary to begin by defining the term ‘academic integrity’. This is such a multifarious topic that authors around the globe report differing historical developments which have led to a variety of interpretations of academic integrity as a concept, and a broad range of approaches to promulgating it in their own environments.

There can be no debate that academic integrity is fundamental to teaching, learning, research, and the advance of knowledge. In fact, it is critical to every aspect of the educational process. If there was ever any doubt, it is the hope of all the contributors to this book that those doubts will be quashed once and for all.

In the first section of the *Handbook of Academic Integrity*, it is appropriate and necessary to begin by defining the term “academic integrity.” Any undergraduate student will know that a quick Wikipedia search or a flick through a modern dictionary will provide a sensible and useful working definition for just about any major concept. Who could imagine that in attempting to define and understand the meaning of academic integrity, it would be necessary to seek the input of 17 authors representing 39 different countries? Academic integrity is such a multifarious topic that authors around the globe report differing historical developments which have led to a variety of interpretations of it as a concept and a broad range of approaches to promulgating it in their own environments.

The *Handbook* opens with a chapter by Teresa (Teddi) Fishman (► [Chap. 2, “Academic Integrity as an Educational Concept, Concern, and Movement in US Institutions of Higher Learning”](#)) and provides a broad overview of the genesis of academic integrity as an educational concept in the USA. Fishman compares the history of higher education in the USA to other countries, demonstrating that a range of unique factors have contributed to the widespread focus in the USA today

T. Bretag (✉)

School of Management, University of South Australia, Adelaide, SA, Australia

e-mail: tracey.bretag@unisa.edu.au

on the high incidence of student cheating. As Fishman explains, higher education in the USA is “a relatively young system of higher education modeled on much older medieval universities, predicated on the integration of higher learning and specifically Judeo-Christian ethics and morality, in a cultural setting in which access to higher education to members of varying social classes was valued more highly than uniformly thorough preparation, characterized by academic environments that put instructors in the dual roles of educator and disciplinarian, with virtually no mandated uniformity amongst or sometimes even within institutions.”

Tracey Bretag shares the recent history of what is known as the “educational integrity” movement in Australia. Struggling under the weight of an underfunded and increasingly internationalized higher education sector, the educational integrity movement benefitted from a decade of research on student cheating in the USA, as well as teaching and learning practices developed in the UK. The resultant approach has been characterized by an understanding that academic integrity is a multifaceted and multi-stakeholder issue, premised on actions underpinned by values, and something which goes well beyond sensationalized scandals of student cheating, plagiarism, and essay mills.

Jon Scott and Jane Thomas discuss academic integrity as an “increasing preoccupation” in the internationalized, diverse, and complex UK higher education sector. This preoccupation initially led to an almost universal acceptance across the sector of the text-matching software *Turnitin* to assist in the detection and punishment of “unfair practice.” This punitive approach has since evolved to include more proactive and preventive teaching and learning practices focused on the promotion of academic integrity. Scott and Thomas use their chapter to demonstrate how to embed academic integrity in authentic assessment and “design out” opportunities for potential compromise.

As the project leader of the *Impact of Policies for Plagiarism in Higher Education Across Europe* project (IPPHEAE 2010–2013), Irene Glendinning is in an inimitable position to provide a summary of the key academic integrity issues facing the 27 member states of the European Union (EU). Glendinning presents evidence about how academic integrity is perceived and managed at the tertiary level across the diverse countries of the EU, with a focus on undergraduate and master’s level students. The project found that some EU countries, particularly the UK, Sweden, Austria, the Republic of Ireland, and Slovakia, had made important progress at both institutional and national levels to address issues of academic integrity. However, the project found that much more is needed to be done in nearly every country to strengthen integrity policies that encourage scholarly practices while consistently and appropriately responding to breaches when they occur.

Distinctive perspectives from five Asian countries are provided, including Indonesia (Ide Bagus Siaputra), Malaysia (Joyce Cheah Kim Sim), India (Sachidananda Mohanty), China (Chen Shuangye and Bruce Macfarlane), and Japan (Gregory Wheeler). While not intending to be exhaustive, and in no way purporting to represent “Asia” in a unitary sense, the chapter aims to give some insight into the diversity of experience in this large region. It is evident from all five contributions

that while academic integrity is a relatively new field of enquiry in these various countries, the topic has gained increasing attention in recent years. Scholars and practitioners now have the opportunity to extend and adapt the lessons from the existing research to their own specific contexts.

Middle Eastern perspectives of academic integrity are covered by contributions on the Gulf Region from Gina Cinali and on Egypt by Mohamed Agib Abou-Zeid. While providing a frank discussion of the sociocultural context and its impact on academic integrity, Cinali simultaneously calls for “sensitivity and appreciation for cultural diversity of those educators and administrators who venture into classrooms and boardrooms influenced by cultural values and mores different from the presumed, accepted ‘Eurocentric/Western’ norms.” In detailing the historical antecedents of higher education in Egypt, Abou-Zeid makes the case that academic integrity breaches occur more often there than in Western nations and concludes that the root causes of the violations are the “inadequate quality of education and the lack of coordination between the various stakeholders.”

Stella-Maris Orim provides an informative outline of the way that academic integrity is perceived and managed in the Nigerian educational system. She demonstrates that to date, research and interest have focused on students’ examination malpractice, rather than the range of other academic integrity breaches by both staff and students. Orim argues that numerous factors create challenges for achieving academic integrity in Nigeria, including the education system, pedagogy, sociocultural environment, economic environment, infrastructure, technology, institutional policies, and management systems.

In the last chapter in this section, Mauricio García Villegas, Nathalia Franco Pérez, and Alejandro Cortés Arbeláez (► [Chap. 14, “Perspectives on Academic Integrity in Colombia and Latin America”](#)) explain why academic integrity is becoming an important issue in Colombia’s national context and in Latin America’s regional context. The authors refer to recent studies on the topic and describe some of the government and nongovernmental initiatives that have been implemented to promote academic integrity. In company with other contributors to this section, Villegas et al. share some of the sociocultural and political factors which have contributed to the region’s academic integrity concerns, notably referring to social acceptance of rule-breaking, social stratification, a weak civic culture, the influence of drug trafficking on the country’s social and institutional life, and an education system in crisis.

At first glance, “academic integrity” appears to be a relatively easy topic to address. However, it is a very complex, interdisciplinary field of research requiring input from educational stakeholders from around the globe. This section has situated the *Handbook of Academic Integrity* in the international arena. While providing a broad brush view of the topic from the perspective of a range of scholars from numerous countries, the section has aimed to provide an insight into the issues of common interest as well as the factors unique to particular cultures and contexts. Contributors to other sections of the *Handbook* will further demonstrate the complexity and worldwide relevance of academic integrity in its many and varied forms.

Academic Integrity as an Educational Concept, Concern, and Movement in US Institutions of Higher Learning

2

Teresa 'Teddi' Fishman

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Abstract

This chapter examines the trajectory of the academic integrity movement in the USA, beginning with the early conceptions of academic integrity, based on British higher education models in which ethical and moral lessons were explicitly addressed via specific, denominational religious teachings and compulsory practices that informed the earliest US institutions, and then tracing the development of the uniquely American approaches. Key factors in this development were the increasingly diverse demographics of students as well as the influence of education reformers who pressed for expanding access to higher education, which led to many students arriving at university with an incomplete understanding of the ethical expectations they would face. Additionally, American ideals that place emphasis on individual responsibility and control have led to practices such as honor codes and pledges. The discourse, framing, and descriptive metaphors of academic integrity as moral, legal, and medical issues as well as the shortcomings inherent in these frameworks are noted. Present-day academic integrity controversies are discussed, especially the extent to which academic integrity is exclusively or primarily a matter of individual choice or

T. 'Teddi' Fishman (✉)

International Center for Academic Integrity, Clemson University, Clemson, SC, USA

e-mail: ICAIexce1@clemson.edu

might instead be better addressed in terms of cultural expectations or systemic issues. A short history of the role of the International Center for Academic Integrity established in 1992 in response to concerns about student cheating is included. The chapter concludes by suggesting that a narrow focus on student cheating is insufficient and that what is needed, instead, is a much broader approach to the development of integrity not only for students but for educators, researchers, educational practices, institutions, and cultures.

The American Context

The idea that character and intellect should be developed in tandem appears to be as old as education itself, as evidenced in proverbs that played a role in the education of scribes in ancient Sumeria (Veldhuis 2000, p. 383). In cultures as diverse as ancient China and Greece, wisdom, compassion, and courage were regarded to be universal moral qualities and central to education. So it is no surprise that what is now called “academic integrity,” loosely defined as acting in accordance with values and principles consistent with ethical teaching, learning, and scholarship, is a concept and a concern in academic communities in the USA. What may surprise some, however, are the unique characteristics of this subject in the American context that differ considerably from the British and European models upon which they were based.

Like the English schools, upon which they were most directly modeled, eight of the nine earliest universities in the USA were founded largely for the purpose of educating aspiring ministers (Brubacher 2004, p. 6). The overlap of religious morality and higher education went beyond the fact that most instructors were clergy educating future ministers. Religion permeated activities on a day-to-day basis. Not only was attendance at daily prayer service compulsory, but in the early days, US universities were the site of periodic “revivals” at which students’ souls would be “saved” or “rescued” (Brubacher 2004, p. 42). As evidenced by the Yale Report of 1828, the assumption that one of the main purposes of education was as a means to further students’ moral development was so deeply entrenched that arguments about curricula were premised upon the necessity of choosing subjects that would contribute to the formation of “proper values” (Drayer 1970, p. 149). There was very little questioning of the practice of grounding character development in the religious principles of specific denominations as this was the standard practice among the most prestigious universities in the world. In the USA, as new waves of immigrants of differing denominations and faiths arrived, settled, and sought education, the complexities of educating a more heterogeneous student cohort placed unique demands upon the system.

It soon became clear that in order to attract students, American universities would need to be more flexible than their counterparts in England and Europe regarding religious segregation or exclusivity. Governing boards of American universities increasingly included members from more diverse backgrounds and faiths, shifting the basis for moral education from monolithic branches or

denominations of a particular religion to a more general Judeo-Christian (primarily Catholic and Protestant) ethic, with room for diversity of belief – though only within prescribed boundaries. Practicing Judaism, for instance, might not prevent a student from attending university, but identifying as an atheist could still be grounds for dismissal (Brubacher 2004). While the shift away from unified religion changed the degree to which religious instruction and texts were relied upon for moral and ethical development, the influence of their religious origins did not entirely disappear. Even as colleges and universities became increasingly secular in the eighteenth and nineteenth centuries, evidence of the initial fusion of religion, morality, and education has remained as a testament to their evangelistic origins (Brubacher 2004, p. 42).

One vestige of religious influence still in evidence today is the honor codes by which many American students pledge not to “lie, cheat, steal, nor tolerate those who do.” Today’s codes may trace back to “societies of inquiry” that required members pledge to refrain from unsavory habits like drinking, smoking, and gambling, so as to “suppress all vice and immorality” and to live according to Biblical principles (Brubacher 2004, p. 44). While today’s codes focus largely on prohibited activities such as cheating, plagiarism, and research misconduct, the usage of such pledges to encourage students to recognize and reject behaviors considered immoral by the academic community is very much the same.

The profound and lasting influence of the origins of higher education as religious institutions in the USA often becomes especially evident during debates regarding the appropriateness, desirability, or necessity of attempting to inculcate values as an embedded mission of higher education. When the Hazen Foundation commissioned a series of studies in the 1950s, for instance, and found that significant percentages of American university students were cheating on a regular basis regardless of their subject area, they concluded that a university education might not have the positive effect on the development of ethical decision-making it had been assumed to have had (Jacob 1957). The findings of the study called into question the very mission of universities (Penister 1958) as institutions that fostered the development of character as well as intellect. Reviewers nervously posed the question, if college students were not sufficiently influenced by Christian doctrine, what might be found to fill that void and assure proper moral development (Boffey 1957)? While there is consensus about the desirability of ethical and intellectual growth happening in tandem (Drake 1941), there is no universally agreed-upon answer to that question.

Many education theorists in the USA do concur, however, that whether it occurs actively or passively, whenever information or even a practice such as writing is being taught, ethical lessons are inextricably communicated at the same time. As articulated by James Berlin, “it is impossible to deny that in teaching students about the way they ought to use language we are teaching them something about how to conduct their lives” (Berlin 1984). That belief, that the very act of teaching has moral and ethical dimensions, helps support the argument that it is appropriate to focus on moral and ethical development, even in general subject classes such as composition, to help students understand that the skills and information they use in college have moral and ethical dimensions.

While the earliest colleges and universities in the USA were built on the same models and principles of their British and European forebears, it is not surprising given the vast differences in setting, environment, and constituencies, that practices, standards, and norms, including those having to do with academic integrity, soon began to diverge. Even when compared to other English-speaking Western countries, the specific context in which the US system developed has resulted in dissimilarities that affect the way that academic integrity is understood and operationalized.

Early iterations of colleges and universities in the USA were initially modeled closely on the British and European traditions with which the colonists were familiar (Drayer 1970, p. 27). However, there was tension between the stated ideals of American society – such as equality, opportunity, and liberty – and the exclusivity that characterized higher education in most other parts of the world. Educational reformers in the USA rejected the notion that higher education was a privilege reserved for the upper classes. Instead, a growing number believed that access to education was a right. It was a mechanism by which industrious students of the middle and even servant classes could make their way to access a better life (Brubacher 2004, p. 39). Policies and practices seen as conserving the power of the ruling classes were identified and rejected in order to democratize education and make it more widely available (Berlin 1984). Increasing access to education was a goal in the USA early on, and it has remained so, with rates of college attendance (among those eligible to attend) soaring from under 2 % in the late 1800s (Drayer 1970, p. 154) to today's rate of roughly 66 % (TED: The Economics Daily 2014).

Expanding higher education opportunities to students from a wider range of backgrounds meant that US educators could not do assume that students entering college had shared experiences and educational preparation. In the UK and Europe, admission practices virtually guaranteed that entering students would have had access to personalized preparation for university (Drayer 1970). Student cohorts in the USA, in contrast, were more diverse than many of their peer institutions in terms of economic and social class, cultural background, and educational preparedness.

One consequence of such heterogeneity was that information that might rightly have been assumed common knowledge among more homogeneous groups of students – things like writing for academic purposes – became core elements of American college curricula (Berlin 1984). It was not just in terms of subject matter, however, that American students varied in terms of readiness for matriculation. The same was true in terms of their familiarity with academic norms and standards. Differences in English language competence, educational attainment of students' parents, and preparedness for college made it necessary to articulate standards and expectations to students who might otherwise have had only nebulous ideas of what would be expected of them.

Throughout successive waves of educational reform, access to higher education has remained one of the primary concerns of educational policy-makers and activists alike. At the same time, what to do about students whom educators view as under- or poorly prepared has remained a challenge (Arum and Roksa 2011, p. 34). One facet of this challenge has been meeting the needs both of students who

arrive without a clear expectation of what is expected of them in terms of integrity and the needs of institutions whose reputations, relevance, and very survival depend on maintaining high ethical standards with respect to teaching, credentials, and scholarship.

Another aspect of increased access to higher education is the effect it had on the aims and purposes of higher education itself. When only 2 % of those eligible could attend college, particularly in the preindustrial age, a focus on self-discovery was a privilege of the elite few. When higher education became more mainstream for students who would later join the workforce in agriculture, engineering, medicine, etc., curricula became more focused on career goals, and the motivation to attend college became more closely related to future earning potential. Attending college or university for instrumental purposes – future employability or earning potential – rather than to pursue knowledge or intellectual growth also has significant implications with respect to academic integrity.

Another factor related to academic integrity in American colleges and universities is the unusual degree of autonomy with which individual institutions, especially private institutions and the faculty within them, operate. The vastness of the territory contributed to the US colleges and universities having developed widely varied institutional practices and policies (Brubacher 2004, p. 4). Institutions' right to maintain a high degree of self-governance and autonomy dates back to 1819, at which time the US Supreme Court found that the government of New Hampshire lacked the legal right to exert managerial authority over a university over the objections of its trustees (*Key Supreme Court Cases: Dartmouth College v. Woodward* (17 US 518 1819) 2014).

Whereas higher education has been standardized and overseen via governmental policies and administrators to greater or lesser degrees in many places, autonomy from state or national governance is built into the US system. The responsibility for evaluating and certifying universities and their programs falls instead to private accrediting agencies who are charged with assuring the quality and integrity of academic programs according to the principle that "Higher education institutions have primary responsibility for academic quality; colleges and universities are the leaders and the key sources of authority in academic matters" (Eaton 2014). Unlike many of their counterparts who answer to a Ministry of Education or other governmental body, the most significant entities to which US colleges and universities are accountable are their accrediting agencies. Funding for accreditation is provided by the universities themselves, who elect to be evaluated and certified by various accrediting bodies. Membership in the accrediting organizations is voluntary, although in practical terms, because scholarships and funding from state and federal sources are nearly always contingent upon accreditation, there are very strong financial incentives to become members (El-Kawas 1998, p. 45).

In addition to the administrative autonomy of universities, efforts by faculty to determine academic matters, including those related to student conduct and academic misbehavior, without interference from government date back to the mid-nineteenth century (Brubacher 2004, p. 35). The high degree to which standards for and approaches to integrity vary among US higher learning institutions is

a subset of the high degree of variation in general among academic standards and practices in this environment. Higher education has largely successfully resisted external pressures to standardize practices, and market-driven forces have been embraced in order to attract students (Trow 1996). While discussions of academic integrity in the USA often focus primarily upon students' behavior, institutional and societal factors are increasingly recognized as having significant potential to affect academic cultures with respect to integrity. As such, both autonomy and practices of accountability are factors worthy of consideration.

As with most complex systems that develop over time, even when elements are no longer actively part of the system, their influence often persists, sometimes with confounding results. As a relatively new system based upon far older predecessors, the US higher education system has evolved as predominately secular, yet many artifacts and attitudes that reflect religious principles remain. As access to higher education increased, curricular changes were undertaken to remediate underprepared students academically. However, deficits with respect to ethical expectations too often go unaddressed or are addressed punitively. Institutions entrusted with the credentialing of their students are themselves credentialed not by government agencies but by accreditors that they choose and pay themselves. And while access to higher education increased, the goals of those admitted shifted toward career rather than intellectual development. All of these factors have shaped the discourse and practices of academic integrity in US higher education.

Dominant and Alternative Discursive and Conceptual Frameworks

Long before academic integrity became a focus for systematic study (as in the Hazen Foundation work, referenced above), scholars in the USA were already engaged in battles not only over standards for integrity in academic work but also as to how academic integrity issues should be conceptualized and described. Paradoxically, while goals related to integrity might be framed aspirationally as acting in accordance with a moral framework, in practice, the focus has often been on negative rather than positive behaviors. In one of the earliest extant records of scholarly debate on a subject related to academic integrity practices in the USA, the American Historical Association adopted its own definition of plagiarism in 1884 following a dispute between two academicians. Identifying plagiarism as a collective concern among scholars of history, they defined plagiarism as the use of someone else's "concepts, theories, rhetorical strategies, and interpretations" as well as word-for-word copying. Additionally, they specified that plagiarism should be considered a professional or ethical rather than legal breach, drawing a distinction between academic misconduct and transgressions of a legal (copyright) nature (Grossberg 2011) that remains in place today. This early effort to define and prohibit plagiarism also set another foundational precedent for academic integrity discourse in the USA by focusing attention on prohibited behavior (in this case, plagiarism) rather than desired behaviors (original work). This tendency to focus on

the negative is increasingly being criticized by some experts on academic integrity; however, the tendency to target prohibited behaviors rather than promote desirable ones is widespread in higher education policies and practices. To date, it endures (Howard 1993).

Another notable feature of academic integrity discourse in the USA is the tendency to frame transgressions of rules, standards, and norms in terms that connote moral weakness, willful misconduct, duplicity, or wrongdoing. This framing of cheating, and especially plagiarism, as an issue of morality rather than education can be observed throughout the history of such discussions, in articles published in a wide array of journals across various grade levels and (academic) disciplines in publications as diverse as *Social Problems*, *The High School Journal*, *Improving College and University Teaching*, and *American Scholar*. As suggested by their titles, “Academic Integrity and Social Structure: A Study of Cheating Among College Students,” “Who Is Kidding Whom,” “The Student Cheater,” and “The Academic *Ethos*” (respectively), the articles discuss academic integrity in terms of individual character, morality, social order, principles, and virtue, going so far in some cases as to characterize cheating as “deviant behavior.” This framework and vocabulary is particularly prevalent in early discourse, which helps explain the extent to which early academic integrity efforts focused nearly exclusively on issues related to rooting out cheating, plagiarism, collusion, and other undesirable behaviors.

While there is an increasing trend for scholars to argue that moral and ethical frameworks are of limited use and should be abandoned in favor of pedagogical frameworks (Blum 2008; Howard 2010) or literary ones (Valentine 2006), the tendency is persistent. Even students often explain their own academic integrity breaches in terms of lack of familiarity or knowledge (i.e., “I didn’t know I was supposed to do a works cited page”) while framing their responses in moral terms such as fairness, respect, and responsibility when asked to explain more generally why citation matters (Kroll 1988). Simply using the rhetoric of morality does not in and of itself dictate that responses to academic integrity breaches must be punitive. Responses to acts framed as misconduct or wrongdoing can range from the constructive – helping to educate or develop the individual – to the punitive or a combination of both. It is nevertheless true, however, that whereas an appropriate remedy for a *mistake* or *lack of knowledge* in academic settings is nearly always instructive, an appropriate response to *wrongdoing* or *willful misconduct* might reasonably be punishment; thus, the conception of academic integrity transgressions as moral failings continues to significantly affect the way such issues are handled (East 2010).

Another notable framework for academic integrity discourse in the USA is that of illegal or criminal behavior. Articles and presentations on the subject of plagiarism, for instance, frequently include a reference to the origin of the term in the Latin word, *plagiare*, used by the Romans to describe kidnapping, especially kidnapping for the purpose of making the victim a slave. It was appropriated by the Roman poet, Martial, who uses the term to describe his works, which he had set loose into the world, only to have them enslaved by rival poet, Fidentinus

(Biagioli 2014). Other definitions and metaphors for plagiarism that signal lawlessness include the related ideas, literary theft, stealing, purloining, and even thievery in the sight of God (Bluedorn 1997) as well as other crimes including rape (Mallon 1989).

Whereas the moral framework for understanding academic integrity transgressions focuses attention nearly exclusively on the behavior and choices of the individual and his or her shortcomings, the legalistic framework turns those shortcomings into a threat, expanding the potential for harm outward, into the scholarly community where others might be harmed. Predictably, rhetoric of criminality is more likely to evoke punitive responses, but in addition, when “[e]nacted as policy, words such as stealing, tracking, and catching fuel the self-fulfilling cycle of suspicion” (Zwagerman 2008) which undermines and potentially damages classroom environments and relationships between instructors and their students.

A third frequently invoked conceptual framework for academic integrity breaches is that of disease. Plagiarism has been variously described as a plague (Dennis 1948), festering, parasitism (Zwagerman 2008), and a virus (Mallon 1989) and cheating as a contagion (Rettinger and Kramer 2009) that is endemic to education (Haines et al. 1986). Like the legalistic rhetoric, the rhetoric of disease implies that the transgressor is a danger not only to him or herself, but to the community as well. This framework extends the potential circle of harm even farther, implying that once begun, academic dishonesty may multiply. When framed as a virus or plague, cheating becomes something that can get out of control, harming or even destroying a community irrespective of the intentions of the person or people who commit the act. The rhetoric of disease prompts responses that have both to do with eradicating the disease and taking steps to inoculate against it or, failing that, at least putting up protective barriers to protect those not yet infected.

Discussions lamenting the calamitous threat posed by cheating were not confined solely to education experts and scholars. In addition to being a topic of concern in disciplines ranging from psychology and sociology to business and marketing, the general public has frequently been engaged in the discussion as well. In 1950, *The Saturday Evening Post* asked readers to put themselves in the position of an instructor whose students had stolen test papers in order to cheat on the exam (McKowan 1950). Ten years later, that same periodical ran a feature story entitled, “American Disgrace: College Cheating.” While once again calling attention to a failure of morals rather than inadequate understanding, the later article focused not only on student behavior but also the ethical culpability of instructors who failed to prevent, detect, or respond to incidents of cheating (Ellison 1960).

A recent attempt to revise the discourse surrounding plagiarism employed a model borrowed from police handbooks to identify each of the necessary elements of plagiarism, not to portray it as a legal transgression, but to clarify exactly what plagiarism is and is not. According to Fishman (2009), plagiarism occurs when someone uses words, ideas, or work products:

1. Attributable to another identifiable person or source;
2. Without attributing the work to the source from which it was obtained;

3. In a situation in which there is a legitimate expectation of original authorship;
and
4. In order to obtain some benefit, credit, or gain which need not be monetary.

From the earliest days of academic integrity as a focus for scholarly inquiry in the USA, competing narratives have made alternative claims about the nature of the issues, the significance of the threat posed by cheating, and the best ways to respond. In one of the earliest studies on the subject, published in 1904 under the oxymoronic title, “Student Honor: A Study in Cheating,” author Earl Barnes made the case that the reasons students fail to report fellow students for cheating is not so much that they are morally deficient, but instead have not yet completed their moral development and therefore are governed by “a sense of honor grounded in sympathy, a sense of personal, unworthiness, love of open fight, and a personal loyalty to their fellows” rather than a sense of social responsibility. He further suggested that the remedy is guidance and maturation rather than outrage and punishment (Barnes 1904). A study of cheating among young women in college found that a larger percentage would cheat when given the opportunity to do so, but concluded that their education rather than their morals was deficient, saying “[u]ntil we are willing to provide specific training in honesty in the examination situation beginning in the primary grades, we will not be justified in expecting honesty amongst students” (Cheating by College Girls 1927).

Much of the dominant discourse regarding academic integrity in the US context has been framed by moralistic, legalistic, or disease-based discourse focused largely on discouraging, preventing, detecting, and addressing undesirable behaviors. The dissenting voices have discussed the subject using conceptual lenses and alternative narratives more congruent with educational values. In the 1970s, roughly a decade after academic integrity became firmly established as a topic of scholarly interest (Bertram Gallant 2011), researchers were already raising questions about the ways in which US systems and traditional methods of education and assessment might *invite* plagiarism (Malloch 1976, p. 167).

More recently, scholars have suggested that by using more individualized assessments – tied to a location or time – teachers might both reduce the incidents of cheating and improve learning outcomes (Lang 2013). Others have interrogated the discourse and assumptions that inform our handling of academic integrity issues, proposing alternative frameworks for interpreting and describing academic misconduct and suggesting, for instance, that we reconceptualize the concept of plagiarism itself and reframe it not as theft, but as failure to give proper recognition – the difference between “*passing off* and *passing on*” (Robillard 2009) or to substitute a less pejorative term like “insufficient citation” rather than plagiarism (Howard 2000). Leading researchers on academic integrity such as Donald McCabe, who began research focusing on cheating behavior and how to prevent and stop it, are increasingly concluding that the most effective mechanism for reducing cheating is, in fact, better education.

A considerable body of evidence suggests that not only can many instances of supposed academic misconduct be traced to incomplete understandings about

standards and practices on the part of students (DeVoss and Rosati 2002), but also that some of the standard ways of addressing academic integrity are at odds with the values of teaching and learning most educators embrace. In instances in which they focus on catching and punishing rather than teaching and learning, this approach is often seen as setting up a false, simplistic, and ultimately unhelpful dichotomy of good and bad behavior (Howard 1993; Zwagerman 2008). More optimal results could be obtained by spending the necessary time and effort to understand issues of academic integrity and dishonesty in their full degree of complexity and addressing them in educative rather than punitive ways. Oversimplifying academic transgressions as something that only bad students do (McCabe 2001) does little to improve the situation or reduce the likelihood of cheating. A richer and deeper understanding of academic integrity as a “constellation of skills, taught largely through the long apprenticeship of higher education” (Blum 2008) is seen by many academic integrity experts as having greater potential to help students acquire both the understanding of how to cite and an appreciation for why it should be done.

Sadly, much of the discourse continues to focus on negative behaviors (and hence prohibiting, catching, and punishing) rather than teaching and learning (Howard 2010). This is demonstrated by the fact that even among university leaders and policy-makers, university academic integrity policies continue to be defined in terms of behaviors that are prohibited such as plagiarism and cheating rather than by positive terms like authenticity, originality, efficacy, and honesty. By continuing to focus on academic integrity as if it consisted solely of preventing, identifying, and dealing with undesirable behaviors, many universities send the message that eliminating cheating is the goal of academic integrity initiatives rather than ensuring that scholarship, assessment, and research can be relied upon. While integrity is a worthy goal, failing to understand its relationship to teaching and learning risks diverting time and attention from more necessary and useful educative activities. It can also adversely affect learning environments to the point at which “[o] verzealous and perhaps misguided efforts to stamp out plagiarism and cheating [become] more destructive than productive” (Zwagerman 2008).

The (International) Center for Academic Integrity

Since becoming a focus of scholarly activity, academic integrity has most often been looked upon in the USA as being concerned with student activities, perceptions, and behavior. It is now recognized that academic integrity is not just about students. Assessment validity, pedagogical practices, institutional processes, campus norms, and faculty and administrative staff conduct all contribute to the climate of integrity on a given campus. Spearheading efforts to address issues of integrity in their full complexity, the International Center for Academic Integrity (ICAI) is another unique feature in the context of academic integrity in the USA. The ICAI was founded (as the Center for Academic Integrity) in 1992 in response to alarming research on the subject conducted by Founding President Donald McCabe.

Research by McCabe built upon the work of Bill Bowers, who had published one of the first large-scale comprehensive surveys of student cheating in 1964 (McCabe 2001). So as to be able to make valid comparisons between his data and that of Bowers, McCabe asked similar questions, to determine whether cheating was increasing, decreasing, or remaining relatively stable. While some areas (most notably those related to serious cheating on writing assignments) showed only modest increases, others were considerably more troubling, leading McCabe to bring together a group of concerned researchers and scholars who were motivated to address issues of cheating in higher education (ICAI n. d.). The following year the group held its first annual conference at the University of Maryland, where they familiarized themselves with the details of McCabe's research and turned their attention to finding ways of deterring students from cheating.

Over the following two decades, the focus of the group's academic integrity efforts underwent two major shifts. The first was in looking not only at student behavior but increasingly toward the roles played by instructors, instruction, and academic practices. The second shift was one suggested by Bowers, decades before. Bowers had noted that among all the factors associated with increased risk of cheating, peer behavior was the most influential factor of all (McCabe 2001). Based on that finding, as well as what McCabe and research partners Linda Trevino and Keith Butterfield had confirmed in their own surveys, the focus of ICAI expanded again to look at not just students or students and teachers but to academic communities and the influence of the norms that communities adopt (McCabe 2001).

One of the earliest questions to be addressed by both Bowers and McCabe had to do with the efficacy of so-called honor codes. While both researchers found a positive relationship between honor codes and lower than average rates of cheating, neither could identify a causative link. In fact, statistical anomalies led McCabe and Trevino to question the nature of the relationship, because although overall rates of cheating were lower at schools with honor codes, it was also the case that one school with no honor code boasted one of the lowest cheating rates while one school with an honor code was among the highest. Upon further investigation, Trevino and McCabe discovered that despite lacking an honor code, the school with low cheating rates had a culture in which integrity was valued in the same way typically found at honor code schools; whereas in the case of the school with both an honor code and high rates of cheating, the century-old code was rarely explained or discussed.

The researchers thus concluded that rather than being intrinsically useful, the benefit of having an honor code was as a touchstone for discussion, a reminder of academic principles, or as expression of shared values (McCabe 2001). Additional factors that correlated positively with the establishment of cultures of integrity include recognizing integrity as an institutional value, clarifying expectations regarding integrous behavior, encouraging student ownership of academic integrity policies and practices, and practicing fairness with regard to assessment and grades (McCabe and Pavela 2004).

Other promising research findings on effectively promoting academic integrity include increasing recognition that better education rather than utilization of

technology is the most effective way to deter cheating and increase integrity (McCalister and Watkins 2012) and that students are less inclined to cheat when they are engaged (Hendricks et al. 2011). Another recent development in the field of academic integrity research in the USA involves mounting evidence that while most people do not engage in what they perceive as “serious cheating,” many do cheat in small ways or in situations they consider inconsequential (Laser 2008). One key determinate of cheating is the extent to which people can transgress while still maintaining a positive self-image of themselves as essentially honest and good (Ariely 2014). These and similar findings suggest that the severe, morality-based frameworks used in traditional honor codes and policies may be missing the mark. Those engaged in the prohibited behaviors (lying, cheating, stealing) may be able to rationalize their academic integrity breaches as less serious and thereby fail to recognize the code as relevant to their academic work. If that is true, it provides yet another reason to reconsider the discourse used to describe issues of academic integrity.

On the Horizon

There are several persistent, pressing questions that academic integrity scholars in the USA find themselves compelled to address in order to move the field forward. One is the tension between postmodern concepts of authorship as a complex, necessarily multiple construct and the idea that sources must be definitively identified and acknowledged. While scholars have noted and explored originality and plagiarism as relative rather than absolute concepts (Kincaid 1997), it remains difficult to translate these ideas into practice. It seems clear, however, that the instructions that educators give – such as directing students to fully document all of their sources – are at odds with the impossibility of fully documenting all of the sources from which new knowledge is drawn (Rankin 1994; Spellmeyer 1994). Finding ways to address, if not resolve, some of the tensions between conflicting concepts such as homage, originality, mash-ups, aggregation, social authorship, and artistic quotation are challenges likely to persist for some time.

Another complex question to be addressed is whether academic integrity issues such as plagiarism are best addressed within an ethical discourse or within the context of literary or scholarly practice (Valentine 2006). Throughout its history in the US context, the former has unquestionably held sway, but it does seem problematic to apply moralistic standards to students who plagiarize, for instance, when one of the main learning objectives is to become familiar with the conventions of academic writing (Bowdon 1996). It seems particularly problematic to respond to students' breaches of integrity with regard to plagiarism when there is ample evidence that citation conventions (particularly those relating to the “owning” of words or ideas) are not at all intuitive to those outside academic systems/communities (McCleod 1992).

Perhaps the most significant questions for the future, however, concern the relationship between academic integrity, the nature and purpose of education, and the mores of American society – especially those related to efficiency and success. Society consistently sends messages that success is about earning a lucrative living and that education is instrumental in achieving that success, and good grades are essentially “coupons for future success” (Zwagerman 2008). Surely these messages are at least partially to blame when students see their schoolwork as something to be completed as *efficiently* rather than as *ethically* as possible. If the process of becoming educated is a mere means to an end rather than having intrinsic value, why not take shortcuts to speed up the process, particularly in a society that rarely questions the idea that efficiency is a positive good?

Summary

The study of academic integrity in the USA has expanded from a narrow focus on identifying and eradicating student cheating to a much broader concern with the integrity of educational institutions, practices, and cultures. American scholars have come to realize that the absence of cheating does not equate to the presence of integrity, and that targeting individual instances of cheating and plagiarism may not be the best way to achieve educational objectives. Moving forward, it is important to remember that educational objectives are the primary aim of academic integrity and that sometimes, academic integrity breaches are less a problem in and of themselves than a warning that something else is going wrong. Perhaps some of the discomfort around academic misconduct is due to a recognition that society is still dependent on teaching methods that better met the needs of twentieth-century students rather than the students of today. Although the scholarship of teaching and learning has long advocated interactive, experiential learning rather than memorization and rote learning, in many instances, educators “give too much weight to the passive adoption of others’ ideas, to the mindless repetition of slogans as if they were thoughts, to the view that education is merely a means to a degree or a certificate, not something important for its own sake” (White 1993, p. A44). That kind of education is not only an invitation to cheat, it is also ineffective.

The increasing concern with academic integrity issues may be a signal that in a world in which information is easy to access but challenging to sort, distill, evaluate, test, and apply, approaches to promoting integrity and methodologies for teaching and learning have not been sufficiently adapted. Eliminating academic misconduct, even if it were possible, does not guarantee improved learning outcomes. To refocus attention on learning requires renewed consideration of student engagement, mastery-centered education, play, and other learner-focused techniques, to teach not only disciplinary subject matter but also the ethical mores of the academy.

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Abstract

This chapter provides an overview of the educational integrity movement in Australia, beginning with early discussions about plagiarism in the late 1990s to the first educational integrity conference in 2003, the work of the Asia Pacific Forum on Educational Integrity, the establishment of the *International Journal for Educational Integrity* in 2005, and the recent investment by the Australian Office for Learning and Teaching in a range of commissioned projects on academic integrity. The chapter highlights international influences and identifies key themes in educational integrity research in Australia as well as pointing to future directions.

T. Bretag (✉)

School of Management, University of South Australia, Adelaide, SA, Australia

e-mail: tracey.bretag@unisa.edu.au

Introduction

National interest in academic integrity, specifically breaches of academic integrity such as plagiarism, can be traced in Australia back to the 1990s and early years of the new millennium. Massification and commercialization of higher education, reduced public funding for higher education, increased number of international students, concerns for academic standards, and constant media scandals about “soft marking” and dumbing down all contributed to a heightened sense of panic that there was an educational “epidemic” which needed to be addressed.

In the late 1990s and early 2000s, the proportion of international students to domestic students in Australia was considered to be the highest in the world (Crooks 2003), and the issue of how second language learners use and cite sources in academic writing was a hotly contested topic in linguistics, academic writing, and TESOL (Teaching English to Speakers of Other Languages) circles. Traditional academic skill books had always provided advice to students on how to use sources in essays and other assignments. However, as increased numbers of international students (the large proportion of whom were Chinese) enrolled in disciplines such as business, academic skills authors began to focus on the apparent difficulties that this group of students had in citing other people’s work according to Western academic conventions. This issue was identified as early as 1991 by Ballard and Clanchy (1991). The perceived wisdom during this period was that Confucian Heritage Culture (CHC) students (those from Singapore, Hong Kong, Malaysia, and mainland China) tended to rely heavily on reference texts without the necessary “critical thinking” to analyze and interpret these texts.

Influential linguists such as Scollon (1995) suggested that it was not a lack of critical thinking but rather adherence to Chinese cultural rhetorical conventions which underpinned this group of students’ writing behavior. He further argued that cultural identity had a profound impact on how nonnative-speaking students of English could express their opinions in English (Scollon 1997). Other writers, such as Bloch and Chi (1995) and Watkins and Biggs (1996), challenged the notion of culturally determined thinking and writing patterns, while Mills (1997) argued that there was little academic difference between domestic and international students and there was no “typical overseas Asian student” (Mills 1997, p. 109). Throughout this debate, there was general acceptance that international students require induction into the Australian academic environment, with specific training provided in Western academic conventions such as essay writing and other writing genres, referencing, academic voice and register, and articulating opinions (Watkins and Biggs 1996; Kirby et al. 1996).

“Plagiarism” Rears Its Ugly Head

One of the first groups to raise the issue of plagiarism, as distinct from academic writing issues by international students, was the Language and Academic Skills advisors (LAS advisors, now referred to as Academic Language and Learning

(ALL) advisors) who maintained an engaged dialogue via the UniLearn discussion list. In 1999, Warner wrote specifically on the topic of plagiarism by LBOTE (Language Background Other Than English) students and suggested that it was “often a text-based practice that reflects different cultural and linguistic norms. . . [further complicated by] western institutions’ ambivalent and inconsistent approach to the practice” (Warner 1999, p. 24). At the 2000 *Sources of Confusion* LAS conference, Chen (2000) was somewhat more circumscribed in referring to the “citation behavior” of Chinese students; and at the *Changing Identities* LAS conference, Bretag (2001) referred for the first time in her own work to the “tendency to plagiarize” by CHC students which she attributed to inadequate linguistic and academic preparation for Western tertiary study.

Something was shifting in both the public and academic consciousness, and in the media, “plagiarism” became the byword for controversy, scandal, and everything that was negative in the increasingly commercialized and internationalized Australian higher education sector (see Rollison 2001; Giglio 2003; Illing 2003; Lane 2003; Sinclair 2003). In most of the rhetoric from this period, the words “plagiarism” and “cheating” were either used synonymously or as a collective term. In 2001, Marsden completed her honors thesis entitled *Who Cheats at University?* (2001) and in 2002, the Cooperative Action by Victorian Academic Libraries (CAVAL) made headlines across the country with the release of findings from the *Electronic Plagiarism Detection Project*. The key results of the study of 1,925 student essays from six universities in Victoria were that nearly 14 % of the essays “contained an unacceptable level of unattributed materials” (O’Connor 2003, p. 5) and 8 % of students had taken large chunks of text without acknowledgment (as reported by Buckell 2002, p. 19).

The prevailing view at the time is summarized well by the following excerpt from O’Connor on behalf of CAVAL (2003, p. 2):

. . . even with the extensive amounts of plagiarism that have been detected of late, the public outcries are more about quality of educational product than outrage about cheating. This is a fundamental difference of outlook. It is also a fundamental difference in how universities ought to be responding to the scourge. Universities will only invest resources into educational programs and other remedial programs if they believe there is a significant rationale. That rationale is bound in the value of their degrees, diplomas and courses. If they are being degraded in the eyes of their potential market then action will follow. Major universities in Melbourne and in Perth have experienced being on the front page of the *New Straits Times* for up to 10 days in a row because of accusations of cheating amongst the student population. This is the last place the universities wish to be. The adverse press coverage is also a measure of how importantly the Asian market regards the quality of the educational programs, and Australian educational programs particularly. The recent run of press coverage in Australia has, for the most part, been focused on accountability of the universities to achieve an even environment for all students. The coverage in the American press has been more focused on the moral aspects of cheating.

As O’Connor indicates above, Australian academic integrity researchers and practitioners were taking a quite different direction to their American counterparts. Much of the early interest in the topic in Australia focused on plagiarism and what

this had to say about educational standards and “quality,” particularly in relation to Australian higher education as a “product” for export. In contrast, the focus in the USA was on values, morals, and student breaches of academic integrity that were most often characterized as “cheating” (see, e.g., Callahan 2004; Davis et al. 2009). The exception to this emphasis in the USA came from writing center/composition instructors who played a similar role to LAS/ALL advisors in Australia, with early work by Rebecca Moore Howard being particularly influential (see, e.g., Howard 1995, 1999, 2001).

The “Educational Integrity” Movement

Shortly after the release of the CAVAL report, John Barrie, the founding CEO of iParadigms, the US company responsible for developing the text-matching software *Turnitin*, made a presentation on the capabilities of the software at the University of South Australia. As a result of this presentation, key stakeholders at the University of South Australia formed a committee to organize a conference on the topic of plagiarism. That conference, convened by Helen Marsden and entitled *Educational integrity: Plagiarism and other perplexities* (Marsden et al. 2003), was held in November 2003 and paved the way for the educational integrity movement in Australia. At the conclusion of the conference, the Asia Pacific Forum on Educational Integrity (APFEI) was established, with Helen Marsden as chair and Tracey Bretag as deputy chair.

From the beginning, the educational integrity movement in Australia benefited from the research and expertise of international collaborators. The 2003 *Asia Pacific Conference on Educational Integrity* (APCEI) was opened by highly influential American researcher Donald McCabe (2003) who had been conducting large-scale surveys on cheating behavior by students for over a decade and who had founded the Center for Academic Integrity at Rutgers University in 1992. Jude Carroll from Oxford Brookes University in the United Kingdom, author of the widely used teaching resource, *A Handbook for Deterring Plagiarism in Higher Education* (2002), also provided a keynote address. The majority of the papers presented at the conference were by Australian LAS advisors, and the emphasis on plagiarism by international students, while still front and center of much of the discussion, was complemented by papers on integrity as a broader, educational issue (see Bell and Cumming-Thom 2003; Chanock 2003; Clerehan and Johnson 2003; Singh 2003). Ursula McGowan has consistently and comprehensively written about the need to reimagine both plagiarism and academic integrity as issues of scholarship and research pedagogy (McGowan 2002, 2005a, b, 2008, 2010).

During this period, Bretag completed her doctoral thesis entitled *Developing Internationalism in the Internationalised University: A Practitioner Research Project*. One chapter of the thesis, “Implementing plagiarism policy in the internationalised university,” was notably more concerned with plagiarism by international students than with exploring academic integrity per se. Bretag

explained the rationale for that particular chapter as follows: “I was especially interested in exploring how staff perceive the issue (of plagiarism) in relation to international English as a Second Language (ESL) students, and understanding the barriers that currently preclude the development of a culturally sensitive but firm, fair and transparent policy to deal with deliberate cases of academic dishonesty” (Bretag 2005, pp. 107–108).

Other writers and researchers were writing about plagiarism as if this was synonymous with all academic misconduct, with few people writing about academic or educational integrity as a topic worthy of exploration in and of itself. APFEI continued to organize biennial conferences in Australia (Newcastle 2005, Adelaide 2007, Wollongong 2009, Perth 2011, Sydney 2013), and each conference developed a more sophisticated appreciation of the complexity of the issues. In 2005, the conference focus was on values in teaching, learning, and research. During this conference, Tracey Bretag and Helen Marsden launched the *International Journal for Educational Integrity*, an online, peer-reviewed journal to provide a platform for researchers and practitioners to share best practice in promoting educational integrity across the various education sectors and stakeholders.

Shortly after the first issue of the journal was published, Rebecca Moore Howard, at that time associate professor of Writing and Rhetoric and director of the writing program at Syracuse University, wrote the following review on her weblog *Schenectady Synecdoche*:

...another new journal focused on academic integrity has entered the fray: the *International Journal for Educational Integrity*. A preliminary evaluation: It’s sponsored by the University of South Australia Library. . . [The Editors have] an idea of transgressive authorship as a scholarly field rather than police action; their inaugural issue has a leadoff article from Don McCabe, the foremost quantitative researcher in the field and a well-known advocate of honor codes, and it concludes with an article by Celia Thompson, who’s writing her dissertation on student authorship, under the direction of Alastair Pennycook. IJEI is offering not only authoritative voices but also a genuinely diverse range of viewpoints—a promising start for a new journal. (Howard 2006)

As sole editor since 2006, Bretag continues to edit the journal which is now published by Springer.

In 2007, the APCEI conference theme was “creating a culture of integrity”; in 2009, the conference focused on “creating an inclusive approach.” In 2011, the conference returned to “culture and values,” and in 2013, the conference committee called for papers which addressed the theme “From policy to practice: Bridging the gap.” In addition to the APCEI conferences, pockets of academics from a variety of disciplines and institutions around the country continued to explore what was increasingly understood to be “a complex, unstable issue that must be considered from a variety of viewpoints and at a variety of sites” (Howard and Robillard 2008, p. 3). For example, the 2008 *Ethical engagements in academic writing: Dialogues on scholarship, plagiarism and collaboration* conference (Charles Sturt University, NSW) had a strong cultural studies theme.

Key Themes in the Australian Educational Integrity Movement

Definitions Matter

Although speaking specifically about plagiarism, Jude Carroll's keynote address (2003) at the first educational integrity conference in 2003 began with the words "Definitions matter," and the importance of appropriately defining terms has been an ongoing refrain. The *Fundamental Values Project*, developed by the Center for Academic Integrity in 1999, provided the basis for the first definitions of "educational integrity" in 2003. "Honesty, trust, fairness, respect, and responsibility" were regarded as key values, alongside the arguably unique Australian emphasis on "equity." The following excerpt from the APFEI website explains the genesis of the term "educational" rather than "academic" integrity:

APFEI defines educational integrity as a commitment to the key values of honesty, trust, fairness, equity, respect and responsibility, and the translation of these values into action (adapted from the Center for Academic Integrity *The Fundamental Values of Academic Integrity* 1999). This view of integrity involves much more than a commitment from students not to cheat or plagiarise. Educational integrity is multi-dimensional and is enabled by all those in the educational enterprise, from students to teachers, librarians, advisors, research colleagues and administrators. It is for this reason that APFEI prefaces 'integrity' with 'educational' rather than just the more conventional 'academic'. Additionally, from the first conference in 2003, APFEI has sought to be inclusive in our approach to the numerous stakeholders of integrity across the various educational sectors. (APFEI n.d.)

The *Academic Integrity Standards Project* (AISP 2010–2012) continued to contend with feedback from students that "academic integrity" was inconsistently defined and understood across the Australian higher education sector. Based on interview data with Australian senior educational managers, the AISP proposed the following definition which attempted to articulate the complexity and multifaceted nature of academic integrity:

Academic integrity encompasses a number of values and ideals that should be upheld in an academic institution. Within the academy there is a fundamental obligation to exercise integrity, which includes honesty, trustworthiness and respect. Within an academic structure those values must be evident in the research as well as the teaching and learning activities of the institution. Academic integrity involves ensuring that in research, and in teaching and learning, both staff and students act in an honest way, that they're open and accountable for their actions, and that they exhibit fairness and transparency when they're dealing with people or with research. Furthermore, it is important that staff members at all levels be role models and demonstrate integrity as an example to students who will progress through the education system and then transition into professional life. Academic integrity impacts on students and staff in these core activities, and is fundamental to the reputation and standing of an organisation and its members. (AISP n.d.)

The *Exemplary Academic Integrity Project* further refined this definition to provide a "plain English definition" which would be accessible to all stakeholders, regardless of their role in education:

Academic integrity means acting with the values of honesty, trust, fairness, respect and responsibility in learning, teaching and research. It is important for students, teachers, researchers and professional staff to act in an honest way, be responsible for their actions, and show fairness in every part of their work. All students and staff should be an example to others of how to act with integrity in their study and work. Academic integrity is important for an individual's and a school's reputation. (EAIP 2013)

How academic integrity is defined remains a subject for debate and ongoing refinement.

Text-Matching Software

At the same time that Australian universities were grappling with issues around internationalization, academic standards, and plagiarism, higher education in the United Kingdom was undergoing a similar level of soul-searching. In particular, the independent adjudicator for higher education called attention to inconsistencies in penalties for plagiarism across the higher education sector. This resulted in the development of the project *Academic Misconduct Benchmarking Research* (AMBeR) (Tennant et al. 2007), which led to a nationwide approach to detecting and dealing with plagiarism that both promotes and relies heavily on the text-matching software *Turnitin*.

While UK universities have appeared to uncritically embrace *Turnitin* as a useful tool in detecting plagiarism, influential writers in the USA and elsewhere (e.g., Howard 2001, 2007; Pecorari 2012) have been less welcoming of the software, which has been erroneously touted as “plagiarism detection software.” In addition to drawing attention to the fact that no software can “detect plagiarism” (the best it can do is highlight text matches), concerns were expressed that using the software would establish an adversarial relationship between teacher and student which would not be conducive to learning. Rebecca Moore Howard eloquently summarized the issues as follows:

In our stampede to fight what *The New York Times* calls a “plague” of plagiarism, we risk becoming the enemies rather than the mentors of our students; we are replacing the student-teacher relationship with the criminal/police relationship. Further, by thinking of plagiarism as a unitary act rather than a collection of disparate activities, we risk categorising all of our students as criminals. Worst of all, we risk not recognising that our own pedagogy needs reform. Big reform. (Howard 2001, p. 2)

Sutherland-Smith and Carr (2005) also reminded Australian educators and policymakers that *Turnitin* should not be considered “a panacea to plagiarism.” The company which produces *Turnitin*, iParadigms, was required to defend the charge that the software violated students' copyright by maintaining their work in a commercial database (Zimmerman 2007; *A.V. vs iParadigms* 2008), a case which iParadigms won after much public fanfare.

The hostility and mistrust directed toward text-matching software in the USA, juxtaposed against its almost universal use in UK higher education, has resulted in

an ambivalent attitude and often inconsistent use of the software in the Australian context. Project team members of the AISP, while not necessarily in agreement that *Turnitin* should be a compulsory requirement of assignment submission, did concur that exemplary academic integrity policies need to provide clear information on how academic integrity breaches, including plagiarism, are identified. Furthermore, if text-matching software is to be used, students should have the opportunity to use it as an educative drafting tool to develop their writing and referencing skills.

The Internet and Plagiarism

In Australia and elsewhere, the Internet was vilified as the culprit behind students' plagiarism (and during the early days of research on plagiarism, students remained the focus of attention). Scores of papers and books were published which explored the particular educational issues associated with students' increasing reliance on the Internet. Wendy Sutherland-Smith's interests in TESOL, academic literacies, and information and communication technologies (ICT) in education led to her research on the role that the Internet played in student plagiarism. From 2004, Sutherland-Smith began publishing on the topic, and her book *Plagiarism, the Internet and Student Learning: Improving Academic Integrity* (2008) summarized the key concerns during this period and provided fresh perspectives on how plagiarism might be viewed and responded to. Extending recommendations from the Centre for Studies in Higher Education at the University of Melbourne (James et al. 2002), Sutherland-Smith proposed the "plagiarism continuum" to inform discussion and the direction of plagiarism management. Once again, Rebecca Moore Howard and colleagues' work on plagiarism and the Internet exerted considerable influence on the way that Australian researchers approached the topic (see, e.g., Howard and Davies 2009).

Focus on Policy

The emphasis on educational/academic integrity policy in Australian universities arguably began in 2010 with Gabrielle Grigg's doctoral thesis entitled *Plagiarism in Higher Education: Confronting the Policy Dilemma*. At the time, every Australian university had a policy on plagiarism (Grigg 2010, p. 185) as opposed to a policy on academic integrity. Based on linguistic analysis of those plagiarism policies, Grigg concluded that "institutional policy predominately depicts plagiarism as an offense, with educative considerations incorporated into this framework" (2010, p. 8).

In the same year, the Australian Learning and Teaching Council provided \$174,000 in funding for the *Academic Integrity Standards Project* (AISP). The project developed out of the research group that formed the core members of APFEI and aimed to extend the work of East (2009) who had advocated for

universities to align policy, teaching and learning practices, academic integrity decision-making, and academic integrity review processes. The following excerpt from the AISP website provides an overview of the project:

The Academic Integrity Standards Project: Aligning Policy and Practice in Australian Universities (2010-2012) aimed to develop a shared understanding across the Australian higher education sector of academic integrity standards with the aim of improving the alignment of academic integrity policies and their implementation. . . The project reviewed policies and procedures and the ways that universities educate students and staff about their academic integrity expectations. The project provided an overview of current responses to student breaches of academic integrity by analysing Australian universities' online policies, and collaborating with stakeholders from the six universities represented by the project team, as well as a Colloquium of national and international experts on academic integrity. This overview informed the establishment of exemplars, and the development of teaching and learning resources that align academic integrity policy with good practice. . . . The project partner institutions were the University of South Australia (Lead institution), The University of Adelaide, The University of Newcastle, The University of Western Australia, University of Wollongong and La Trobe University. (AISP n.d.)

In addition to developing practical learning and teaching resources, the key conceptual deliverable of the AISP was the identification of “five core elements” of exemplary academic integrity policy: access, approach, responsibility, detail, and support. This was achieved via analysis of the 39 Australian universities' publicly available academic integrity policies and is elaborated in detail in Section 4, “Academic Integrity Policy and Practice” in this *Handbook*. The “five core elements” of exemplary academic integrity policy were informed by the Higher Education Academy (UK) document published at around the same time, *Policy works: Recommendations for reviewing policy to manage unacceptable academic practice in higher education* (2011), which provided both a point of reference and a springboard for discussion and analysis (see Bretag et al. 2011b).

AISP also conducted the largest student survey on academic integrity ever to be completed in Australia ($n = 15,304$). Unlike other surveys on academic integrity (mostly conducted in the USA using a format developed by McCabe and colleagues) which have typically focused on students' self-reporting of cheating behavior, the AISP survey aimed to explore students' understandings of academic integrity and how best to inform and support them in avoiding an academic integrity breach.

The main research questions which the survey aimed to address included the following:

1. What awareness do Australian university students have of academic integrity and academic integrity policy?
2. Are Australian university students satisfied with the way that academic integrity is communicated and managed at their university?
3. What experience have Australian students had of the academic integrity breach process at their university? (Bretag et al. 2013, p. 1154)

The key results of the survey were that:

the majority of respondents reported a good awareness of academic integrity and knowledge of academic integrity policy at their university and were satisfied with the information and support they receive. International students expressed a lower awareness of academic integrity and academic integrity policy, and lower confidence in how to avoid academic integrity breaches; and postgraduate research student respondents were the least satisfied with the information they had received about how to avoid an academic integrity breach. (Bretag et al. 2013, p. 1150)

Academic Integrity: A National Priority

Following the completion of the AISP and in response to significant policy shifts in higher education, the OLT called for project proposals specifically relating to academic integrity. Four projects received 2 years' funding as follows:

1. *Embedding and extending exemplary academic integrity policy and support frameworks across the higher education sector (Exemplary Academic Integrity Project (EAIP)* led by Tracey Bretag at the University of South Australia). The EAIP aimed to extend and embed the five core elements of exemplary academic integrity policy identified by the AISP across the broader higher education sector, including both public universities and private providers of higher education. In particular, this project aimed to develop resources for student groups identified as needing support: international EAL students and postgraduate research students (EAIP 2013).
2. *Working from the Centre: Supporting unit/course coordinators to implement academic integrity policies, resources and scholarship* ("Building Academic Integrity," led by Fiona Henderson and Paul Whitelaw at Victoria University). This project focused on the role of the unit/course coordinator in building academic integrity in teaching and learning. The project aimed to develop resources to assist unit/course coordinators in ensuring that academic integrity policies are appropriately adhered to (Building Academic Integrity n.d.).
3. *Academic integrity in Australia – understanding and changing culture and practice* (led by Abhaya Naya at Macquarie University). This project aimed to develop guidelines for policy development and benchmarking, create online resources that address identified cultural issues and gaps, and establish student societies to promote peer-driven cultural change (OLT n.d.).
4. *Plagiarisms and related issues in assessment not involving text* (led by Simon at the University of Newcastle). This project aimed to investigate the understanding of both academics and students about academic integrity in assessment items that are not written text, such as computer games and visual images. The project explored how both staff and students regard such breaches and how academics discourage, detect, and respond to such breaches (OLT n.d.).

The allocation of OLT funds for the projects represented a significant investment in nurturing shared understandings of academic integrity across the Australian higher education sector. Furthermore, it was apparent from the broad range of topics that the educational integrity movement had developed a level of sophistication and understanding that had gone well beyond the original preoccupation with international students' citation practices, although this group of students continues to be acknowledged as a stakeholder group in need of support. All of the projects have made important contributions, both theoretically and practically, to the way that educational/academic integrity is articulated, understood, and promulgated in Australian higher education (for examples of some of the research outputs, please see Bretag et al. 2011a, b, 2013; Mahmud and Bretag 2013a, b; Nayak et al. 2013; Simon et al. 2013, 2014).

International Collaborations

Following the first educational integrity conference in Australia in 2003, *PlagiarismAdvice.org* in the United Kingdom (UK) established the *International Plagiarism Conference* in 2004. From 2008, the UK-based JISC plagiarism service was divided into two services: *PlagiarismAdvice.org* which focuses on plagiarism prevention and (electronic) detection, particularly the text-matching software, *Turnitin*; and the Academic Integrity Service which has a more holistic, pedagogic focus. In an example of antipodean cross-fertilization and recognition that plagiarism is just one breach of academic integrity, the *International Plagiarism Conference* has been known since 2012 as the *International Integrity and Plagiarism Conference* and continues to attract numerous educational integrity researchers and practitioners from Australia. The UK Higher Education Academy (and in particular Erica J. Morris as a reference group member and collaborator) has played an important role in shaping the outcomes of both the *AISP* and the *Exemplary Academic Integrity Standards Project*.

Key members of the Center for Academic Integrity (renamed the International Center for Academic Integrity (ICAI) in 2010) have contributed to the development of educational integrity in Australia. In addition to providing a keynote address at the first educational conference in 2003 and providing the opening paper for the *International Journal for Educational Integrity* in 2005, ICAI founder Donald McCabe and his extensive, internationally administered surveys have provided a launching pad for Australian-specific surveys such as the one developed by the AISP. Former chair of the advisory board of the ICAI, Tricia Bertram Gallant, contributed to the reference group of both the AISP and the EAIP. Her work in establishing the *Academic Integrity Matters Student Organization* at the University of California, San Diego, provided inspiration to the Macquarie University project to promote the role of student-led initiatives in developing a culture of academic integrity on campus. Sonia Saddiqui is currently completing doctoral research on the outcomes of this initiative (see Section 10, Systems Approach to Going Forward – Tricia Bertram Gallant).

In 2012, the *International Association of Academic Integrity Conferences* was launched to celebrate and promote the interconnection between *PlagiarismAdvice.org*, APFEI, and the ICAI.

New Directions

While the Australian educational integrity movement has benefited from research and practice on both sides of the Pacific, it is now well placed to be able to make a direct and substantial contribution to the burgeoning interest in integrity in its own region. Academic integrity researchers and practitioners in Asia are in the unique position of being able to adapt best practices that have developed over two decades of research around the globe. Taylor's University, Malaysia, as part of a twinning arrangement with the University of South Australia, has developed its academic integrity policy based on advice from APFEI; and the University of Islam, Indonesia, has begun to explore issues of integrity in their specific context, with the *Yogyakarta Forum on Educational Integrity* recently established. Contributions to this volume from writers representing a range of Asian countries suggest that academic/educational integrity is a topic of interest and research which has moved well beyond the UK/US/Australian collaboration.

Summary

This chapter has provided an overview of the educational integrity movement in Australia. The chapter has highlighted international influences and identified key themes in educational integrity research in Australia. These have included the centrality of clear definitions, the role of text-matching software, the perceived impact of the Internet, the focus on policy, the ongoing importance of international collaborations, and the recent commitment to fostering shared understandings of academic integrity across the sector by the Australian Government's OLT, as evidenced by substantial funding for a range of academic integrity projects. We are now poised to share the benefits of nearly 20 years of debate, research, and practice with our neighbors in the Asia Pacific.

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Abstract

Academic integrity has become an increasing preoccupation for UK higher education in recent years. Within the sector, there has been a clear move from the detection of inappropriate practice and punitive responses to more proactive and preventative approaches focussed on the promotion of academic integrity. That change amongst academics, students, and higher education providers (HEPs) has not only benefited widespread academic practice but also contributed to the literature underpinning academic integrity. The competing pressures of widening participation, the awarding of more highly classified (“good”) degrees and internationalization have created a complex environment for this change. The accommodation of different learning needs, diverse academic contexts, and educational cultures has driven development of teaching approaches, learning support, and assessment. This chapter focuses particularly on how HEPs across the UK are embedding a culture of academic integrity into the learning and

J. Thomas (✉)

Swansea Academy of Learning & Teaching (SALT), Swansea University, Swansea, UK
e-mail: jane.thomas@swansea.ac.uk

J. Scott

University of Leicester, Leicester, UK
e-mail: Js50@le.ac.uk

teaching environment while also working to “design out” areas of potential compromise in assessment design. This chapter will explore the academic opportunities for development and the challenges faced from the perspectives across the UK.

Introduction

Although concerns around academic integrity are by no means a recent phenomenon, they have become an increasing preoccupation for UK higher education over the last 10 years. These concerns have been fueled by considerations from a number of perspectives, one of the key ones being the perception of increasing numbers of plagiarism cases (Duggan, 2006; Ellis, 2012; Larkham & Manns, 2002; Park, 2003; Trost, 2009) and the ongoing interest in plagiarism by the media as indicated by regular articles in the press (e.g. Grove, 2014). The press play a part in the portrayal of higher education and can contribute to public confidence not only in the student experience but also academic standards and values. The sensationalist language used in some situations such as “hundreds kicked off courses,” “academic misconduct rockets,” and students being “hailed before the authorities and found guilty” (Brady & Dutta, 2014) can only undermine the confidence of students and the public at large.

The competing market pressures of widening participation, internationalization, and the driver of league table rankings to award more highly classified degrees (so-called good degrees) are among the factors that have added further complexities to the higher education environment. Associated with these is the concept of an “arms race” between the increase in the facility with which copied material may be incorporated within submitted work, whether deliberately or inadvertently, and the increase in the sophistication of the approaches to detecting plagiarism (Badge & Scott, 2009; Ellis, 2012; Park, 2003). Furthermore, there has been the recognition of the need to develop policies that ensure the equitable treatment of students within and between institutions (Badge & Scott, 2008; Carroll & Appleton, 2005; Morris & Carroll, 2011; Tennant, Rowell, & Duggan, 2007).

It is increasingly recognized within the higher education sector that plagiarism is a complex issue that spans a wide range of academic activity. At one end of the spectrum is poor academic practice, where the plagiarism is inadvertent; at the other end are the deliberate attempts to cheat. For example, the purchase of essays through so-called essay mills: organizations that, for a fee, will draft bespoke essays that are guaranteed not to be detected by the standard detection software. As a consequence, there has been a strong driver for moving the approaches from plagiarism per se, namely the detection of inappropriate practice and the application of punitive solutions, to more proactive and preventative approaches focussed on the promotion of good academic practice and the concept of academic integrity. That change amongst academics, students, and higher education providers within the UK has not only benefitted widespread academic practice but also contributed to a richer literature underpinning academic integrity.

Against this background, research in the UK has indicated that both staff and students may often have personalized views of what constitutes plagiarism and that there is the potential for a mismatch between the understandings of staff and students (Flint, Clegg, & MacDonald, 2006). The need to accommodate different learning needs, diverse academic contexts, and educational cultures has contributed to the potential for mismatch but has also contributed to driving forward the development of creative teaching approaches, learning support, and assessment. Furthermore, it is strongly argued that taking a purely disciplinarian approach of having and applying punitive policies is not constructive in the long term. Rather, institutions should aim to develop a culture of academic integrity with the responsibility for embedding that culture lying with academic staff and policy makers as well as students (MacDonald & Carroll, 2006; Park, 2004; Yakvchuk, Badge, & Scott, 2011).

In his 2004 paper, Park set out a clear case for the development of an institutional framework for dealing with plagiarism which was based on a set of “core pillars” that included the concept of academic integrity:

The academic enterprise is rooted in a culture of integrity, founded on honesty and mutual trust, and a university should expect all of its members (staff and students) to respect and uphold these core values at all times, in everything they do at, for and in the name of the institution. Academic integrity should be valued and promoted by the institution and it should underpin and inform all aspects of its teaching and learning strategy. (Park, 2004, p. 297)

Despite this early work, MacDonald and Carroll (2006) observed that, in the UK, the increasing awareness of plagiarism initially led to a focus on deterrence, which was based on policies of detection and punishment, especially as detection was being facilitated by the increasing use of text-comparison software (Badge & Scott, 2009; Tennant et al., 2007). As such, institutional practices could be seen as placing the onus on the students to avoid plagiarizing, while the role of the institution was to ensure that students were deterred from plagiarizing by the knowledge that their work was being checked and that significant penalties would be applied where plagiarism was identified (MacDonald & Carroll, 2006). This perception was exemplified in a recent review of the literature, which indicated that “much of the literature is framed in terms of misconduct or academic corruption” (MacFarlane, Zhang, & Pun, 2014, p. 339). This may also engender the risk of an increasing disconnect with the students who, when submitting their work for assessment, may view the plagiarism checking as part of a “big brother” culture rather than a process of developing their writing skills (Gannon-Leary, Trayhurn, & Home, 2009; Penketh & Beaumont, 2013).

In order for academic integrity to thrive as a concept, it requires underpinning by core pillars, in particular transparency and joint ownership (Park, 2004) and that students should recognize academic integrity as something they should value (McCabe, 2001). One end of the spectrum for developing this theme is the honor code system that has been adopted to varying extents by some universities in the USA. Underpinning these codes is the definition of academic integrity, set out by the International Center for Academic Integrity, as “a commitment, even in the face

of adversity, to six fundamental values: honesty, trust, fairness, respect, responsibility, and courage” (Fishman, 2013). Honor codes are therefore based on an institutional ethos of academic integrity that involves direct engagement of the student body in promotion of that ethos (McCabe & Pavela, 2005), with the students taking a pledge to uphold those values (McCabe, Trevino, & Butterfield, 2002).

The concept of translating the honor code system into the UK context has been explored, but while there were perceived to be positive aspects, in particular in relation to the promotion of good academic practice, the operational implementation was seen as being problematic, in large part because of cultural differences between the organizations (Clarke & Aiello, 2006; Yakvchuk et al., 2011). Such concerns were exemplified in some of the comments of academic staff who reflected on the increasingly diverse, internationalized nature of UK higher education, associated with large elements being managed at a distance from the “home” campus:

“Well, you talk about an academic community of shared values, you’re assuming that everybody has the same values, and they don’t. We have a very open and very diverse academic community...”

“I think in a distance learning context, some of this is quite difficult. . . .” (Yakvchuk et al., 2011, p. 43)

Although honor codes may not have been seen as the way forward, the approaches to assessment, assessment design, and provision of clear guidance for students regarding academic practice have moved significantly in recent years. At the most operational level, this is exemplified in the widespread policy that students are required to sign a statement confirming that assignments they are submitting are their own work. However, perhaps a clearer indicator of a shift in thinking is reflected in the language used by the UK’s Quality Assurance Agency (QAA) for Higher Education in its codes of practice. In 2000, the QAA’s Code of Practice stated that, in relation to plagiarism:

Institutions should have effective mechanisms to deal with breaches of assessment regulations and the resolution of appeals against assessment decisions (Quality Assurance Agency for Higher Education [QAA], 2000; section 6: Assessment of students).

In 2006, this wording was changed to:

Institutions encourage students to adopt good academic conduct in respect of assessment and seek to ensure they are aware of their responsibilities (QAA, 2006; section 6: Assessment of students).

While the 2013 Quality Code chapter on Assessment is more explicit, including the following expectations:

Students are provided with opportunities to develop an understanding of, and the necessary skills to demonstrate, good academic practice (QAA, 2013; chapter B6: Assessment of students and the recognition of prior learning; indicator 7).

and that:

Higher education providers operate processes for preventing, identifying, investigating, and responding to unacceptable academic practice (QAA, 2013; chapter B6: Assessment of students and the recognition of prior learning; indicator 14).

These expectations have to be addressed explicitly by all high education providers as they engage with the QAA in the Higher Education Review process, which is currently the national system for assuring the quality and standards of higher education provision in England and Northern Ireland (Wales operates a similar system, Higher Education Review: Wales) referenced against the Quality Code. Scotland has a different system of quality assurance: Enhancement Led Institutional Review (ELIR) but this is still referenced against the Quality Code. This will clearly contribute to the driver to ensure there are demonstrably effective systems in place for detecting and acting on breaches of academic integrity but also that this needs to be underpinned by explicit guidance to enable students both to understand what good academic practice is, and to demonstrate that in their academic work. To that effect, many UK institutions now provide specific training and guidance for students in good academic practice, often as a component of study skills training, which is linked to institutional regulatory frameworks (c.f. George, Costigan, & O'Hara, 2013; Onens & Anderson, 2014). Despite these developments, there are still regular comments in the media regarding the inadequacy of training in academic integrity (c.f. Birkhead & Montgomerie, 2014).

In recent years, there has been a strong drive to increase the numbers of international students studying in the UK. This is partly financially driven but also responds to international demand. Diverse academic cultures, associated with the pressures of living in a different country, may contribute to the issues around academic integrity (Walker, 1998), and the situation may be compounded for students taking taught masters programs for which the students are in the UK for relatively short periods of study (typically 12 months). Thus, there is very little time for developing embedded approaches to academic integrity, especially since the first summative assessments contributing to award outcome may be scheduled relatively soon after programme commencement.

Concerns in the sector around these issues have driven the development of technologically based approaches to promoting good practice, teaching citation, and good writing skills and most HEPs now use these to some extent. Pre-sessional provision to support the development of English for academic purposes is now widespread in conjunction with academic success programs to support students. Weller (2012) has explored international students' writing practices and argues that teachers overlook the process of enquiry in working with students and that there should be a focus on reading-to-write and approaches to source usage, rather than writing practices themselves, as being more supportive of learning.

The Role of Assessment Design

As well as providing appropriate and timely training for the student body, another key approach to reducing the risk of breaches of academic integrity rests firmly with the ways in which academic staff approach curricular and assessment design, in effect to “design out” areas of potential compromise (Carroll & Appleton, 2001). Engaging the students before they begin the assessment is key to supporting the production of work from them, in whatever format, that is original, evidence-based, and authentic.

Promoting academic integrity through course assessment and design can be challenging for academics and students. Designing curricula which not only meet program and module outcomes, but also sequence learning and support incremental development, is fundamental. Structuring assessment to promote academic integrity rather than falling back on the use of stereotyped assessments with recycled assessment tasks is part of effective and efficient practice, working in ways which are both sustainable and inclusive. An example of such a proactive approach is the Program Assessment Strategies (PASS) Project, which was supported by the Higher Education Academy (HEA, 2013b). This drew together six universities (Bradford, Leeds Metropolitan, Northumbria, Oxford Brookes, Exeter, and Plymouth) in a series of workshops to explore the principles of Program Focussed Assessment (PFA). PFA is the designing of assessment to ensure that the key learning outcomes of a program are specifically addressed, the intention being to shift the balance of assessment from the individual module to the level of the program as a whole (McDowell, 2012). PFA, therefore, encourages the adoption of assessments that require the student to integrate information from different sources rather than focusing on factual content and so can address the acquisition of higher order skills and limit the risk of plagiarism (McDowell).

The notion of “prevention” rather than punishment has gradually been adopted across the sector, embracing a proactive rather than reactive approach. The effect of that has been a catalyst for innovation, using approaches such as designing assessment tasks that do not facilitate copying. Examples of such assessments include the use of individual experience or specific data sets (evidence or experimental work) as the basis of the assessment or a requirement for the students to undertake practice-based or lab-based assessments or oral exams. Simple approaches include creating assessments that require the use of action verbs such as create, rank, compare, select, justify, and that avoid terms such as list, identify, or summarize as the latter lend themselves to copying. Ensuring the currency of assessment tasks is also helpful as the work of others dates quickly, and so time-specific assessment necessitates engagement with the issue rather than reliance on materials generated by others. Evidence-based assessment similarly promotes authenticity by enabling learners to work from specified sources, improving their understanding of Academic Integrity. Simple but consistent explanations in advance to enable students to see how the work/task relates to learning and links to the grade awarded are effective in enhancing learning, promoting learning engagement, and reducing the risk of inappropriate academic practice (Carroll & Appleton, 2001; Higher Education Academy [HEA], 2010).

The balance between encouraging individual effort and developing collaborative skills is familiar across many disciplines where the difference between good collaborative practice and the risk of collusion are made clear. In order to enable students to improve their academic practice they need to understand the nature of the collaboration involved in the activity they have been set. For example, it is more useful to explain the expectation that students work together to enable them to understand concepts and their application by discussion and exploring alternative ideas than to issue definitions and expect the students to grasp this way of working and to avoid collusion in so doing. When such terms as “working too closely with others” are used, students may find it hard to understand what that means, whatever their experience and/or learning culture (Thomas, 2012). Thomas has highlighted concerns around genuine confusion amongst students regarding the notion of collusion, how it can be difficult to differentiate from collaboration or co-operation, and how to appropriately cite sources (the issue of collusion is explored in detail by Sue McGowan in section 2 of this volume).

Some of the developments in various disciplines undertaken on metatasks emanate from the original work of Evans (2000). Using his approach, students work in class without access to technology, learning, and practising the skills of academic sourcing, citation, and replication and then reflecting on their progress. An interesting element of the approach is the use of mind-mapping to enable students to make connections between the conceptual components. This constitutes a multilayered assessment which enables teaching teams to explore the relevance of academic integrity. This style of assessment, its authenticity and immediacy, serve to minimize the opportunity and motivation to plagiarize, collude, or purchase online.

The range of assessment styles which promote engagement and minimize opportunities for misconduct is vast, but examples include online discussion boards, blogging, the use of presentations for differing audiences (oral, written, and group), reflective journals, role plays, and simulations. Authentic assessment styles include setting, papers to work on and prioritize or practical sessions such as timed, objective structure examinations which can be clinical or practice based, often referred to as OSPEs/OSCEs. Active examinations which demand reading, analyzing, interpreting data, or the use of part-seen reports are challenging and require individual engagement by the students with the material. In some disciplines reviewing books/journals/websites/films or media profiles can be particularly useful in maintaining the currency of the assessment and engaging the student in generating an original response.

Essay planning or abstract writing can effectively engage students in real-time assessment as can making or designing something, individually or collectively. A similar effect occurs in oral examination/viva voce or performance or competence-based assessment on the basis of participation and observation. In this context, assessment of the process rather than the product alone can also be useful in ensuring an individual, original piece of work (Carroll & Appleton, 2001). These approaches not only promote authenticity but also obviate misconduct and provide opportunities for enhanced feedback. Concept mapping has become more

mainstream with the development of more appropriate assessment criteria and collective examples continue to extend and develop the repertoire of assessment styles and methods available. An example of this is the use of the “patchwork text” – where students work individually on small elements but then work collectively to create an “overview” summary. (Leigh, Rutherford, Wild, Cappleman, & Hynes, 2012; Surridge, Jenkins, Mabbett, Warring, & Gwynn, 2010). This maintains the integrity of the individual contributions whilst still building group working and collaborative skills. One of the increasing challenges is the existence of sites which encourage sharing of assessment materials and offer opportunities to purchase materials prepared by others. Wallace and Newton (2014) have explored some of the more technological issues impacting on academic integrity. One scenario is “contract cheating” in which students can offer online an assessment brief to which providers “bid,” enabling the student to choose the cheapest/fastest/most suited to their needs. Wallace and Newton discuss the frequent suggestion that shortening turnaround times for assessed work provides a means of preventing the use of paid writing services or “contract cheating.” Their conclusion is that availability and speed of response from providers is such that this barrier is easily overcome and, more worryingly, that the level of competition for such business is so great that it exceeds capacity. This is a widespread global issue and there is a need for further research to explore this area which is often under recognized and undetected (for a full discussion of these issues, please see chapters by Philip Newton and Christopher Lang (► Chap. 19, “Custom Essay Writers, Freelancers, and Other Paid Third Parties”), and Anne Rogerson and Gisella Basanta (► Chap. 20, “Peer-to-Peer File Sharing and Academic Integrity in the Internet Age”) in Section 2 of this volume).

Consistency of Institutional Policies

Whilst the approaches of promoting academic integrity and designing out plagiarism in assessments indicate a positive direction, there is still a significant need for the sector to establish policies that ensure the consistent and equitable treatment of students within and between institutions (Badge & Scott, 2008; Carroll & Appleton, 2005; Morris & Carroll, 2011; Tennant et al., 2007). Baroness Deech, the then Independent Adjudicator for UK Higher Education, called for greater consistency in the equity of application of penalties across the sector (Baty, 2006). In response, the Plagiarism Advisory Service of the Joint Information Systems Committee (JISC) established the AMBeR project (Academic Misconduct Benchmarking Research Project), which initially involved a detailed survey of the range of penalties that were being employed by higher education providers (Tennant et al., 2007; Tennant & Duggan, 2008). The report from this survey confirmed the wide range of penalties that were being applied across the sector. Depending on the perceived magnitude of the breach, these ranged from unofficial warnings to expulsion from the program but also included nonacademic penalties such as the imposition of fines. The authors further noted that different institutions might apply similar penalties for very different levels of breach or vice versa. Of even greater

concern, though, is that this evident lack of consistency has also been identified as being problematic at the level of the individual institution. Variations in practice open the door for challenges to imposed penalties where students are able to demonstrate that different departments, within the same institution, impose different penalties for the same breach (Badge & Scott, 2008; Office of the Independent Adjudicator, 2009).

The follow-up stage of the AMBeR project was the development of a benchmark tariff which, it was proposed, could lead to much greater consistency in the relationship between severity of the breach and the penalty applied (Tennant & Rowell, 2010). This tariff took account of five criteria that had been identified as being considered most significant across a range of institutions:

1. Previous history;
 2. Amount of work plagiarized;
 3. Academic level;
 4. Intention to deceive; and
 5. Value of the work.
- (Tennant & Rowell, 2010, pp. 9–11).

Tennant and Rowell (2010) discussed whether to include consideration of extenuating circumstances as part of the evaluation of the penalty to be applied but concluded that such cases could generally be addressed within the flexibility of the tariff. Critics of the Tariff also noted that it did not address collusion (Tennant & Rowell) but the authors considered that this required further research to examine the particular factors associated with collusion, one example being how to adjudicate over the culpability of a student who had allowed their work to be used by another.

An evaluation of the Tariff undertaken across nine universities revealed that the penalties the institutions had awarded matched the Tariff in about half of cases, with the most common areas of mismatch being related to the severity of the penalty and whether or not resubmission was allowed. Notwithstanding this, the authors concluded that the Tariff represented a useful first step for improving inter-institutional consistency (Scott, Rowell, Badge, & Green, 2012). Although there have been some moves to incorporate the Tariff into institutional policies, other institutions have taken the view that adoption of a broad tariff is inappropriate when the decision relies primarily on academic judgement (Onens & Anderson, 2014).

Professional Development

In parallel with the developments of the QAA Quality Code for Higher Education, the Higher Education Academy has developed the UK Professional Standards Framework ([UKPSF] HEA, 2013a). This Framework has been designed to provide a structure for professional development along with a series of core criteria that teachers are expected to meet, across a range of aspects, to achieve professional

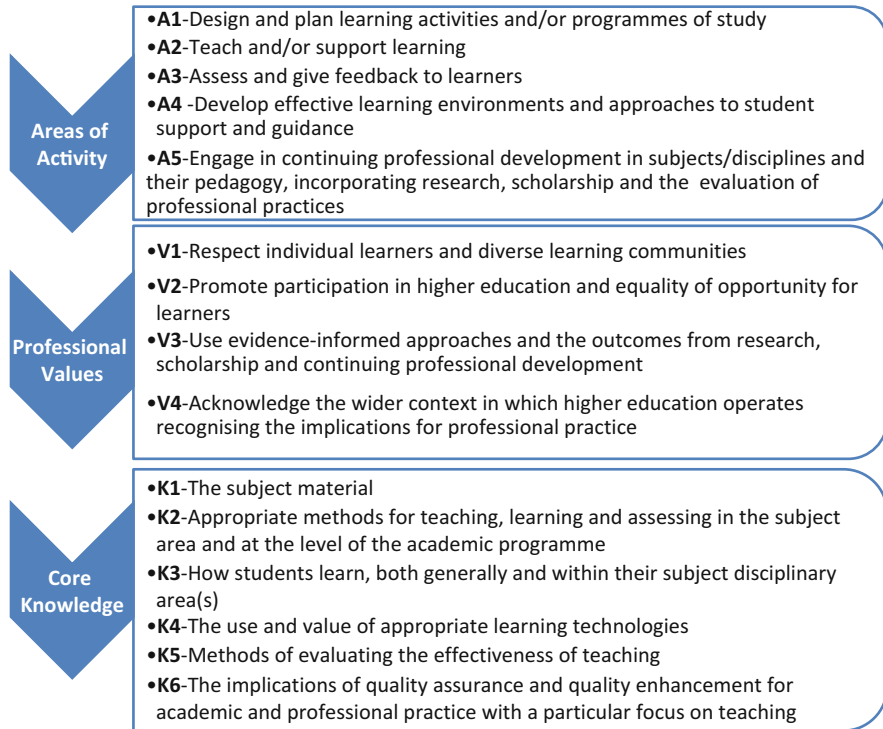


Fig. 1 Adapted from the UK Professional Standards Framework (Higher Education Academy, 2013)

recognition for their teaching practice. These are interrelated with the ethos of developing academic integrity, enabling teachers to identify academic integrity as being fundamental to their teaching and assessment practice as well as their professional values.

The dimensions of the framework are threefold, Areas of Activity, Core Knowledge, and Professional Values, as shown in Fig. 1.

All three dimensions relate closely to the elements of academic practice and integrity but in different ways. At the 2013 HEA conference, “Academic Integrity and Student Development: Exploring dimensions for improving practice,” several workshops were aligned to the UKPSF, emphasizing the perceived connection between academic professional development and espousing academic integrity (HEA 2013c).

The Areas of Activity all relate to academic integrity and the prevention of unacceptable practice in terms of curriculum design (A1) and academic practice (A2, A3, A4). Those activities are student facing but there is also the more reflective aspect of requiring the teacher to examine their own practice and development as the foundation for that practice (A5).

In relation to Core Knowledge, the components each have potential application to the promotion of academic integrity and the reduction of unacceptable practice. Subject specialism and disciplinary knowledge form the foundation of teaching and student learning (K1) and so often play a key role in the recognition of inappropriate academic practice. The pedagogic application of core knowledge (K2-5) provides the framework for the development of sound academic practice in the theoretical knowledge, pedagogic intuition, and experience of the teacher. Scope to prevent or reduce inappropriate academic practice so often rests with the design and implementation of elements of the learning experience or the approach taken to quality assurance and enhancement (K6).

The Professional values (V1,2,3,4) are particularly relevant to academic integrity and can support the explanation to students of how the principle works as well as informing teaching and assessment practices. The acknowledgement of the wider context and implications for professional practice (V4) are fundamental to approaches to academic practice and the way in which this and the notion of academic integrity are addressed with students.

Thomas (2012) refers to the idea of becoming “not a man of success, but rather a man of value” (attributed to Einstein) as a reminder that academic integrity is values driven and there lies the greatest opportunity to support students in achieving success. This is endorsed by Crehan and Williams (2013) who propose the notion of academic integrity as a graduate attribute of value in professional development.

The incremental recognition of reflection as a means by which to address, enhance and improve academic practice (QAA, 2012) raises the expectation that teachers will both employ and promote reflective academic practice. Enabling and equipping teachers with the skills to safeguard academic standards is an essential part of the process of the promotion of academic integrity through knowledge, practice, and modeling values. Academic integrity is engendered by the direct engagement of teachers with students, presenting consistent standards that reflect the professional practice of the teacher, to recognize and reward effort and achievement and taking every opportunity to reduce misconduct.

There is risk in “subcontracting” academic integrity development for students through the provision of online courses, promising “evidence” of training to offset legal claims and reputational damage, and these may prevent teachers from working closely with their students on the core academic issues. The importance of collaboration between teachers and students is a concept owned by all teachers, and while online provision is often of excellent quality, positively focussed and accessible to all, it augments rather than replaces the input of the course leader working with the students on each module. The premise of working with students as partners is key here, as it is in everyone’s interests to maximize academic integrity and in the spirit of fairness to work to prevent unfair practice. Engaging with students in setting policy, establishing processes and decision making can only serve to embed their sense of ownership and contribute to building a strong value base. Ariely’s (2008) work on decision-making, applied more recently to the motivations for academic misconduct, not only offers insights into the problem but is usefully informing policy development across the sector. Policies are merely tools to enable

practice and have limitations. Policies can contribute to culture change but are not the “solution” to promoting academic integrity and responsibility and embedding lifelong values.

Dill and Beerkens (2013, p. 341) assert that “The challenge confronting all nations is to design a policy framework that effectively balances the forces of the state, the market and the academic profession to assure academic standards in universities.” This is crystallized in Morris and Carroll’s (2011) recommendations designed to encompass the breadth of unacceptable academic practice, the need for flexibility, and the promotion of academic integrity through and beyond policy. The reach and impact of this work has been significant in the subsequent development of UK approaches, and the sector continues to work concertedly to promote academic integrity, drawing together academics across higher education.

Summary

Concerns regarding academic integrity in the UK higher education sector have increased over the last decade along with the recognition that this is a complex issue spanning a spectrum from poor academic practice to deliberate attempts to cheat. Institutional policies initially were often focused on detection and deterrence with the onus being placed on the student to avoid plagiarizing. More recently there has been significant movement towards improving the guidance and training provided for students regarding good academic practice. This has been accompanied by moves to change assessment design to increase the focus on assessing higher-level academic skills, rather than factual content, and thereby also reduce the facility for plagiarism to take place. Academic agencies within the UK such as the Quality Assurance Agency and the Higher Education Academy have lent support for these changes through their guidance and development of professional standards for HE teaching. When instances of plagiarism have been identified, it is important that there should be consistency in the penalties applied, both within and between higher education providers: the work of the Plagiarism Advisory Service, through the AMBeR project and development of a benchmark tariff, has further provided valuable guidance for institutions in developing their policies.

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Abstract

This chapter presents evidence about how academic integrity is perceived and managed at tertiary level across the European Union (EU). Despite the moves during recent decades to harmonize EU higher education (HE) through the Bologna Process, governance of HE in different parts of Europe remains diverse and complex.

The project Impact of Policies for Plagiarism in Higher Education Across Europe (IPPHEAE 2010–2013) aimed to explore how academic integrity was understood and managed in different parts of the EU. The geographical scope of the research was confined to the then 27 member states of the EU. The main focus was on assessment for bachelor and master's degrees rather than on research and doctoral level studies.

I. Glendinning (✉)
Coventry University, Coventry, UK
e-mail: csx128@coventry.ac.uk; ireneg@coventry.ac.uk

The evidence presented in this chapter is based on previous and concurrent research, documentary sources, and analysis of almost 5,000 responses to the IPPHEAE survey, with views from higher education students, academic teachers, senior managers, and individuals who were able to provide national and international perspectives.

Some common themes emerged from the research relating to academic integrity. In addition to some examples of good practice, there were indications across many of the countries and higher education institutions (HEI) studied of lack of awareness and immaturity in institutional responses for assuring integrity and academic quality affecting all parts of the educational process.

This 3-year study, taken together with related research elsewhere, showed that some EU countries, particularly the UK, Sweden, Austria, Republic of Ireland, and Slovakia, have taken significant steps, at national and institutional levels, to identify and address threats to academic standards. However, the findings indicated that much more could and should be done in every country studied to strengthen policies for encouraging scholarly practices and implementing consistent but proportional measures for deterring malpractice in both education and research.

Introduction

This chapter looks at available evidence of how plagiarism, academic misconduct, and academic integrity are viewed and managed in European higher education institutions. However, before focusing on these areas, it is important to set the scene by briefly summarizing a few of the many major changes, geographically, politically, and educationally, that Europe has undergone in the last 20 years that have impacted on the HE sector.

The democratization of former Soviet states that was marked by the fall of the Berlin Wall in 1989 brought about huge changes affecting the whole of Europe. The gradual expansion of EU membership from that time onwards, including the reunification of Germany, meant that people from diverse economies and cultures began working and studying together. This development had major implications for all industries, but particularly affected governance, funding, and resourcing of all levels of education.

Independently of political changes, starting in about 1990, the number of students entering higher education across different parts of Europe expanded disproportionately year-on-year compared to admissions in earlier decades. The increasingly larger class sizes, combined in some cases with expanding subject choices, forced some changes and innovations in pedagogy and assessment practices, for example, class sizes increased and group assessments were introduced, in part to help to reduce lecturers' workloads. However, formal examinations remained the predominant assessment method in many countries.

In parallel with the political, geographical, and educational expansions within Europe from the mid-1990s, the evolution of the World Wide Web made

it increasingly easier for information to be accessed and shared via the Internet, which was of particular interest to students and teachers. Although plagiarism is a very old concept, the advent of intelligent tools and search engines meant it became easy for students to acquire relevant information and copy digitally into their work. This ubiquity of information and ease of access also allowed alert teachers to locate the same resources as students and identify where unattributed copying occurred. More recently, the introduction of digital submission has changed the way student assessment is handled, and new problems have emerged, together with opportunities and potential solutions to thwart would-be cheaters and plagiarists.

Starting in 1998 at the Sorbonne, there were aspirations to create a common European framework for higher educational qualifications and standards for all members of the European Higher Education Area (EHEA) through what has become known as the Bologna Process. A series of regular high-level events since then in different countries, each followed by a Communique to update interested parties (EHEA website), continues to progress this agenda.

The most significant structural change to higher education in Europe, arising directly from the Bologna process, has been the adoption of a standard three-level qualification system: Level 1 – Bachelor’s Degree; Level 2 – Master’s Degree; and Level 3 – Doctoral studies. In many countries, the first two levels replaced an integrated 6- or 7-year route to a master’s qualification via bachelor degree. This three-level framework was complemented by the adoption of European Credit Transfer Scheme (ECTS) credits, designed to facilitate student mobility.

Harmonization of national education systems required other changes to underlying systems and policies, particularly requiring specification of programs to be expressed as “learning outcomes” and ensuring assessment practices and quality assurance processes aligned with EU and EHEA expectations. These aspects of the harmonization process required very radical conceptual and structural changes for some institutions and national educational systems. Although great progress has been made in this direction, the findings from the IPPHEAE research confirm the journey is very far from over.

As already mentioned, in some subjects, particularly law and medicine, the great increase in student numbers forced changes to assessment methods. It was reported from Germany, for example, that where it was once common to examine a student solely by *viva voce*, under Bologna, it became more likely a student would be given several smaller “semester papers” or essays to write each semester often combined with formal written examinations (Glendinning Germany report 2013: 3).

Where new assessment regimes were introduced, there was need for a step change in the way assessment was designed and quality assured and also in how students were guided and prepared for the assessment process. The responses to the IPPHEAE survey suggested that retraining of staff and student guidance is not routinely provided or expected in some institutions (notably in France, Belgium, Germany, and Spain). Indeed, one respondent connected the increase in student plagiarism with the replacement of *viva voce* examinations by new methods of assessment under Bologna (IPPHEAE Germany report 2013: 3).

Quality Assurance and Integrity

The long-established UK experience of internationalization indicates that unless carefully understood and managed, the increasingly diverse multicultural and multilingual communities in Europe involving higher education students, academic teachers, doctoral supervisors, and research team leaders could present serious challenges to quality and standards of assessment and integrity. In particular, systems and approaches to assure standards and quality of student work in HE institutions are closely aligned with the capacity for identifying and managing plagiarism and promoting good academic integrity.

In HEIs across many parts of Europe, the professoriate has great autonomy, and there is very little oversight for checking their decisions. In such regimes, there is often no embedded requirement or expectation for assessment briefs, examination questions, and marking schemes to be premoderated by peers or external examiners or for blind and second marking, postmoderation of student work, and scrutiny of grades and marks awarded. The resulting culture of low accountability and lack of transparency will make it impossible to check how “plagiarism proof” an assignment or task may be, or to know how any potential cases of plagiarism and academic misconduct are being identified and what action has been taken in response by an individual academic.

When individual academics setting the assessment or supervising the thesis have unquestioned remit to decide on the grades awarded to students, the decision on whether to take action in suspected cases of plagiarism and academic dishonesty also lies solely with the individual academic. Conversely, in environments with a more open approach, premoderation of research proposals, examination questions, and assessment briefs provides additional opportunities for identifying weaknesses or flaws. Post-assessment scrutiny by colleagues, second markers, and external examiners allows for the identification of anomalies in student work, including plagiarism, which may have been ignored or not recognized by the examiner.

Countries in Europe are required to comply with quality assurance standards and regulations established by the European Network of Quality Assurance Agencies (ENQA). National QA agencies not currently part of ENQA or on the European Quality Assurance Register (EQAR) aspire to reach the required standards to become full members as a mark of their maturity as well as to indicate compliance with agreed standards. However, as has already been discussed, approaches to assurance of quality in student assessment vary greatly across the EU.

Research into Academic Integrity in Europe

The combination of changes affecting higher education during the last decade of the twentieth century and first years of the twenty-first century raises questions about the security of HE student assessment in many parts of Europe. Research was conducted and some innovative developments into holistic approaches to academic integrity were initiated in some parts of Europe to try to improve educational

standards for deterring plagiarism and to ensure plagiarism in student work was detected and suitably managed, notably in the UK (Carroll 2005; Carroll and Appleton 2001; Macdonald and Carroll 2006; Morris and Carroll 2011; Park 2004; Tennant and Duggan 2008; Tennant and Rowell 2010), Sweden (Pecorari 2011; Zeterling and Carroll 2007) and the Netherlands (Pieters et al. 2006; Roes 2005).

During this time, digital text-matching tools were being developed and deployed to aid detection and to deter students from contemplating plagiarism. The UK government through the Joint Information Systems Committee, now known as JISC, supported the introduction of digital text-matching tools in UK HEIs, first by funding a pilot study then providing access to institutional licenses sector-wide in England and Wales (Rowell 2009). This initiative gave UK HEIs an early lead compared to other European countries in exploring and evaluating policies and systems for effective deployment of such tools. However, other countries including Slovakia (Foltýnek 2013; Králíková 2009), Hungary (Füzessi 2013), Poland, and Lithuania have also been actively developing digital archives, tools, and resources specific to their languages.

In 2010, the project Impact of Policy for Plagiarism in Higher Education Across Europe was funded by the European Commission to meet a perceived need for evidence about how higher education institutions in Europe were managing student plagiarism. The geographical scope of the project was defined to encompass the then 27 EU member states. The research focused on what policies were implemented in HE nationally or institutionally for discouraging and detecting plagiarism and academic dishonesty at bachelor and master's degree levels. The survey collected evidence about consistency, fairness, and proportionality of approach and outcomes in handling allegations of academic misconduct. However, evidence was also captured about how students were being supported and encouraged to follow good academic practice and scholarship as a means of deterring academic misconduct.

Research Methodology for Data Capture and Analysis

The IPPHEAE survey captured information about whether EU HEI participants had policies for the wide range of possible types of misdemeanors that constitute academic misconduct, especially focusing on student plagiarism. Where policies were in place, it was important to get some measure of their nature and efficacy, particularly:

- Level of implementation and responsibilities for action and decisions;
- Consistency and transparency of policies and procedures;
- Communication about the policies to all stakeholders;
- Level of knowledge and understanding of the policies;
- Type and range of available sanctions;
- Monitoring and review of the system;

- Evidence of whether the system was being applied as intended; and
- To what extent the system was effective for deterring and detecting cases.

The survey invited contributions from four levels of participants: students, teachers, senior HEI managers, and, where possible, people with a view of quality and integrity in HE, on a national or international basis. Most of the responses were captured through online questionnaires, which were customized for each level of participant. In addition, one-to-one interviews and student focus groups helped to provide more detailed information and viewpoints, highlighting different opinions.

To encourage responses from across Europe, the online questionnaires were made available in 14 European languages. The questionnaires for students and teachers consisted largely of closed questions often with 5-point Likert scale response options (strongly disagree to strongly agree), generating coded quantitative data. However, there were a few free-format questions and additional comment fields were included with many of the closed questions to capture richer viewpoints. As the expected volume of replies was lower for the senior managers, their survey consisted of mainly open questions, inviting free-format comments from participants.

Student focus groups were conducted by PhD student research assistants in several countries, either in English or with responses audio recorded then translated into English. Interviews with senior management and national level respondents were mainly conducted in English by researchers, with responses often audio recorded and then transcribed. Documentary evidence about policies and guidance was also collected from participants and from websites to supplement the survey responses.

This methodology ensured that the analysis of responses to the main questions was based on coded quantitative data and therefore language neutral. However, some deeper qualitative information was captured to explain and inform other responses in more detail. Overlap of the questions asked at different levels of the survey, aided by use of the mixed-methods approach, allowed triangulation of results.

When designing the survey, the research team explored evidence of other research, including some previous work that included surveys. The project consultant Jude Carroll also provided input at the survey design stage. Some useful ideas were found for questions from McCabe (online surveys), Park (2004), and Hayes and Introna (2005), but no single survey was located with the right focus and content for IPPHEAE. It was important to ensure the wording of every question was very clear, and terminology used could be translated without distortion to other educational systems and for different European languages. Therefore, the survey questions were either designed for this research or adapted specifically for use on this project.

Pilot surveys using paper-based questionnaires were run in different language versions and carefully evaluated before the team was confident enough to upload to the secure web-based (Bristol Online Surveys) platform and then they were released to participants through links on the project website.

Guidance notes and “informed consent” information was made available to all participants before they provided their responses. Before analysis, the data was anonymized by adding participant and institutional codes, with secure details of coding maintained separately from the anonymized responses.

The global nature of higher education means that the student community of any HEI may include students and teachers from across the world. For the purposes of the IPPHEAE research, the population of an HEI was defined as all students studying and all academics employed to teach at the institution at the time of the survey, irrespective of their nationality or normal country of residence.

Analysis of Results

Just under 5,000 responses were collected in total, of which about 4,000 were from students and just under 700 from HE teachers. The number of responses to the senior management questionnaire was disappointingly low, but this deficit was compensated by the excellent quality of responses from both questionnaires and interviews with contributions from some very influential individuals.

The analysis of much of the data was conducted using frequency distributions, through the statistical package SPSS. Thematic analyses were used to classify and combine some of the qualitative data captured from various sources.

The comparison of results from the different countries was achieved using a specially designed toolset called the Academic Integrity Maturity Model (AIMM). In devising these tools, the author was influenced by the concepts underpinning the Capability Maturity Model, CMMI Academy, which assesses companies or functional units in specific industry sectors based on their level of “process maturity” in a range of different areas.

The AIMM tools, applied at country level for this analysis, used the nine categories listed below, each of which was scored according to scaled and averaged responses taken from the IPPHEAE survey results:

- Transparency in academic integrity and quality assurance;
 - Fair, effective, and consistent policies for handling plagiarism and academic dishonesty;
 - Standard range of standard sanctions for plagiarism and academic dishonesty;
 - Use of digital tools and language repositories;
 - Preventative strategies and measures;
 - Communication about policies and procedures;
 - Knowledge and understanding about academic integrity;
 - Training provision for students and teachers; and
 - Research and innovation in academic integrity.
- (Glendinning 2014b)

The limitations of the research need to be appreciated before considering the findings. The selection of institutions and individual participants was opportunistic

rather than designed to be a representative sample. Many participants, institutions and individuals, took part because they had interest, specific information, or views to contribute to the research. Respondents were often confirming their own good practice, which may not be representative of the country as a whole. Occasionally, participants elaborated specific problematic circumstances and examples, particularly where exacerbated by absence of effective policies.

Some of the institutions approached who did not take part in the research told the researchers that their HEIs had no policies in place. Others refused to take part citing fear of reputational damage, despite assurances about anonymity. The number of responses for some countries was very limited (particularly Italy, Belgium, Netherlands, and Luxembourg), with the national evidence presented in the analysis sometimes relying on a few authoritative advisers and documentary sources.

Before being released on the IPPHEAE website, each of the 27 country reports was sent to some of the contributors and independent reviewers with knowledge of that country, who were asked to comment on accuracy and balance. All feedback received was incorporated into the final versions of the reports. Even after release of the reports, further comments received are still being considered and where merited new versions will be produced.

Overview, Comparison of EU Countries

The AIMM results for each country were tabulated and charted using a stacked bar chart for the 27 country comparisons to depict the results for each of the nine categories in each country, as shown in Fig. 1. Radar or spider charts provided a graphical view of strengths and weaknesses for each country, for example, the results for Austria are shown in Fig. 2.

In addition to a substantial analytical report for each country with detailed recommendations for actions, the EU comparison report contained one-page country summaries with the main research findings expressed in terms of strengths, weaknesses, opportunities, and threats (Glendinning 2013).

Research Findings: Serious Problems and Deficiencies Identified

Fundamental disparities were identified that pose serious impediments to reaching a common European understanding on policies for academic integrity. Firstly, there is no consensus across Europe and even within countries or institutions on what constitutes plagiarism. Secondly, despite the Bologna Process, there are different views about what is acceptable academic practice for students at different levels of education. Thirdly, there are substantial differences in pedagogic practices and assessment methods that influence expectations on the extent of scholarly activity and critical thinking in student work. Each of these three points is explored in more depth below.

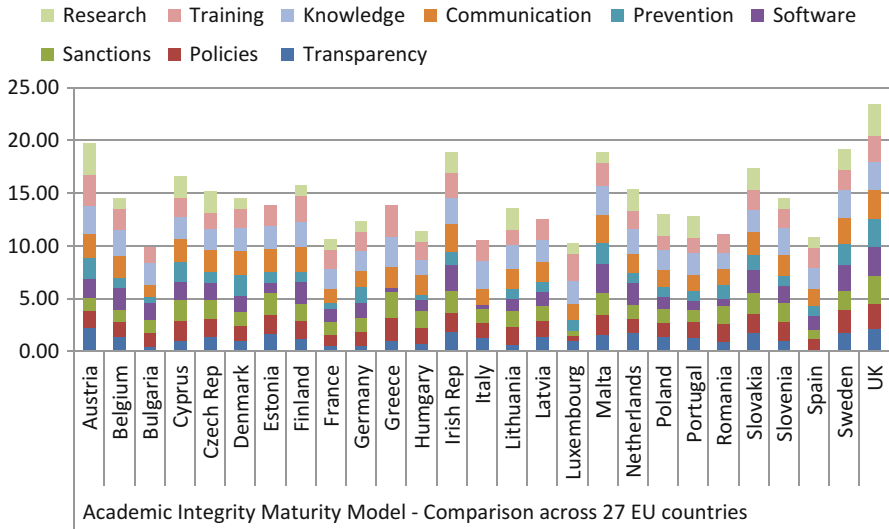


Fig. 1 IPPHEAE project, AIMM 27 Country comparison

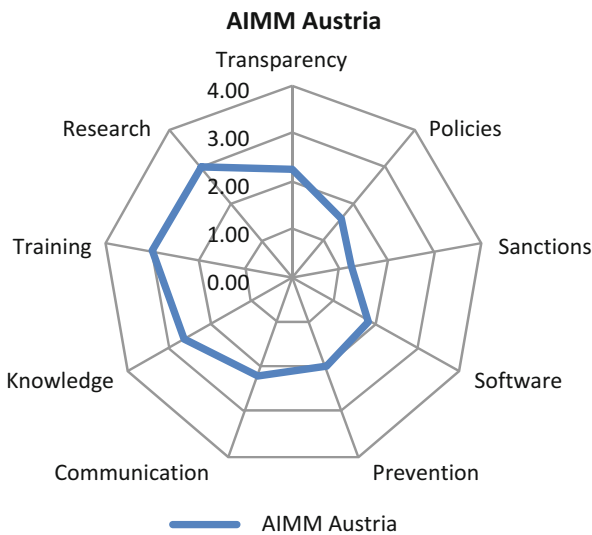


Fig. 2 AIMM radar chart for Austria

On the definition of plagiarism, a significant minority of academics responding to the teacher survey were unable to recognize, and classify in terms of seriousness, clear cases of plagiarism presented in a set of scenarios: based on a sample of 681 responses, Fig. 3 shows that overall 15 % of teacher respondents were not sure whether or not this described plagiarism and 4 % believed it was not plagiarism.

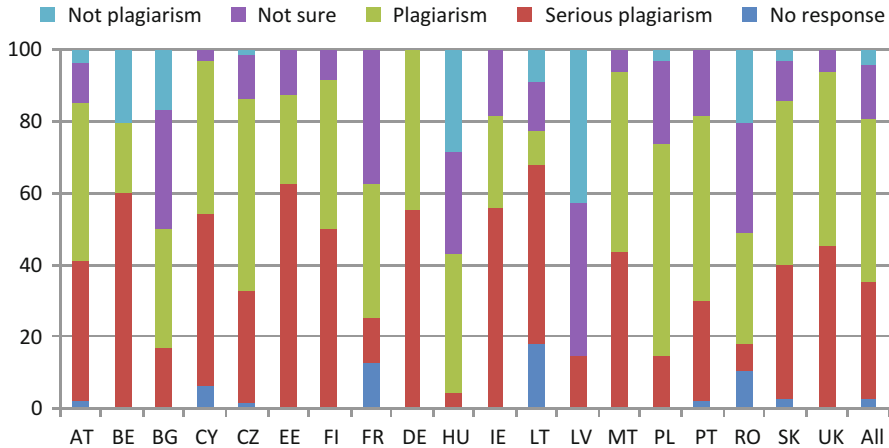


Fig. 3 Teacher responses for scenario describing serious plagiarism

The responses varied considerably between countries, as can be seen from the country breakdown in Fig. 3, with the highest combined uncertainty and denial in Latvia (86%), Hungary (58%), Romania (52%), Bulgaria (50%), France (38%), Poland (27%), and Lithuania (25%).

Many respondents denied the existence of self-plagiarism, asserting that “you cannot plagiarise yourself” and that authors were free to re-use their own work as they wished. This view has serious implications for both scholarly publications and student work, potentially leaving students free to gain multiple academic credits from the same piece of work. Several respondents who were editors or reviewers of papers for learned journals and conferences confirmed that it is common to receive papers from respected academics and researchers that either include plagiarized content or are self-plagiarized. It was stated by respondents that some journal editors do not reject all such papers, even when the facts about re-use or questionable practice are made known to them.

A further issue about defining plagiarism that arose in several responses is the requirement in some parts of Europe that when making an allegation of plagiarism or “theft of copyright,” an academic must prove that a student intended to deceive. This condition, enshrined as a legal requirement in some EU countries (e.g., Sweden, Germany, and Austria), provides a disincentive to a busy academic to raise an allegation of student misconduct because it can be very difficult and time consuming to provide and present evidence of this nature.

It emerged from the survey that in many countries, academics are discouraged from raising cases of plagiarism by being labeled trouble makers and sometimes being threatened with legal action or dismissal (e.g., in Finland, Italy, and Germany). Respondents confirmed that such policies lead to genuine cases of plagiarism and dishonesty being either ignored or dealt with outside the formal process. Further, if inadvertent or accidental plagiarism is not highlighted as problematic, students who lack skills and knowledge for writing and research may not be given appropriate

support to improve their academic practice. Crucially, condoning or ignoring either inadvertent or deliberate plagiarism has implications on academic standards.

On the issue of acceptable academic practice, one teacher participant from France stated the view that formal academic writing skills and use of referencing were not necessary for bachelor level students, but should only apply at master's level and above. Other countries including Finland and Luxembourg were also starting to focus on promoting and enforcing policies and oversight for integrity in research and at doctoral level, with apparently less concern about developing scholarly skills with their undergraduate and master's students. Conversely, many survey participants at all four levels surveyed from across Europe called for more education on appropriate use of academic sources to be included in secondary education, particularly relating to early appreciation of the limitations and problems of copying material from the Internet.

Despite having a common EU framework for standards in higher education programs and apparent consensus on the use of learning outcomes, many countries in Europe were found to be still relying heavily on rote learning for bachelor degree and sometimes also at master's level. Student respondents from several countries complained that they were not rewarded for original ideas and critical thinking, and several students asserted that to gain the maximum marks, they were expected to regurgitate verbatim the notes given by their tutors. Assessment based on memorizing factual information, evident in responses from many countries, including France, Romania, Bulgaria, Poland, and Lithuania, can also encourage and reward plagiarism. Such regimes restrict learning by not allowing students to develop their own voices and scholarly practices in reading, writing, and research during their bachelor degree programs, which leaves them poorly equipped for advanced study and research.

There were different views across survey respondents on whether plagiarism was increasing, staying the same, or decreasing. Although there were statistics available for academic misconduct cases in some institutions and nationally for Sweden and Austria (to be discussed shortly), there were no reliable overall statistics for Europe to help support the various opinions. In any case, the disparities on how to define plagiarism by different parties and countries negate the value of possible statistical comparisons.

Some institutions and individuals contacted expressed great regret about the lack of suitable policies or infrastructure for either detecting or for discouraging plagiarism and academic cheating (e.g., in Romania, Slovenia, and Bulgaria). A few institutions approached (e.g., in Estonia, Finland, and Poland) denied having any cases of student plagiarism and asserted there was no need to develop policies. However, the overwhelming consensus from across the EU was that the number of cases of plagiarism and academic dishonesty was far too high.

When asked about consistency of approach at the "front line" of the assessment process through the statement "I believe that all teachers follow the same procedures for similar cases of plagiarism," 44 % of all teacher respondents either strongly disagreed (14 %) or disagreed (30 %), with a further 34 % of teachers opting for "not sure," 15 % agreeing, and 4 % strongly agreeing. The country-by-country breakdown for these responses is shown in Fig. 4. Given how few of the

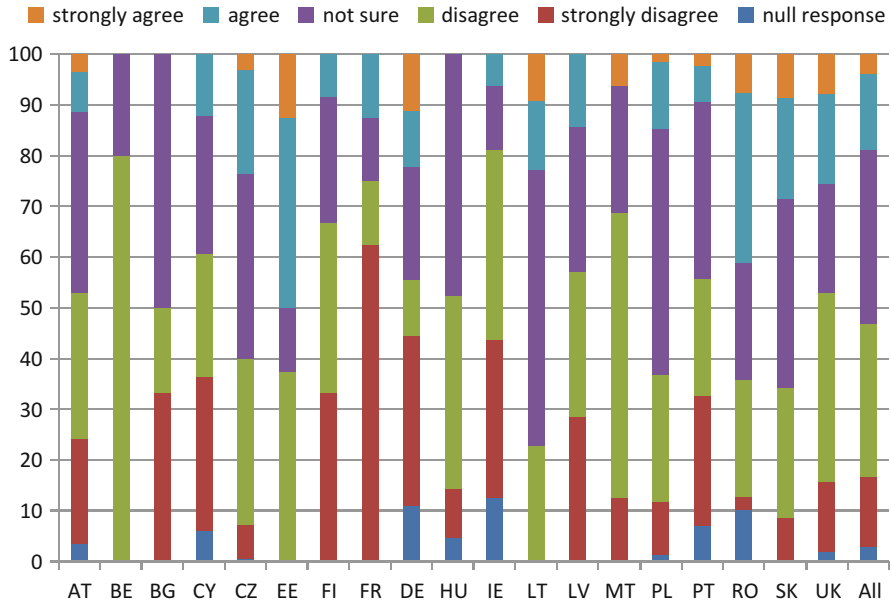


Fig. 4 Teacher responses to question “I believe that all teachers follow the same procedures for similar cases of plagiarism”

teacher respondents agreed with this statement, important questions are raised about disparities within and between institutions affecting student outcomes in every EU country.

Self-evidently, Europe is not a single entity; it consists of many separate countries each with a distinct cultural and social identity. A representative EU study of academic misconduct, plagiarism or, looking more positively, academic integrity, must consider the diversity as well as the similarities occurring in the higher educational systems within and between the nation states of the continent.

Many IPPHEAE respondents mentioned difficulties connected with students admitted to their institutions from other countries in Europe and from further afield. The numbers and origins of international students vary greatly between countries and institutions. Some institutions have developed specific resources, for example, many UK universities provide information, workshops, seminars, and quizzes to prepare international students for differences they will face during their studies compared to their previous educational experiences.

European mobility schemes such as Leonardo da Vinci, Socrates, and Erasmus drive the demand for student and teacher exchanges encouraging study and work placements. The harmonized curricula and transferable ECS credit scheme that most EHEA and EU member states have adopted allow students to study and claim credits in more than one country and experience different cultures and educational systems. Many student and teacher respondents reported different experiences regarding approaches to academic integrity during their study and work placements

in other European countries (e.g., IPPHEAE national reports on Belgium, 3; Bulgaria, 4; Cyprus, 8; Luxembourg, 6; and UK, 16) supporting evidence of disparities identified directly from quantitative data analysis.

Although the UK has a long history of welcoming international students starting in the 1980s, a recent influx of non-EU students in some other countries, for example, the Netherlands, Germany, and Scandinavia, has been encouraged by provision of programs taught and assessed in English, often combined with low or zero tuition fee requirements and in some cases grants to cover living costs (e.g., Sweden). Respondents from these countries reported particular challenges when non-native English-speaking students are taught in English by teachers who themselves are non-native English speakers. Teachers reported problems conveying requirements and clarifying expectations to international students, and some teachers spoke of colleagues who had difficulty identifying the subtle nuances of potential plagiarism in students' writing even when quite proficient in this second language (Sweden report 2013). Notably, appropriate use of digital tools can help with the latter problem.

In some countries, including Romania, Bulgaria, France, and Belgium, respondents reported that the major integrity issue they faced was students cheating or plagiarizing in examinations rather than with plagiarism in essays or dissertations. On further investigation, it transpired that some of the cheating was accounted for by a very lax approach taken by examination invigilators, for example, Mazodier et al. (2012, p. 33) in their report about fraud in examinations for the French government, described scenarios where medical students were encouraged to copy and collude in formal closed-book examinations without penalty.

A great deal of evidence was found, from Romania in particular, of systematic use of technology by students during closed-book examinations communicating with supporters based outside. Student and teacher questionnaire respondents frequently referred to cameras and sound-jamming equipment that are used during examinations to detect and disrupt such abuse.

Several respondents, particularly from Bulgaria, Poland, and Romania, made reference to a culture of corruption, including bribery and undue influence to aid the conferment of undeserved academic qualifications. This theme was explored in detail in a report on Global Corruption in Education by Transparency International (2013), supporting similar findings from IPPHEAE.

Despite the admission by student survey respondents that plagiarism is common practice, combined with the findings through IPPHEAE and by researchers such as Mazodier et al. (2012) about the prevalence of exam cheating, in many EU countries (e.g., Romania, Italy, Poland, Portugal, France, Spain, Bulgaria, Belgium, Czech Republic, Finland, Germany), the IPPHEAE results confirmed that it is very unusual for any students to be accused of plagiarism or academic misconduct and even less likely for a punitive penalty to be applied.

Overall in EU countries, there was a low rate of response from teachers to a question about students confusing group work with inappropriate collusion (selected by 28 % of teachers overall), with the UK (41 %) and Latvia (43 %) being the exceptions where some teachers saw this as a serious factor. However, this option was selected by only 14 % of EU students overall and by only 7 % of UK

students, with 39 % of students in Latvia and 30 % studying in Bulgaria seeing this as an important factor.

Most respondents agreed that “some students use translation of sources from other languages as a means of avoiding detection of plagiarism” (49 % of students and 55 % of teachers), but some respondents appeared to be surprised by the question and clearly were not aware of this form of cheating, with 32 % of teachers and 34 % of students selecting “not sure.” Only 11 % of teacher respondents disagreed with the statement, suggesting there is a high degree of awareness about this type of plagiarism in all EU countries. The lowest student awareness about this issue was in Spain, Italy, and Lithuania, and the highest student agreement was found in Netherlands, Luxembourg, Greece, Estonia, Portugal, and Slovakia. It is possible these results could provide indication of or where student plagiarism by translation is prevalent in Europe.

Although many UK and Republic of Ireland respondents referred to the problems of ghost-written or purchased student work, it was uncommon for respondents from outside the UK to note that this type of cheating occurred or was problematic. Since the websites that promote such services are globally available and in different languages, it is clear the problem is not confined to English-speaking countries. This finding suggests that little is being done elsewhere in Europe either in detecting when this most serious form of plagiarism has happened or following up cases where it may have occurred.

Research Findings: Good Practice Examples

The main focus of the IPPHEAE research was to explore the effectiveness of institutional policies for managing academic conduct. Although the great majority of respondents agreed that their institution had policies for plagiarism and academic misconduct, often teacher and student respondents disagreed on what they were or demonstrated little knowledge about the detail of the policies. Also, as reported earlier, many of the policies referred to, either at national or institutional level, were aimed at research and doctoral level studies rather than applying to bachelor and master’s degree students.

Sweden was the only EU country studied that was found to have implemented national legislation defining policies and procedures for handling cases of misconduct, including accusations of plagiarism in HEIs (Universitets-och högskolerådet). The bureaucracy underlying the associated institutional processes there, which involves a formal judicial panel chaired by the vice-chancellor, was believed by some respondents to be a disproportionate response for some minor cases and in other cases could prove far too lenient. The penalty available to the panel was temporary suspension (maximum was for one year but often a shorter suspension period was applied), after which time the student was allowed to continue on their course with no further sanctions.

The Swedish process, particularly from an international student viewpoint, can cause significant delay and expense and disrupt progress especially for what may be

a minor offense. Seen from the potential academic accuser's viewpoint, it is necessary to provide evidence to prove there was intent to deceive and present the case to the panel. Although some survey respondents were highly supportive of this system, it is unsurprising that some skepticism was expressed by other respondents about the effectiveness of such a system in identifying and handling possible academic integrity breaches.

As mentioned earlier, only two EU countries, Sweden and Austria, were able to provide national statistics on the number of cases of academic misconduct reported by HEIs. The Swedish statistics have been collected annually from universities by the Högskoleverket (Swedish quality assurance agency) and made available in annual reports (Högskoleverket 2010; Kyrk 2012; IPPHEAE Sweden report 2013). The Austrian statistics were collected and analyzed by the Austrian Institute for Research Integrity, but to date the report with their analysis is not generally available (Glendinning: Austria report 2014).

Although the statistics from Austria and Sweden provided very useful information, respondents in both countries raised questions about the comparability of the national statistics. The disparity in number of cases between institutions within both countries suggests that some HEIs (generally with higher number of cases) may have more effective internal policies and systems for detecting plagiarism than others. Furthermore, it is not clear whether the contributing HEIs in these countries all recorded cases in the same way and no way of knowing what percentage of the actual dishonesty cases occurring were identified and counted formally by different institutions.

It was very unusual to find policies applied holistically and consistently across an institution; this was largely confined to some, but not all institutions in the UK, with isolated examples of good practice in some other countries, including Republic of Ireland and one small private HE institution in Germany. One characteristic of institutions where policies are effectively and systematically applied already discussed is that the number of proven cases of misconduct recorded per institution will tend to be considerably higher than in institutions with less maturity and consistency in policies. There has been an unfortunate temptation for the press to seize on such statistics, wrongly interpreting high rates of misconduct as evidence of poor control rather than being a characteristic of honest transparency in a process of continuous improvement.

So-called plagiarism detection software tools were seen by many respondents as the ultimate antidote to student plagiarism. Some people reported colleagues' over-reliance on the outputs from the tools: such misplaced confidence is in itself a threat to academic standards. Many student respondents requested access to tools for pre-submitting and checking their work. Conversely, it was reported that students in Germany were challenging the requirements for uploading their work to the associated repositories on the grounds of infringement of their copyright.

The sparseness of digital academic papers and theses in some European languages and the difficulty of applying standard digital tools to special character sets have led to several EU countries, particularly Lithuania, Slovakia, Hungary, and Poland, developing their own national digital language repositories, with tools for uploading papers and algorithms for searching and matching. As mentioned earlier,

the most advanced of the developments is the Slovakian project (Králíková 2009), which has been implemented across all HEIs in the country, brought about by national investment and effective coordination. It is noteworthy that the AIMM profile for Slovakia, with a score of 17.39/36 and ranking of 6th out of 27 countries surveyed (Glendinning 2013, p. 32), combined with the survey responses (Foltýnek 2013, p. 7) reflect well on their technological developments combined with effective policies for implementation.

Research Impact and Progress

In recent years, almost every country in Europe has suffered from negative publicity through national and international press and the media with accusations of plagiarism or academic misconduct, typically concerning researchers, academics, and high-ranking politicians, with many cases documented and progress-tracked through websites, wikis, and blogs in different languages (e.g., VroniPlag, Copy-Shake-Paste, Archeologie-Copier-Coller, Responsable.unige.ch, Leplagiat.net, and Retraction watch). Although people responsible for exposing these cases are often treated with disdain, particularly by friends and colleagues of those targeted, the IPPHEAE research shows a very different picture of the service these so-called whistle-blowers or “hunters” have performed for promoting academic integrity.

There was no doubt that most respondents at all levels were aware of at least one publicly exposed scandal and some people assumed incorrectly that these high-profile cases provided motivation for the IPPHEAE research. In some instances, people’s fear of revealing poor practices was a sufficient disincentive for some to refuse to contribute to the IPPHEAE survey. But in a few countries (e.g., the Netherlands, Denmark, and Germany), respondents reported that the media cases had elevated the need for institutions to consider developing policies for academic standards and integrity (Michalska 2013). From Romania, Hungary, and Bulgaria, participants expressed disgust that prominent figures were still in post despite revelations about their conduct; further several respondents raised concerns on the impact on students of such negative role models.

In Germany in April 2012, where educational governance is devolved to the 16 Bundesländer, the Landesrektorenkonferenz der Fachhochschulen (Congress of Polytechnic Rectors) in NordRhein Westfalia agreed a common policy requiring digital submission of all student theses (HRK 2012) in order to conduct checks for plagiarism, but without specifying the means. This is a small but important step towards systematic use of software tools for aiding plagiarism detection that may set a precedent for other Bundesländer and Member States to follow.

Both during and after the IPPHEAE project, the author was invited to present findings from IPPHEAE to three separate audiences in the Republic of Ireland, to a seminar of researchers in Luxembourg and to a cross-European research network meeting in Brussels. Great interest was shown about the implications of research results at the events. It emerged from the ensuing discussions that serious developments were underway in research integrity policy development across many parts

of Europe (ESF 2013), but that not all countries put equal value on assuring integrity in HE education.

In June 2014, the Irish Universities Association (IUA) took the important step of launching their National Policy Statement on Ensuring Research Integrity in Ireland, which was influenced by the earlier UK concordat to support research integrity (UUK 2012).

It is encouraging to report that, irrespective of the limitations of the research, already the findings from the IPPHEAE research have reached far beyond the European Union. Researchers in Pakistan, Malaysia, Turkey, Singapore, and Brazil are adapting and translating the IPPHEAE survey questions for local use.

Further Work

Several requests have been received from across the world for information about the Academic Integrity Maturity Model (AIMM) (Glendinning 2014b). This instrument is being developed together with the Academic Integrity Rating System (AIRS) designed by the USA-based International Center for Academic Integrity (ICAI), with the aim of creating a globally useful tool for assessing institutional policies for academic integrity.

The IPPHEAE research is just a starting point for work in this area; there is much more that needs to be done. Where little or no evidence was captured before about academic misconduct, for example, in Estonia, Romania, Bulgaria, Italy, Finland, Germany, Slovenia, and Spain, these research findings provide the first evidence that there are problems that if left unchecked will inevitably continue to impact on academic standards at all levels across HE institutions. In EU countries where awareness about academic integrity is higher, the findings are a reminder that much more action should be taken by HE institutions supported by national agencies to address the continuing and ever-changing threats, for example, posed by use of technology, social media, and ghost-writing services.

In almost every country, teachers and managers proposed that more should be done to prepare students for the demands of higher education before they join their degree studies. If activities were included at secondary school level across Europe to promote good skills in academic writing, use of sources, understanding intellectual property rights, critical thinking, and the joy of learning, the extent of “accidental plagiarism” should reduce in HEIs at bachelor level at least. However, there would still be the need to persuade countries outside Europe to follow suit.

Summary

Arguably, the most interesting finding from the IPPHEAE research was that student plagiarism is more likely to be caused by lack of skills or lack of knowledge about the importance of writing and research techniques than by deliberate intent to gain academic credit by deception. This particularly applies in environments where

plagiarism is part of the academic culture and not viewed by teachers as a problem (e.g., in many institutions in France, Poland, Romania, and Italy). In situations where the expectation is for students to memorize and recall facts, there is a very long and difficult journey before assessment standards can be compared with those at institutions where critical thinking is encouraged and seen as valuable.

Almost all teachers and student respondents were clear that students needed to have more information to improve their skills and knowledge about scholarly practices, but also many student participants wanted to learn more about plagiarism and to better understand the consequences of getting it wrong.

Taken overall, the teachers were less positive about the prospect to have continuing professional development (CPD) or training for themselves, particularly in Germany where respondents expressed doubt whether professors could possibly learn anything new (and who would be equipped to teach the self-professed experts?) or in Belgium and Bulgaria where respondents believed academics would not be interested in being “trained.” However, the dissenters were in the minority, and generally, teacher respondents saw the value of having regular discussions to update themselves and colleagues on developments and to share good practice.

It is important to note that no country or institution was found to have a perfect solution for deterring or detecting academic misconduct. Investing in strong policies and systems for academic integrity is expensive and time consuming. In times of austerity particularly, HEIs in Europe may prioritize other areas for spending their limited resources. Very few EU institutions were identified that had implemented consistent and transparent policies for promoting academic integrity and for handling allegations of academic misconduct and cases of academic misconduct, and even in institutions with sound policies, the number of cases of misconduct is still considered too high. However, one of the marks of institutions with more mature policies was awareness of their deficiencies and the need to regularly review and improve their practices, but also to remain vigilant against emerging threats to integrity and standards.

It was particularly surprising that none of the EU national quality assurance agencies or accreditation bodies conducting institutional audits was found to have explicitly and routinely included oversight of policies for academic integrity, plagiarism or misconduct in their institutional audit process. This does seem to be a missed opportunity that would be relatively easy to seize in order to encourage the development of effective institutional policies.

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Abstract

This chapter outlines the main forms of academic misconduct, the way that plagiarism is perceived and managed in Indonesia, provides details of the Ministry of National Education Regulation (MNER), Article 17 on plagiarism prevention and control in colleges, and details a new approach to developing academic integrity in the Indonesian higher education context called the AK.SA. RA campaign.

I.B. Siaputra (✉)

Faculty of Psychology, Universitas Surabaya, Surabaya, Jawa Timur, Indonesia
e-mail: siaputra@gmail.com

D.A. Santosa

Faculty of Psychology, Universitas Surabaya, Surabaya, East Java, Indonesia
e-mail: dimas.a.santosa@gmail.com

Introduction

Academic misconduct or academic dishonesty is every activity conducted by members of an academic group who try to obtain benefits which are not rightfully theirs to claim, or to reduce the benefits of other members of the same or another academic group, by using methods or ways that are against the standard integrated rules in the academic community (Berkeley University of California 2012; Florida State University 2012; University of Tasmania 2010). There are generally five identified types of academic misconduct: fabrication, falsification, cheating, sabotage, and professorial misconduct (Fig. 1).

Fabrication

Fabrication is a form of academic misconduct whereby nonexistent data or literature references are added or created, with the goal of fraudulently giving benefits to the author. The created data or literature has the goal of supporting the author's work, often being data or a literature reference that is very beneficial to the author's work. One of the most prominent cases in Indonesia, reported by the media in November and December 2013, involved an Indonesian university president accused of fabrication in his dissertation work (Tribun Jakarta 2013). *Orbit Daily* (Harian Orbit 2014) reported that according to a former Village Secretary Jaringhalus, the university president only went once to the village where he claimed to have collected data. Rather than collecting data, he paid ten local residents 50,000 rupiahs for the privilege of having his photograph taken with them.

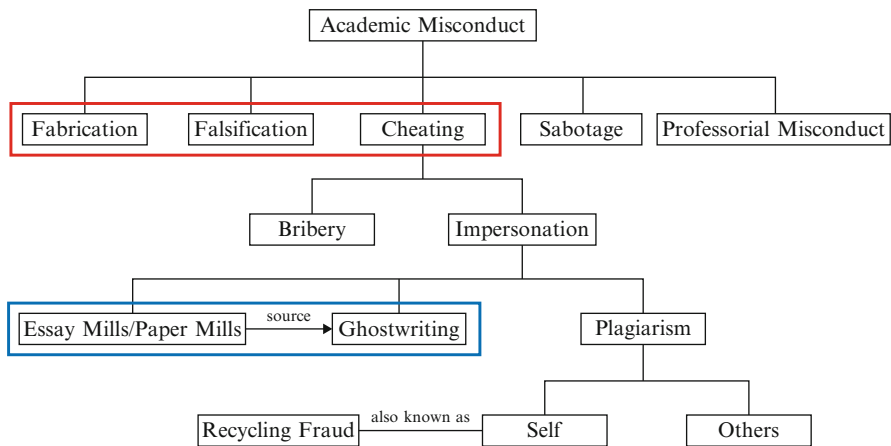


Fig. 1 Types of academic misconduct

Falsification

Falsification is a form of academic misconduct whereby existing data or literature reference are changed or modified, with the goal of fraudulently giving benefits to the author. The basic difference between falsification and fabrication relates to whether the original data or literature exists or not in the first place. Nurdin's (2014) recent research into falsification has resulted in a compilation of facts regarding alleged plagiarism and data manipulation in the papers of a student. Nurdin described massive inconsistencies between the title of the thesis, dates of the correspondence, research data, and a large portion of word-to-word similarities of thesis content with a thesis from another university as well as articles from Internet.

Cheating

In this chapter, cheating refers to academic misconduct which consists of bribery and impersonation.

Bribery is a form of cheating by giving items of material value (commonly in the form of currency) in order to obtain fraudulent academic benefits. While there has been no highly publicized case of bribery in education in Indonesia, anecdotally it is well known that this type misconduct is common. Bribery, embezzlement, extortion, and corruption cases appear regularly in the news and it seems to be regarded as common practice. Gallup (2015) research results from 6,390 respondents from 2006 to 2011 reported an increase in the perception of the spread of corruption in Indonesia from 86 % to 91 %.

Impersonation refers to acting as if the data, literature reference, or academic work of the author belongs to the author. In relation to ghostwriters and paper/essay mills, this particular misconduct could be regarded to be one of the most blatant forms of academic misconduct. It is common to find advertisements for ghostwriters and paper/essay mills in Indonesia, ranging from pamphlets and text messages, to websites, blogs, or other social media. Some even dare to provide information to the media, justifying their existence by pointing out that articles from their paper/essay mills are custom written instead of the more common practice of changing the author's name and information of an already existing article (Kompas 2010).

Ghostwriting is also classified here as potential impersonation because the paper is not produced by the person under whose name it is published. In contrast to other types of plagiarism, a ghostwriter generally does not have any objection and would not sue for any lack of citation or acknowledgement, in regard to the given services. This condition makes the cases of ghostwriting become more difficult to detect and prove.

The ghostwriter has a huge opportunity to commit fraud and escape with impunity. The reason for this is that the assigned "author" may not know or is not able to recognize the committed fraudulent acts (i.e., plagiarism, fabrication, or falsification). Should questions about the validity of the paper be raised, it is the assigned author who will bear the responsibility.

Another form of impersonation is plagiarism. Plagiarism is considered to be a form of impersonation because plagiarists often avoid citing the source of data or literature reference, acting as though the data or literature reference is their own. Plagiarism itself can be divided into two types: self-plagiarism (also known as recycling fraud) and plagiarism conducted by using other authors' works. Self-plagiarism occurs when the authors use their existing published work without appropriate acknowledgement (Dellavalle et al. 2007). Hexham (2005) also pointed out one important point. Self-plagiarism is considered as a fraudulent action when the author fails to develop or improve the previous work. In other words, instead of offering a revised version of the previous work, the self-plagiarist re-uses the old work while claiming that it is a new or at least a revised version of the previous publication.

One of the most recent cases of plagiarism in Indonesia involved a high-level government official from the religion ministry and a lecturer from a well-known university. He was accused of plagiarism in one of his most recent newspaper articles and subsequently resigned as a lecturer as a form of taking responsibility for his actions (RMOL 2014). Unfortunately, despite the increasing attention given to plagiarism, usually only the second type of plagiarism is considered to be plagiarism in Indonesia. This is also caused by the limitations in the definition of plagiarism in national or official rules or statements.

Sabotage

Sabotage refers to the actions taken by authors to obtain illegitimate academic benefits or reduce the benefits of other members of the academic group or community. For example, in order to score higher than other members of the same academic community, the author deletes the data files of the other members, making it so that only the author's data is complete and ready for analysis. Another example is when a reviewer of a scientific article intentionally delays working on a review while submitting similar work of his/her own, or if the reviewer uses the manuscript under review for his/her own benefit. This category also includes the case of intentionally making and reporting fake reports to discredit someone's reputation or achievement.

Professorial Misconduct

Professorial misconduct refers to unprofessional actions by members of the academic community or group to obtain illegitimate benefits. Although these types of misconduct have not received media attention, is nevertheless quite easy to find cases involving professorial misconduct, especially toward students. Some irresponsible lecturers are reported for abusing their power, either by coercion or coaxing, in order to gain personal benefit. Two of the most reported cases are the extortion of money and sexual harassment.

Plagiarism and Indonesian Government Regulations

Among the myriad forms of academic misconduct, one that has recently drawn the attention of the Government of Indonesia, especially within the national education ministry, is plagiarism. Some of the main reasons for giving special attentions to the cases of plagiarism are the prevalence of violations (ranging from students to professors), the magnitude of losses (in material and nonmaterial for the actors, original author, readers, or the institution where the perpetrator is stationed), and the relatively high probability of being detected (especially in the form of word-to-word or verbatim plagiarism).

Plagiarism cases were first identified in limited academic circles and then largely exposed through the mass media. Brodjonegoro (1999), as the Director General of Higher Education in Indonesia, issued a circular to Indonesian public and private universities, stressing the importance of maintaining the dignity and quality tradition of national education in graduating only excellent alumni and promoting only expert senior lecturers to professorships.

The Director General of Higher Education detected incidences of applying shortcuts in producing scientific work by way of plagiarism. Facts revealed that these academic crimes occurred among students and teachers and even professors and college presidents. The Director General of Higher Education appealed to each college for the strict prevention and control of plagiarism by a commission or committee involving competent appraisers with high integrity and dedication.

To prevent a breach of academic standards, the Director General of Higher Education set a norm, related to normal faculty workload in producing academic reports. The main logic is that quality work takes time to process and finish. If there are people who are able to produce a lot of work in a short time, it will be classified as “unnatural”. These irregularities can only occur if the individual either has a special ability to produce many quality works in a relatively short time or the works produced are relatively poor due to unsystematic and messy operation. An even worse alternative is that the work produced is of a relatively high quality but done illegally, such as by the act of plagiarism.

Unfortunately, the circular from the Director General of Higher Education was considered ineffective because it did not provide adequate details regarding the definition and range of academic misconduct. In addition, there is no unanimity yet on sanctions for violations. The rules were applied according to the local policy of each university, resulting in weak enforcement, ambiguity, fraud, and abuse.

After approximately 11 years, the government (Minister of National Education) finally passed a law which specifically regulates sanctions for plagiarism in college. In August 2010, just one day before the commemoration of Independence Day in Indonesia, the Minister of National Education issued the Ministry of National Education Regulation (MNER), Article 17 on plagiarism prevention and control in colleges.

This MNER was issued to ensure that each student/lecturer/researcher/educator will always uphold academic honesty and ethics, including avoiding plagiarism in producing scientific papers. It also contains related terms such as plagiarism and

plagiarist (or plagiator – a unique Indonesian terminology). The MNER also serves as an official definition regarding the “what”, “who”, “where”, and “when” elements of plagiarism. The MNER also details various ways to prevent and control plagiarism, including providing detailed categories of sanctions.

The Definition of Plagiarism According to the MNER

According to the MNER, plagiarism is the act of intentionally or unintentionally obtaining or attempting to obtain credit or value for a scientific paper, citing some or all of the work and/or scientific work of any other person and publishing it as if it was his/her intellectual property, without stating the original source. Following that statement, a plagiarist is an individual or a group of people involved with plagiarism, each acting on their own, for a group or on behalf of an agency.

In the MNER, the government provided a detailed and complete list of possible related behaviours, such as what can be classified as plagiarism. In general, plagiarism includes but is not limited to any form of referencing and/or citation, use, formulation, and delivery of the work either in part or in whole, randomly or systematically, intentionally or unintentionally from a source, without citing the source adequately. Sources mentioned include not only the work of individuals or groups, whether acting on their own behalf or on behalf of a body, but also anonymous work as well. The meaning of work includes everything created, published, presented, or disseminated in written form, either printed or electronically. The government even includes details of the types of work that have to be acknowledged and recognized explicitly, including “a. musical compositions; b. computer software; c. photography; d. painting; e. sketches; f. sculpture; or g. work and/or scientific products not included in the six criteria mentioned.” Thus, the government has provided clarity and decisiveness that adequate acknowledgement should be given, for both published and unpublished works. With such widespread robust guidelines, the government strongly emphasizes intolerance of the absence of adequate recognition and acknowledgment in using other people’s work.

The Target Subjects of the MNER

These regulations apply to students or lecturers/researchers/educators. This rule applies both to the work of individuals and groups.

The Target Areas of the MNER

Concerning locality, this regulation applies to all works produced in and outside the university environment. Protection and restrictions apply to the scientific work conducted both within the university and cross-institutionally. Interestingly, the

MNER stipulates that regular monitoring should also be conducted on the work of students and/or lecturers/researchers/educators produced outside the higher education institutions (such as junior high school, senior high school, and vocational schools) as long as the authors are involved as members of the higher education institutions.

The Target Timeframes of the MNER

Monitoring and evaluation of the intellectual property of a person is effective as long as he/she is part of a higher education institution. All the work produced by a student should be free from plagiarism. Tighter restrictions have been applied to lecturers/researchers/educators. For these groups, supervision and evaluation of their work is done during and/or before they carry out academic duties.

Prevention

University leaders are required to supervise the implementation of the code of conduct related to preventing and overcoming academic plagiarism. Leaders of universities are required to establish and oversee the implementation of citation style and periodically disseminate a code of ethics and style in order to create an appropriate anti-plagiarism culture. Individuals who produce scientific work are required to prepare and submit assigned declaration stating that the scientific work is free of plagiarism and that the author is willing to accept penalties for any identified plagiarism in accordance with the legislation. In accordance with this point, universities are required to electronically upload all scientific works and declarations through the portal Garuda (Garba Digital Reference) or other portals established by the Director General of Higher Education.

All scientific papers of lecturers/researchers/staff, which are used for initial appointment or promotion, should be accompanied by the declaration, along with a peer reviewed assessment statement. This assessment should be conducted by at least two lecturers/researchers/educators who have academic qualifications equivalent to, or higher than, the academic qualifications of the candidate or applicant.

Sanctions

If there are allegations of plagiarism, a committee set up by the university should compare the suspected paper against the original sources. The committee members then ask lecturers or the academic senate/other similar bodies to give consideration in writing about the truth of the allegations. The student and/or lecturer/researcher/educator suspected of plagiarism is also given the opportunity to defend themselves in front of the committee members/authority. If the comparison and testimony reveal plagiarism, then the faculty/university authority should impose sanctions to the accused as a plagiarist.

MNER outlines detailed varieties of sanctions for students and lecturers/researchers/educators who are found guilty of plagiarism. For students, these penalties are as follows: a. a reprimand; b. a written warning; c. withholding some of the rights of students; d. cancellation of the course grade of one or several courses; e. honorable discharge from the institution; f. dishonorable discharge from the institution; or g. cancellation of the diploma if the student has already graduated from a study program. On the other hand, the sanctions for lecturers/researchers/educators found guilty of plagiarism consist of: a. reprimand; b. a written warning; c. withholding the rights of lecturer/researcher/educators; d. demotion in academic positions/functional ranks; e. revocation of the right to be nominated as a professor/senior researcher; f. honorable discharge from the institution; g. dishonorable discharge from the institution; or h. cancellation of the certificate obtained from the related university. If the lecturer/researcher/educator is a professor/senior researcher, an additional sanction should be applied in the form of dismissal from the post of professor/associate professor/senior researcher. If the university does not impose the proper sanctions, the Minister may impose sanctions on the leaders themselves as well as the plagiarist. Sanctions for university leaders include a. reprimand; b. a written warning; or c. a government statement that the person concerned is not authorised to take legal action in the academic field.

AK.SA.RA: Academic Integrity Movement

Siaputra (2012) suggested that in some known cases, plagiarism is a learned behaviour (both actively and passively). Considering that in many known cases, plagiarism is a result of learning, it should also be possible to unlearn it. Siaputra has suggested a simple approach entitled AK.SA.RA. This AK.SA.RA approach suggests a more optimistic and positive point of view. With the right knowledge, avoiding plagiarism should not be an insurmountable problem.

In Indonesian, the term AK.SA.RA (originated from the word “aksara”) means letter. It is important to know, however, that the word “aksara” itself is derived from Sanskrit with the meaning of “imperishable,” “nontransient,” or “unalterable” (Crollius 1974; Raju 1985; Hooykas 1964 cited in Rubinstein 2000). Crollius (p. 185) also suggested that aksara could also be defined as “precisely as ‘syllable,’ ‘essence and embryo of speech’.” The authors take this knowledge of the earliest meaning of aksara and believe that the use of AK.SA.RA in the Academic Integrity Campaign will serve as a long-lasting core of the campaign, being the imperishable essence in its use for developing a better academic community.

In the context of the Academic Integrity Campaign in Indonesia, the term AK.SA.RA is used as an acronym of AcKnowledge (AKui, in Indonesian terms), paraphrAsE (parafrASa), and integRAte (integRAsi); referring to the three main steps of AK.SA.RA. AcKnowledge is about the importance of recognizing the owner of the basic or original idea, and/or the foundation of the argument or idea used. The word paraphrAsE is about the reforming of an idea or thought with the author’s own words. Even though the original idea or thought is reformed using different words, the basic idea is still the same or even more effective and efficient

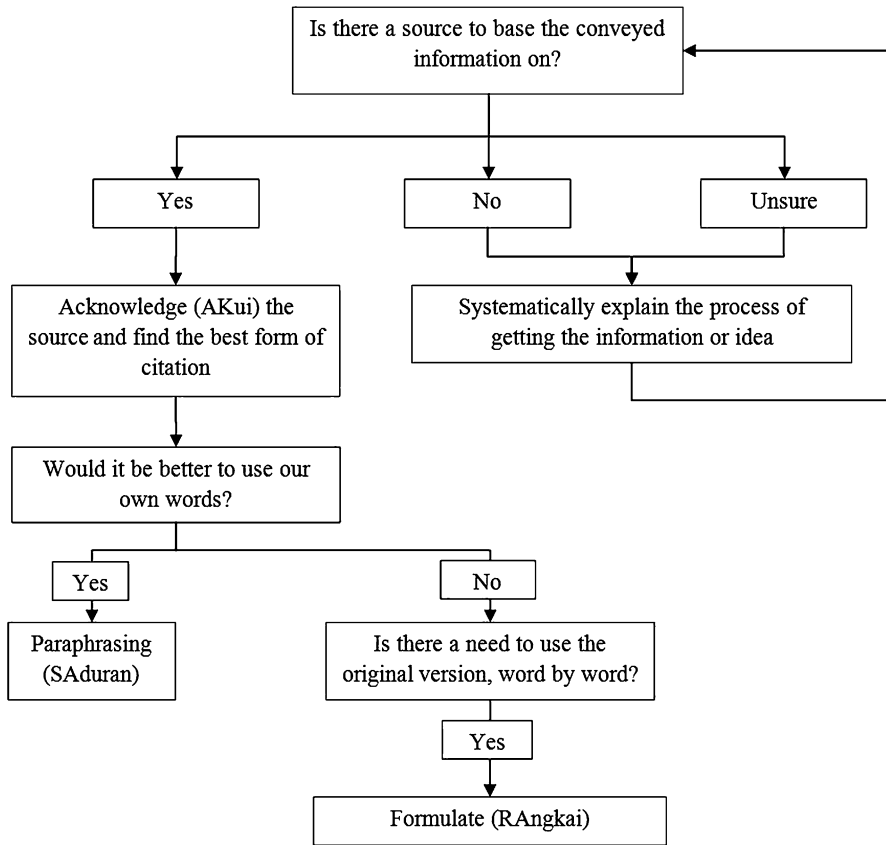


Fig. 2 AK.SA.RA

in conveying the original message. The last word, integRAte is an implementation of the direct quotation in the written product. In several specific conditions, there is information that cannot be changed, such as sentences from the law, bibles, and similar articles. In these contexts, leaving the words in their original form is often the best choice to be made (Fig. 2).

Before moving to further explanation of the three ideas, it is important to note that AK.SA.RA. has another important step that is preceding yet continuously supporting of the main three. This step regards the process of documentation or archiving of the references used in writing. As an author undergoes the process of writing, it is advised for the author to keep all the references used in the writing at the ready, such as having a single prepared folder for all the digital references. As the author conducts the writing process, the author systematically lists the original reference, and then marks down the part of the original reference used in the author's writing. The archiving and marking of the original reference serves as proof of the author really reading and using the original reference, as a form of

AcKnowledge (the “AK.” part). As the author proceeds through the writing process, the author continues to systematically document the use of references, in both steps of paraphrASe (the “SA.” part) or integRAte (the “RA” part). In other words, the author documents or archives every reference used, specifically the parts of the original reference being used and the form of usage. To better understand the concept of AK.SA.RA, a brief explanation of the three ideas are as follows.

The first step to avoid plagiarism is to AcKnowledge (AKui). This step is the key step of antiplagiarism. By acknowledging others’ work clearly and firmly, one cannot be considered to be a copier or a plagiarist. It is important to understand that acknowledgment is about using a source, not a sign of weakness.

The second step is to paraphrASe (parafrASa), as in rewrite the original text in the author’s own words. When an author is paraphrasing an idea, he/she is trying to understand an idea and rewrite it using his/her own words. The easy way to do this is by reading and understanding an idea well, so the author is able to rewrite the results in his/her own words.

The third and final step is to integRAte (integRAsi). In several cases, the source needs to remain the same. This is usually used for sources that can be easily misunderstood or prone to result in different meaning during the adaptation, such as a definition or other important statements. There is the need to formulate the original source alongside the author’s own words.

By conducting these three easy and simple steps, an author cannot be considered to be a plagiarist: acknowledging the reference source (name and publishing year), rewriting in their own words (paraphrasing), and direct quoting by using quotation marks and including the page number (formulation of sentences). These three steps are very easy to remember and carry out, so there is no reason for anyone in the academic field to be anxious about writing, especially due to the fear of being presumed to be copying or plagiarising.

The three-step AK.SA.RA approach is a promising solution for avoiding plagiarism. Mistakes in writing may still occur, but by acknowledging, paraphrasing, and formulating appropriately, the author will not be considered to be plagiarising.

Summary

This chapter has provided a brief outline of the five identified types of academic misconduct: fabrication, falsification, cheating, sabotage, and professorial misconduct, and demonstrated how such misconduct is managed in the Indonesian higher education context. Information has been provided about the Ministry of National Education Regulation (MNER), Article 17 on plagiarism prevention and control in colleges. The authors have shared the details of a recently developed academic integrity campaign called AK.SA.RA, which is based on a three-step writing approach of acknowledging, paraphrasing, and integrating sources to avoid plagiarism.

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Joyce Kim Sim Cheah

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Abstract

Plagiarism is one of the major issues faced by institutions of higher learning in Malaysia. The demands for quality tertiary education and the government's aspirations to be the regional education hub have resulted in the burgeoning of private universities in this country. In order to remain competitive in producing graduates who are marketable and globally accepted, universities in Malaysia have adopted a more focused stand to address the issue of plagiarism by implementing academic integrity policies and procedures to prevent and discourage plagiarism. This chapter discusses studies done by Malaysian researchers on the definition and perception of plagiarism and the issue of plagiarism among undergraduates and academics in Malaysian universities.

J.K.S. Cheah (✉)

Taylor's Business School, Taylor's University, Selangor, Malaysia

e-mail: joycekimsim.cheah@taylors.edu.my

Introduction

The Malaysian government's aspiration and vision to promote Malaysia as the regional hub for higher education is reaping results as there is a marked increase in student numbers from foreign countries, specifically the Asian region, as well as a large number of Malaysian students who have chosen to complete their tertiary studies locally. The government's aims to internationalize higher education in Malaysia are evident in their target to increase the number of international students in Malaysian higher education institutions from 123,000 in 2014 to 200,000 by 2020 (Jusoh 2014).

This has directly encouraged the burgeoning of higher education institutions in Malaysia. According to the official website of Department of Higher Education (Ministry of Higher Education 2014), there are a total of 20 public universities, 41 private universities, 27 university colleges, 8 foreign campuses, and 431 colleges in Malaysia. However, with the existence of a large number of higher education institutions of learning, there is a growing concern among academicians regarding the quality of graduates, in terms of ethics and integrity. Academic dishonesty, specifically plagiarism, is becoming more noticeable among undergraduate and graduate students causing concerns among academics that graduates may eventually be involved in unethical practices in their work life (Nazir and Aslam 2010). This concern is even greater when they occur among students pursuing fields where professional conduct of honesty and integrity is essential in establishing public trust (Smith et al. 2007). As graduates start their work life, the rules of plagiarism become even less significant when practices of the real world are incongruent with the practices they have learned in the academic world (Md. Yusof 2009).

Plagiarism Among Students

Instances of plagiarism are common among students in both public and private universities. Research findings have identified a number of factors that have contributed toward plagiarism in Malaysia, namely, lack of awareness, lack of understanding, lack of competence and personal attitudes (Smith et al. 2007), poor time management skills, work or family commitments, and poor language skills (Md. Yusof 2009). Many students unfamiliar with citation conventions have the misconception that ideas expressed in their own words do not require referencing. Furthermore, the students' inadequate knowledge of citation conventions is exacerbated by lecturers who accept inadequately referenced pieces of work from students (Ting 2013).

Students in Malaysia are also experiencing difficulty in adjusting to a different education system. What students in Malaysia experience is similar to what many international students face when they pursue their higher education abroad, i.e., a school system that has not provided them with the analytical and critical skills required in tertiary education (Yang and Lin 2009). This is evident in instances of "mosaic plagiarism" whereby students merge information from different sources

into a paragraph with little or no input, without crediting the author (Ting 2013). Thus, they struggle to adjust not only to a more demanding academic system but also to one that requires strict adherence to academic integrity. So, it is understandable that students with lower CGPAs record more instances of plagiarism (Smith et al. 2007).

Another factor to take note of is that each culture may have a different understanding of plagiarism, and this causes problems in truly comprehending what plagiarism is and how it is applied (Md. Yusof 2009). For instance, many Malaysian students perceive plagiarism as a norm and are tolerant of academic misconducts which involve collaboration, due to the collectivistic behavior of Malaysians (Shafie and Nayan 2012). As a result, cases involving collusion are common, for example, students collaborating on assignments which are supposed to be individual assignments and believing that it is acceptable to copy a friend's piece of work if consent has been obtained (Ting 2013).

An analysis of reported cases of plagiarism from the business school of a Malaysian private university from 2010 to 2013 indicates that students are aware of the seriousness of committing this offense. However, weak language proficiency, poor time management skills, attitude, and inadequate knowledge on referencing skills have initiated the breach. These reasons are comparable to the findings reported by other Malaysian researches in this area. The penalty is imposed based on the severity of the misconduct and can range from lighter penalties like resubmission and counseling for inadvertent plagiarism to harsher penalties like zero mark for blatant plagiarism. Thus, penalties for plagiarism are fairly meted out and serve as a deterrent to students from committing plagiarism again.

Plagiarism Among Academic Staff

Very few cases of plagiarism among academics have been brought to the public's attention. The most publicized case, dubbed the first case of plagiarism at Universiti Putra Malaysia (UPM) by its vice-chancellor, involved two public university academics that were found to have plagiarized a reference book produced for their management students in 2003. They were ultimately imposed penalties that included repaying the university the royalties received and receiving a "severe reprimand on their personal file" (UPM Duo in Plagiarism Scandal 2009). The most recent report involved an academic at a public university who was promoted not long after the said incident of plagiarism (Do We Want Malaysia To Be Seen As Promoting Plagiarism? 2013).

The lack of severity in cases of plagiarism has caused an outcry among academics and political leaders regarding the lack of severe punishment for serious breaches of academic conduct. Many Malaysian critics have questioned the leniency of penalties imposed and have appealed for acts of plagiarism among academics to be viewed more seriously. In fact, a number of academics attest to the widespread of plagiarism at their workplace. A former academician who has served a local university for 25 years has identified plagiarism as "the most endemic

academic fraud in the Malaysian higher education system” claiming that plagiarism is rampant among not just students but professors and associate professors as well, due to the lack of stern actions taken against offenders (Ramasamy: Plagiarism Most Endemic Academic Fraud 2009). As such, steps need to be taken to curb academic misconduct especially among academics to ensure that the credibility of higher educational institutions in Malaysia is not tarnished.

Recent Trends and Measures

Many universities view academic misconduct as a serious offense and have taken measures to educate their students about academic integrity. This is indeed a step forward for Malaysian universities as structured positive measures go a long way in instilling a respect for academic integrity.

Many higher educational institutions in Malaysia have written handbooks that provide guidelines on cases involving academic misconduct. These include handbooks that guide students on how to avoid plagiarism, as well as handbooks that guide academic staff on how to deal with cases of plagiarism. In addition, policies, procedures, and documents pertaining to academic integrity are duly documented and made available to all staff in most universities. This ensures the provision of clear guidelines on how academic misconduct among staff and students should be handled.

Apart from handbooks, workshops and training programs are also organized to provide new students with a better understanding of what plagiarism is and how they could avoid plagiarism. These sessions teach the students the skills required to effectively quote, summarize, and paraphrase information, as well as introduce the referencing systems that are used in that particular university. Ensuring students are sufficiently educated about ethical academic conduct is more fruitful than imposing punitive actions for breaches of academic integrity (MohdSalleh et al. 2013).

To address issues of plagiarism among academics, many universities have also set up committees to vet materials before they are submitted for publication or conferences. This helps to ensure that academics are kept on their toes and that the credibility of the university is not tarnished by indiscriminate acts of plagiarism by their academics.

Summary

For incidences of academic misconduct such as plagiarism to be contained and reduced in the academic arena, concerted effort has to be taken by all parties involved in academia, from the student right up to the education ministry.

Students need to be aware of the importance of academic integrity and to ensure that they behave ethically and with integrity during their studies and later on in their work life. Lecturers need to instill in students the desire to be ethical. They also have to be more vigilant in ensuring intellectual property is appropriately

acknowledged (Ting 2013) both in their own writings and in students' work. It is vital that all lecturers within the university cooperate and commit toward ensuring that academic integrity is adhered to by all students. Higher education institutions and the education ministry have to ensure that all cases of plagiarism and academic misconduct are investigated and punishment is meted out in accordance to the severity of the misconduct in order to deter further breaches of academic integrity.

Perhaps when all parties collaborate toward achieving a culture of academic integrity, the issue of academic misconduct in universities in Malaysia will be better addressed and controlled, and the penalties imposed for breaches of academic integrity will no longer be a topic of contention among academics and politicians. This is essential if Malaysia is to advance further as a regional education hub for higher education and remain competitive in the field of academia.

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Academic Integrity Practice: The View from India

8

Sachidananda Mohanty

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Abstract

Academic integrity practice in India, unlike in the west and parts of the Asia Pacific region, is still in its infancy. A ready-to-handle countrywide database of academic integrity in terms of policy, planning, and implementation remains elusive. While the issue is of concern to sections of teachers, parents, policy makers, and academic administrators, organized efforts at the institutional level are yet to make an impact on the Indian educational scene. It must be admitted that though belated, the drive toward academic integrity in India, largely equated with anti-plagiarism practices, is a welcome development receiving increasing support among the different stakeholders. There is a realization that there is a need to move quickly on this front if Indian higher education is to play its rightful role at the global level.

S. Mohanty (✉)

Department of English, University of Hyderabad, Hyderabad, India

e-mail: sachimohanty@yahoo.co.in

Introduction

The need to develop a system of academic integrity is both compelling and immediate in the context of globalized education. Perspectives from the developing nations would be an essential requisite if Indian higher education was not to have a top-down approach to policy framing and implementation in all areas, including academic integrity practices. While such approaches need to be country and culture specific, they must develop a set of criteria that are in accordance with the larger practices prevalent at the global level: movement of teachers, students, researchers, and pedagogic resources across national frontiers is a sine qua non for international education. Such goals are ill served by a higher education system that is not open to public scrutiny in terms of academic standards. Education in India, including the university system, happens to be in the “concurrent list” and is “owned” by both the governments of the state and that of the federal/central government. That is to say, most of the education in the country is public in character. At the same time, a good number of colleges and universities in India have recently emerged in the private sector and are serving the country’s needs. Given this fact, increasing instances of academic dishonesty, in recent years, have been a major source of concern for the policy makers.

Cases of Academic Dishonesty

On 11 October 2002, in an unprecedented move, a seven-member group of physicists from Stanford University’s Physics Department, three of whom were Nobel Laureates, wrote to the then president of India, regarding a plagiarism case in theoretical physics by an Indian scientist who was then the Vice-Chancellor of Kumaun University. The case involved several of his associates as well ([Geocities n.d.](#)).

Regretting the silence maintained by authorities in India, despite the presentation of incriminating evidence, the complainants asked for a thorough investigation to the charges leveled by them. They wrote:

During the last two decades, a new generation of extremely talented Indian Physicists has won a broad international respect and brought great recognition to Indian Physics. It would be a pity if the actions of a few plagiarists should damage the high international reputation of Indian Science. ([Standford n.d.](#))

While Kumaun Vice-Chancellor’s case was the most celebrated one that was taken to its logical end (the vice-chancellor resigned), there were other instances that received media coverage as well. For instance, on three occasions teachers of Rajasthan University were accused of plagiarizing the work of a former director of the Geological Survey of India (Mishra 2013).

Another case of alleged plagiarism involved a paper by two top Indian scientists and two of their Ph.D. students. The paper was published online by *Applied Physics*

Letters on April 2010. Parts of this paper copied material allegedly verbatim from a paper published in *Applied Physics Letters* on April 2010. After the controversy, the paper was published with an apology (Jayaraman 2012). Similarly, *Times of India* reported that a “research paper by dental researchers from India” was “retracted for plagiarism” (Nagarajan 2014).

Academic Dishonesty in Medical Education

Realizing the widespread menace of plagiarism especially among students, some teachers have expressed grave concern. In an article “Academic dishonesty in Indian Medical Colleges,” a medical professor Gitanjali B raised questions which are at the heart of medical education. Unless resolved quickly, this problem, she argued, would gravely undermine the spirit of the health-care system, if not cripple it fatally in the long run. She wrote with a sense of indignation:

I recently found that some of my students had copied from each other during one of their assessment tests. It made me angry and I was left with a feeling of bad taste for several days. Why should medical students who are considered the *crème de la crème* of this country resort to systematic medical cheating? When I interviewed them the next day, they told me that this is routine and it happens in most tests. What is more distressing is that they said the practice started in school where they had the blessings of the Principal to copy during board examinations and it is done with the connivance of the teachers! . . . we are perhaps naïve to think that examinations provide a platform for students to pit their knowledge and skills against each other in an atmosphere of fairness. (Gitanjali 2004)

Gitanjali listed the “common acts of dishonesty” based on her observations. These, she claimed, are all encompassing and include all sections such as undergraduate and postgraduate students/residents and faculty and administrators. She argued that there are deep-seated “peer and parental” pressures to perform (Sheriff et al. 2000) and that “even exemplary students” cheat (Sheriff et al. 2000). Shockingly, while 88 % of “students of medical and para-medical branches revealed that cheating occurred at examinations, only 1–5 % accepted having indulged in it” (Sheriff et al. 2000).

Sheriff et al. (2000) concluded that dishonest methods in early life and in the medical school are bound to continue into patient care in later life and seriously affect a profession based on “trust and integrity.” In the face of the “institutionalized corruption,” it is up to “a handful of individuals” to “curtain the current rot that pervades the medical establishment in India” (Sheriff et al. 2000). While Gitanjali B considers the malaise of a lack of professional ethics in medical education endemic and calls for crusading efforts by conscientious teachers and administrators, others demand stricter action based on a set of institutional guidelines. For instance, in a paper entitled “Encouraging Academic Honesty, through Anti-Plagiarism Software,” the authors outline a set of do’s and don’ts of plagiarism and “preventions and punishment for plagiarism” (Vij et al. 2009).

Similarly, Richa Tripathy and S. Kumar, in their paper “Plagiarism: A Plague,” record the many instances of academic dishonesty. This is a fairly comprehensive list and would be useful for student mentoring. The authors recommend: (a) “a compulsory submission of electronic copy in a data base of the University Grants Commission which should be open before the award,” (b) “preparation of data bases of articles published in Conferences and Journals in India which are not covered in international data bases, and (c) taking an affidavit from the candidates regarding plagiarized material” (Tripathy and Kumar 2009).

Remedial Measures: Action Plan

Several leading universities and institutions in India have undertaken measures to devise anti-plagiarism statutes and build them into codes of professional ethics. These are prominently displayed on the university’s web portals. For instance, *The Telegraph* reports that an expert panel in India’s premier Jawaharlal Nehru University finds that “up to 28,000 researchers could be involved in unethical practices.” The committee has recommended that all universities have been asked to “run every thesis paper through an anti-plagiarism package and authenticate their authenticity” (Mohanty 2013).

Similarly, *Current Science*, in their editorial dated 10 May 2005, lamented that “copying has become easier, given the power of modern search engines and the volume of digital information readily available on the internet” (Balaram 2005). Regrettably, the Ph.D. program “appears to be a private contract between students and research supervisors” (Balaram 2005). Many scientists are unaware of the distinction between “acceptable enhancements and scientific misconduct” (Balaram 2005).

The various Indian institutes of technologies in India and leading central universities like the University of Hyderabad have today an anti-plagiarism code of conduct in place for their research programs. The Madras University has “rejected a research scholar’s thesis on charges of plagiarism and has banned the student from re-registering for the degree at the University” (Ramya 2012). The Indian Institute of Science has done very well by prominently displaying an academic integrity portal in the form of an online “students’ corner.” It records instances of plagiarism and lays down a set of acceptable and unacceptable behavior, the issue of conflict of interest, and, finally, individual and collective responsibility (Indian Institute of Science n.d.).

The plagiarism policy of the University of Pune, on the other hand, seems to be less stringent. It makes a distinction between “negligent plagiarism” [“innocently or carelessly presenting another person’s work as one’s own”] and “dishonest plagiarism” [“knowingly and deliberately presenting another person’s work as one’s own work”]. It lays down the institutional procedures and guidelines for handling alleged plagiarism as well as the need for counseling (University of Pune n.d.).

India’s apex regulator of higher education and grants giving authority, the University Grants Commission, proposed on October 2012, “new legislation for

the awarding of M.Phil./Ph.D. degrees in the country.” Among the requirements were that all schools must begin “using well-developed software” to detect plagiarism and other forms of “academic theft” and also provide access “to the UGC for inclusion in the organization Information and Library Network Centre (INFLIBNET) which is open to the public” (Bailey 2013).

Contentious Issues

There have been some issues in recent thinking on the notion of “original” vis-a-vis adaptations and reworking in the digital and visual media that have a bearing on anti-plagiarism policies. Writing in *The Economic and Political Weekly*, for instance, Dhanwanti Nayak argues that “contemporary culture is plagiaristic in many ways as culture itself is sustained through copying and imitation” (Nayak 2011). Some of these practices inevitably influence student plagiarism. There is the need to free Indian society from “the discourse of morality” and come up with “simple, pragmatic ways in which these can be overcome in the Indian context” (Nayak 2011). Likewise, P. Chaddah argues that there is a need to take a more nuanced view since “the rules that are being specially framed and implemented are likely to scare our young researchers.” He contends that “international journals do attempt to quantify the level of plagiarism and also state. . .that corrective actions will depend on the level of misconduct” (Chaddah 2014; Thomas and Sassi 2011).

Other academics such as Prashant Iyengar (2011) and Manjari Katju (2011) have contributed to the debate. Iyengar, in particular, argues for “charting an alternative trajectory of plagiarism so that each successive instance does not amplify our sense of embarrassment and crisis in the academy” (Iyengar 2011).

Summary

It would thus be seen that the need for academic integrity practices in higher education in India has been well recognized; the anti-plagiarism drive in academia, in particular, is gathering momentum. There is a predictable resistance in some quarters to a code of conduct that entails a system of accountability for the students, the professoriate, and the administration. A beginning has been made. Much more needs to be done and done quickly if Indian higher education is to play its rightful role at the global level (Satyanarayana 2010).

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Shuangye Chen and Bruce Macfarlane

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Abstract

The chapter will explore academic integrity in relation to the research (mis) conduct of academic faculty in universities in China (excluding Hong Kong, Macau, and Taiwan). The academic profession in China is state sponsored rather than autonomous and has one of the lowest basic salary levels internationally. The rapid growth of higher education in China, allied with performative pressures in the ranking race, has led to increasing concerns about research integrity focused mainly on the conventional misconduct categories of falsification, fabrication, and plagiarism. However, research integrity in China also needs to be understood by reference to cultural norms, including the building of relationships and courtesy toward and respect for authority. Norms based on a Western conceptualization of research integrity do little to challenge or alter practices associated with *guanxi* and the intensive norms of reciprocity which dominate

S. Chen (✉)

Department of Educational Administration and Policy, Chinese University of Hong Kong, Shatin, Hong Kong

e-mail: chen.shuangye@gmail.com

B. Macfarlane

Centre for Higher Education at Southampton, School of Education, University of Southampton, Southampton, UK

e-mail: bmachku@gmail.com

academic life in China. Weak professional self-regulation and poor academic socialization have also contributed to the current problematic situation of academic integrity in China.

Introduction

The term “academic integrity” is open to a wide range of interpretations including “the values, behaviour and conduct of academics in all aspects of their practice” (Macfarlane, Zhang, & Pun, 2014, p. 339). Given the limitations of space, this short essay will mainly focus on issues in relation to the research conduct of academic faculty in the People’s Republic of China (hereafter referred to as “China”). It will exclude consideration of the higher education systems in Hong Kong and Macau which, as special administrative regions of China under the “one country, two systems” policy, are governed by a substantially different set of economic, social, and cultural conditions. The chapter further excludes consideration of Taiwan, otherwise known as The Republic of China, which has never been part of the People’s Republic of China.

Academic integrity in China needs to be understood by reference to the rapid expansion of the higher education system over the last 15 years. According to government figures published in 2013, there are 1145 universities and 1,013,957 faculty members in China (Ministry of Education of China, 2014). The desire for China to compete on the global stage as a major knowledge producer (Xie, Zhang, & Lai, 2014), as well as its emerging position as an economic superpower, is evidenced by the fact that its research and development spending have tripled since 1995 (Sun & Cao, 2014) and its research output has increased sixfold since 2000 (Hvistendahl, 2013). It is against this backdrop that serious concerns about standards of academic integrity in China have arisen. Such concerns have been highlighted in an international science context by journals such as *Nature* (Cyranoski, 2012), *Science* (Yang, 2013), and *The Lancet* (Editor, 2010).

Framings of Academic Integrity in Chinese

In Chinese, there are two binary words corresponding to academic integrity as both negative and positive framings (Macfarlane et al., 2014). “Xueshuchengxin” is the positive framing to indicate desirable academic values of honesty, credibility, and reliability. The negative framing in Chinese is “Xueshubuduan.” From the literal meaning, “buduan” means not upright. Academic misconduct and academic corruption are also used interchangeably as a negative way of framing academic integrity.

The number of published research articles on the theme of academic integrity (both positively and negatively framed) in the Chinese Database of Full-text Core

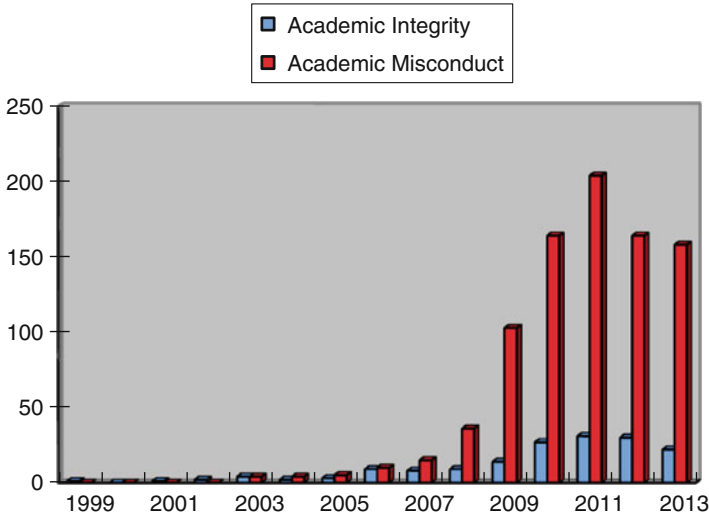


Fig. 1 Number of Chinese journal articles on the theme of academic integrity and academic misconduct from 1999 to 2013 (Source: From the Chinese database of full-text core journal articles (1999–2013))

Journal Articles was just 1 in 2000. By 2013, this figure had risen to 1074 (see Fig. 1). It is notable that articles focused on the negative framing of academic integrity as academic misconduct predominate.

The growth in output closely mirrors substantial increases in government funding for projects addressing academic integrity and misconduct issues during this period (Chen & Lin, 2012; Sun & Cao, 2014). Correspondingly, the Ministry of Education in China has issued six separate policies on academic misconduct since 2009. Data released by the Department of Audit within the National Natural Science Foundation in 2013 cites 204 cases where 318 persons have been disciplined for academic misconduct between 1999 and 2010 (National Natural Science Foundation Council, 2013). The most commonly reported offenses have been falsification, fabrication, plagiarism, and double-dipping of publications (Chen, Fang, Chen, Ouyang, & Huang, 2014).

Perhaps even more worryingly, Chinese academics themselves regard academic misconduct as a common phenomenon. For example, based on a large-scale survey with 30,000 scientists and academics, half of the respondents confirmed that among the researchers they knew, there existed at least one of the four types of academic misconduct: plagiarism, falsification of data, double-dipping of publications, and ghost authorship (Zhao & Deng, 2012). The integrity problems are thought by Chinese academics not only to be widespread but also entrenched. In a 2010 survey, over three quarters of academics from top universities in Beijing agreed that academic misconduct could not be eliminated despite a series of government policy initiatives (Yan & Zhang, 2010).

The Cultural and Institutional Context

As these reports indicate, academic integrity is a complicated phenomenon to address in China and demands a close understanding of the context. The cultural and institutional context has constituted rules and social regularities to shape the social actions of individual academics beyond their own power. This does not deny individual agency to uphold academic integrity, but provides an approach to examine entrenched social rules and deep structures. The embedded cultural and institutional context in China has far-reaching impact beyond academic culture itself (Ren, 2012; Yang, 2013).

Academic salaries are among the lowest in the world, well below those of developing nations such as Ethiopia and Kazakhstan. In a comparative study involving 28 countries, only academics in Armenia and Russia had lower salaries than their Chinese counterparts, while China paid the lowest entry-level salary of all (Altbach, Reisberg, Yudkevich, Andrushchak, & Pacheco, 2012). The study also reported that China has the largest salary variation in the world. Another empirical study of professors' income level in Beijing, the capital city with a cost of living comparable to New York, found the average income of university professors in 2010 was lower than the average income level in the city (Zhang & Zhao, 2014). This means that Chinese academics must look to find ways to significantly supplement their very low basic income by a range of activities, including teaching at other institutions, contract research, as well as research funding and publication.

The Chinese cultural practice of "guanxi" means the building of relationships with a view to future reciprocal benefits differing from Western norms connected with self-interested individualism (Hwang, 1987). Guanxi as a culturally ingrained practice underpins a range of authorship issues. For example, by contrast with Western counterparts, payment for publication by Chinese academic journals is a widespread practice, which encourages quantity rather than quality of output. Adding the name of a well-known professor to the list of authors is a tacit means of increasing the chances of a paper getting published. Authorship order is usually based on a taken-for-granted hierarchical structure. Normally, "the boss," either the doctoral supervisor or the principal research grant holder, will get the most credit regardless of his or her real contribution to the paper. Doctoral students, sitting at the base of the hierarchy, will be expected to gift first authorship credit to supervisors on academic papers. However, doctoral students toward the end of their registration period in China, as in other Asian contexts such as Japan, are normally expected to publish as a first author as a precondition to the award of a doctorate. They will, therefore, be permitted a first authorship credit in order to graduate, assuming that they have complied with expectations to gift credit for some of their earlier academic work to others within the hierarchy. This leads to patterns of reciprocal obligation underpinned by cultural norms connected with indebtedness, respect for authority, and relationship building (Macfarlane & Saitoh, 2009; Salita, 2010; Zeng & Resnik, 2010).

Chinese universities commonly employ an incentive pay system to reward publications in high-impact journals. The more prestigious the journal, the higher the reward, particularly if the journal has a high impact factor in an international

index, such as the Science Citation Index (SCI). This can be the equivalent of anything up to 6 months' salary for a single paper, thereby acting as an important material incentive for lowly paid Chinese academics. While a publication incentive system has started to emerge in other contexts, notably in South Africa (Tongai, 2013), the scale and significance of its distorting effects cannot be compared with China, given the extent to which Chinese academics depend on it as a means of supplementary salary generation.

The academic promotion system in China overemphasizes the number of papers as opposed to their quality. This can result in double-dipping, where papers are published more than once in different Chinese journals as well as in Chinese and English. Being the first (or corresponding) author on a paper is critical to gain promotion. This encourages a misrepresentative manipulation of authorship credit on the basis of circumstances and personal needs. Plagiarism in the writing of papers and the falsification of data also appear to be examples of where corrupt practice is "embedded in academe" according to extensive reports in the news media (Altbach, 2009, p. 23).

Bribery in the university admissions system and in the awarding of grades is another area in which corruption in some less prominent Chinese universities is acknowledged (Altbach, 2009). However, more indirect means of gaining advantages also play a role in the Chinese context given the cultural importance of *guanxi*. Treating sexual favors as a tradeable commodity in return for granting requests is a part of *guanxi* (Yang, 1994). Such practices have long been associated with admission to a university following the end of the Cultural Revolution in 1977 and beyond (Rene, 2013). Beyond the actual provision of sexual services, the use of sexuality or "charm" plays a more subtle role as part of the art of *guanxi* (Yang, 1994).

These cultural and contextual factors and performative pressures – norms of reciprocity associated with *guanxi*, low salary levels, payment by publication, bribery, and the importance of first authorship in academic promotion and doctoral graduation – have proven a recipe for academic corruption in China. Research misconduct is usually identified and judged by academic communities through professional self-regulation (Gorman, 2014). The Chinese academy though is a state-sponsored profession (Lo, 1991). It is controlled and patronized through its dependence on the state as the major research patron. The state has also become the moral judge of academic (mis)conduct, leaving little room for the development of professional autonomy and reflectivity. Academic salaries are largely performance and incentive based, which makes transgressions of academic integrity more likely. The values central to academic life, including sincerity in the reporting of data, humility in making knowledge claims, and respectfulness for the precedence of others, are undermined as a result.

Summary

Academic misconduct is widespread and entrenched within the Chinese higher education system. The state in China has played a paradoxical role in both shaping the conditions which have led to research misconduct and, more recently,

regulating academic ethics. They have created the conditions within the higher education system which have caused academic misconduct to flourish while at the same time seeking to publicly scapegoat individuals who are frequently victims of a system which has normalized certain unethical practices in academe.

Despite attempts by government to tackle academic corruption (Ren, 2012) and recent system-wide reforms of research funding management, this situation is unlikely to improve in the absence of professional self-regulation. Efforts, however, are taking place at the institutional level. Peking University established its own academic misconduct policies in 2001 based on the American FFP (falsification, fabrication, and plagiarism) formula. Subsequently, a number of other institutions have followed suit (Zeng & Resnik, 2010). However, these policies are based on a Western conceptualization of research integrity and do little to challenge or alter practices associated with *guanxi* and the intensive norms of reciprocity which dominate academic life in China.

Socialization is the key mechanism by which academics learn about professional values and conduct. Current ingrained practices connected with gift and ghost authorship, for example, corrupt doctoral students and junior academics, leading to a cycle of abuse from one generation to another. One survey indicates that around 40 % of early-stage doctoral graduates do not see academic misconduct as a problem (Zhao, 2008). Hence, the cycle of abuse will not end until the assumptions which underpin academic integrity malpractices are openly discussed and challenged. Meanwhile, the malpractices embedded in the higher education system will continue to undermine international trust in China's growing scientific output.

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Abstract

Although “morality” has long been taught in the Japanese educational system, academic integrity is a concept that has only recently received much attention and one that is not altogether well understood. Of late, due to numerous public incidents of academic fraud occurring in Japanese academia, Japanese universities have shown a greater inclination to provide guidelines on how to conduct research in an ethical manner. There are questions, however, as to the long-term effectiveness of these guidelines.

Introduction

In the 1990s, concerned that scientific and technical research in Japan was lagging behind that in the United States and Europe, the Japanese government initiated a policy intended to bring about a significant increase in the number of doctoral degree holders. In a literal sense, this push was successful: by 2005, the number of

G. Wheeler (✉)
Sapporo Medical University, Sapporo, Hokkaido, Brazil
e-mail: wheeler@sapmed.ac.jp

students participating in doctoral courses was close to 75,000, up from about 28,000 in 1990 (Statistics Japan 2014). Although the number of students entering doctoral programs has dropped slightly in recent years, there were over 15,500 newly enrolled students in 2012, nearly twice as many as in 1990 (Statistics Japan 2014).

Perhaps not coincidentally, coinciding with this increase in doctoral degree candidates, there has also been a rise in the number of publicized incidents of academic misconduct committed by Japanese researchers. Two recent studies (Steen 2011; Fang et al. 2012), for instance, indicate that papers originating in Japan are among those most commonly retracted from the PubMed database due to academic fraud. From 2000 to 2010, 17 papers from Japanese authors were retracted due to academic misconduct, the third highest total from any country, albeit far behind the 80 retracted papers submitted by American authors (Steen 2011). In a separate study focusing specifically on academic misconduct in Japan, Matsuzawa (2013) found 114 publicized incidents of academic fraud from 1977 through 2012, with over 85 % occurring in the universities. Out of these 114 incidents, 79 were reported in or after 2006.

Although it is difficult to ascertain whether there is a direct connection between the increase in doctorate holders and the seeming increase in academic misconduct, the recent spate of reported incidents has called attention to the perceived lack of formal guidance in Japanese academia regarding the matter of academic integrity and instigated demands that stronger guidelines for researchers be established.

Few Official Guidelines, Even at University Undergraduate Level

The teaching of integrity or morality has in fact long been present in the Japanese education system, commencing soon after children enter elementary school. At present, elementary and junior high school students receive 34–35 class hours of moral education training during each school year with traits such as courage, courtesy, self-moderation, public duty, and respect for culture (be it Japanese or that of other countries) among the numerous values impressed upon children (McCullough 2008). However, while this training purportedly strives toward the development of students imbued with moral fortitude, it delves very little on actual *academic* integrity. Although this should not necessarily be surprising – students at the secondary level are generally not expected to do much in the way of research – this trend mostly continues through high school and even the undergraduate level at universities.

With few exceptions, official administrative guidelines for undergraduate students concerning academic integrity are not in place. Most of the guidance students do receive revolves around proper test-taking etiquette. Examinations are of extreme importance in the 4-year colleges. In the majority of subjects, particularly those in the sciences, students' grades are determined largely by their scores on end-of-term exams. Class participation, research assignments, and attendance are of less importance, although it should be noted that most Japanese universities have strict attendance rules; students must attend at least two-thirds of any given subject's

class or risk receiving a failing grade. Due to the importance of the exams, many universities include a section with their syllabus handbooks distributed to students imploring them to remain honest and outlining briefly the consequences for those caught cheating on exams, which can range from failing the course to expulsion.

In contrast, instruction aimed toward avoiding fraudulent research or plagiarism is limited. Concerning the latter, the seemingly low precedence high schools place on developing students' writing prowess (Rinnert and Kobayashi 2005), which results in students entering university with little in the way of writing skills or experience, has contributed to a belief among some Western scholars that plagiarism is not considered a major concern in Japan (Dryden 1999). Although this theory is problematic (Wheeler 2014), few universities have official policies regarding plagiarism, and punitive action for students discovered to have plagiarized is mostly at the individual instructors' discretion. (The faculty of liberal arts at Sophia University (Academic honesty policy [n.d.](#)) is one example of a university that does provide information regarding plagiarism on its website.)

Moreover, although students may have received moral training earlier in their educational careers, there is little evidence of an honor system in place in the universities. During most exams, it is expected that students will be seated suitably distanced from one another, and many instructors request the presence of roving monitors in order to discourage students from trying to look at the exams of their classmates. (At the university at which the author teaches, it is official policy that any class with more than 100 students has at minimum three instructors present during the exams.)

Graduate Students and Faculty

Although there is more focus on academic research integrity at the graduate and faculty levels, even here, there is often considerable confusion over what exactly "academic integrity" actually entails. As Macfarlane and Saitoh (2008) note from interviews conducted with Japanese professors concerning their views toward research ethics, it is a concept that has not long existed in Japan. Many of the professors in the study professed that this was in fact the first time they had been asked to consider the topic and expressed their belief that it was a matter not truly understood by Japanese academics. None of the interviewees had received any formal research ethics training and suggested that graduate students do not appear to receive any formal training either.

Recent Trends

There are indications that the Japanese educational system is starting to focus more on the issue of academic integrity than previously. In 2006, the Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT), which exercises considerable control on most aspects of the Japanese educational system, produced

guidelines intended to address the matter of academic misconduct (MEXT 2006) with emphasis placed on the importance of avoiding plagiarism and data fabrication and falsification. In the same year, the Science Council of Japan (SCJ) produced its own code of conduct, distributed to universities throughout the country, in which the importance of scientific research being conducted in an ethical manner was stressed (SCJ 2013). Additionally, many universities have begun posting integrity guidelines on their web pages. Some, such as the guidelines posted by Waseda University, focus primarily on research activities, with advice provided regarding the appropriate uses of research funds, impartiality in reviews/referees, prevention of research misconduct, and the importance of citation (Waseda University research portal website n.d.). Others are similar to the guidelines posted by the University of Tsukuba, which emphasize faculty respect for students, calling for instructors to be fair in their grading practices and make efforts to facilitate student development (University of Tsukuba 2012).

Obokata Incident

A recent incident has brought the issue of academic integrity even more to the forefront in Japan. In early 2014, the journal *Nature* published a work by a team headed by Haruko Obokata, a stem-cell biologist at the Riken Center for Developmental Biology. In the paper, Obokata claimed to have developed a simple way to reprogram adult cells into becoming stem cells. It is believed that being able to develop a steady supply of stem cells could eventually help meet the demand for transplant tissues or possibly even whole organs. Obokata's findings were hailed as a remarkable breakthrough, and she was subsequently thrust into the limelight by the Japanese media.

Suspicions about her conclusions soon emerged, however, when other scientists claimed they could not replicate the results she had produced. An investigation into her research commenced, which quickly indicated the existence of manipulated and fabricated data and plagiarism. Moreover, as the investigation proceeded, it was discovered that large sections of her doctoral dissertation from Waseda University were comprised of information copied from documents available on the U.S. National Institute of Health website. A committee headed by Riken deemed Obokata to be guilty of academic misconduct and called for the paper, and one other that she had submitted, to be retracted from *Nature*. Initially refuting this judgment, Obokata eventually agreed to the demands for retraction.

In the aftermath of this affair, Waseda quickly declared that all past doctoral dissertations from its science and engineering school, from which Obokata received her doctorate, would be checked for plagiarism. Additionally, administrations at Japanese universities reportedly began expressing a greater interest in plagiarism-detecting software than previously, with companies producing software such as iThenticate, Turnitin, and Copypelna claiming greatly increased numbers of inquiries from the universities (Riken Affair Boosts Orders 2014). Moreover, MEXT mandated that all graduate students and researchers participate in ethics training at

their respective universities (Torres 2014). Universities not complying with these training requirements risked having their research budgets reduced. The Ministry also declared its plans to check whether universities had codes of ethics readily accessible to faculty and students.

Focus on Academic Integrity Long Lasting?

Although current trends may be encouraging, there are concerns about whether they are long term and if true changes in attitude have occurred. For instance, the Waseda panel investigating Obokata's dissertation, while acknowledging numerous problems including plagiarism and copyright infringement, initially concluded that retracting her doctorate was unnecessary because her intent had not been to deceive (Kimura and Funakoshi 2014; Waseda Rapped 2014). In the wake of severe criticism over this decision and the secretive manner in which the investigation was conducted, Waseda subsequently reversed its position and informed Obokata that if she did not make necessary corrections to the dissertation, her doctorate would be revoked (Waseda Tells Researcher Obokata 2014). However, the initial decision renewed concerns that academia in Japan could be viewed as untrustworthy.

Additionally, the recent focus on academic integrity is directed almost entirely toward the science, technical, and medical fields, with little mention of the humanities. This is worrisome because nearly half of the instances of misconduct cited by Matsuzawa (2013) occurred in the humanities and social science fields. Matsuzawa also notes that the guidelines issued by MEXT do not fully address the issue of Japanese academics' tendency to submit similar manuscripts to multiple journals (2013). Overall, it remains to be seen whether the emphasis on academic integrity will have staying power or if it will diminish in urgency as the memories of the Obokata incident fade.

Summary

Likely due in part to several recent academic scandals, the concept of academic integrity has received considerable attention of late in Japan, with guidelines and regulations being established by an increasing number of Japanese universities. Despite this, there is lingering confusion over what exactly constitutes academic integrity and it remains to be seen how effective these guidelines will prove to be.

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Middle Eastern Perspectives of Academic Integrity: A View from the Gulf Region

11

Gina Cinali

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Abstract

Purveying education across the globe while adhering to good academic and institutional integrity values presents challenges for all. It requires cultural sensitivity and appreciation for cultural diversity. It requires attitudinal adjustments and open-mindedness along with a healthy dose of skepticism and tenacity in principled behavior. One can explain, without excusing, and understand, without condoning, what one encounters and perceives as less than principled behavior. However, can the international educational community arrive at a baseline of integrity norms of academic and institutional integrity? Educators

G. Cinali (✉)

Gulf/2000, Columbia University, New York, NY, USA

Institutional Research and Effectiveness, AlAkhawayn University, Ifrane, Morocco

e-mail: Gina.Cinali@au.ma; Gec11@columbia.edu

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and administrators who work in the Middle East and North Africa (MENA) region, and particularly in the Arabian Gulf – in the Gulf Cooperation Council (GCC) countries – will do well to appreciate the historical antecedents and aim to understand diverse backgrounds and preparation of students and colleagues. Facile interpretations and attitudes of castigation before empathy and understanding will not help to foster integrity. Conversely, local intransigence and cultural excuses will do little to command respect in an increasingly globalized world that demands accountability, effectiveness, transparency and seriousness of purpose.

This chapter builds on the author's extensive exposure to and work on academic integrity in Higher Education Institutions (HEIs) globally, throughout the MENA region, Europe, North America and Africa. While focusing on the GCC countries (Kuwait, UAE, Qatar, Oman, Bahrain and Saudi Arabia), occasional, contextual references will also be made to the Levant, Africa and Asia. It traces historical antecedents, explains socio-economic and cultural determinants as well as the difficulties being experienced with the rapid expansion of Western style higher education in the Gulf region.

Introduction

For the purposes of this study, the Middle East and North Africa (the MENA-region) spans the area from Morocco in the West to Iran in the East, from Turkey in the North to the Arabian Peninsula in the South.

For the sake of brevity and focus, the larger MENA region is broken down into three large subregions: North Africa, the GCC countries (or the Gulf), and the Levant. This section focuses on the Gulf region with sporadic reference to the other subregions and countries therein. The MENA region is home to more than 350 million inhabitants of whom more than 30 % are between the ages of 15 and 29, representing over 100 million youth (Brookings 2015). Each country in the region faces different challenges in terms of providing adequate quality education. Not surprisingly, the field of academic integrity has not been mapped, although initiatives and cooperative efforts, within the region and internationally, have produced a few studies that illuminate some common trends and generalities, while also acknowledging practices unique to the region or to certain countries.

Concepts such as honesty and integrity resonate with most human beings, as do values of honor and trust. Yet most writings and studies on academic integrity are presented from a Eurocentric or Western perspective, often anchored in Judeo-Christian values. Values, norms, injunctions, and commandments are often derived from scripture: "Thou shalt not steal", "Thou shalt not lie". Intuitively, most individuals from most cultures may nod in agreement. Yet these same commandments, along with those that say "Honor your father and your mother" or "Love thy neighbor" leave room for contextual interpretations and differing practices and values developed over time in diverse regions. Juxtaposed onto such seemingly universal norms are other cultural values: honor, commitment, and loyalty. These

concepts have sometimes become diluted in a fast-paced, modern, postindustrial society that focuses on individualism, right and wrong, and personal guilt; however, other more traditional (even if newly developed) societies remain focused on collectivist values, honor and shame. Respect and loyalty is due to family, tribe, and region as well as to country. Value statements such as “We help one another,” “We stand shoulder to shoulder,” and “Family comes first” will resonate with individuals in the MENA region, and nowhere is this more prevalent than in the Gulf countries.

The dichotomy facing a person educated in a Western-style education, but raised with a collectivist set of values, is having to select – or distinguish – between what benefits the individual and what serves the community. Over this is also superimposed a postcolonialist apprehension and occasional feelings of “us versus them”, and different practices of critical thinking versus rote memorisation. It is easy to see why academic and institutional integrity ideals appear lofty yet somewhat illusive goals for even the most caring professionals intent on instilling, nurturing, and maintaining honesty and righteous values.

The Academic Integrity Literature and the Gulf Region

Just as the literature on higher education has been presented from a Western perspective, so have the fields of academic and institutional integrity. A range of studies indicate that academic misconduct in HEIs is prevalent among students at all levels (Lipson and McGavern 1993; Love 1997). Some posit that misconduct is more prevalent among international students faced with university level work in their non-native language. The literature has addressed foreign students at English medium institutions (Arkoudis 2007; Bista 2010, 2011; Park 2003). By extension, expatriate instructors and administrators have observed similar trends among students in Western-style universities in countries where English is not the first language.

Irrespective of cultural background and differing value systems, students and others engage in various forms of integrity infractions: cheating, plagiarism, sabotage, deception, fabrication, colluding, impersonation/imposter behavior, bribing, misrepresentation/inflating credentials, and much more. The literature – and the theories, such as they exist – focuses on various aspects of integrity, or lack thereof, and also explores reasons given for wrongdoing as well as potential incentives for doing the right thing – be they actions on the part of students, faculty, or administrators. When seeking explanations for infractions by students, researchers cite stress, peer pressure, personality, poor time management, financial pressure, parental pressure, incompetence, lack of understanding of academic integrity, lack of awareness or lack of understanding of prevailing rules as contributing to unethical behavior (Bamford and Sergiou 2005).

Some research has examined incentives and methods for detecting and preventing infractions, highlighting the promise and the limitation of technology. Yet, too frequently the emphasis is on managing academic conduct rather than preventing wrongdoings, and on catching the perpetrators rather than first aiming to

instil a culture of integrity by inducing, supporting, and celebrating good behavior. An age-old problem, plagiarism has been made easier through technology, bringing ever more deceitful means of integrity violations. But technology has also brought enhanced means of detecting, demonstrating, and reporting infractions. Plagiarism prevention through use of text matching is one example of attempts to manage and discourage plagiarism but is lamented by many as a sterile, detached high-tech policing function that might detract from a sorely needed holistic and educative approach.

While some empirical research looks at reasons or excuses for plagiarism, other works seek to find remedies or factors conducive to best practices in fostering and sustaining academic integrity (AI), including the effect of honor codes on students (Bowers 1964; McCabe and Treviño 1993) and why and how such codes may work (McCabe et al. 1999). Some authors have advocated a holistic approach to understanding AI (Macdonald and Carroll 2006), yet most studies focus on and present the student as the main culprit, and cheating and plagiarism as clear cut cases, although some have called for distinguishing between intentional and unintentional plagiarists (Hammond 2002).

Only more recently have scholars and practitioners from the Gulf (and the broader MENA region), or authors schooled in the West but with experience from or interest in non-Western settings, begun to research AI matters that are particular to the region (Feghali 1997; Hayes and Introna 2005; Kendall 1991; McCabe et al. 2008; Olson 2008). Some authors acknowledge the reluctance to address the topic from within the Middle East “due to the fact that the subject is sensitive in such a culture; hence, many local universities are reluctant to publish data on the issue for fear of affecting their image and student enrollment” (Abdelfatah and Tabsh 2010). Data scarcity and fear contribute to the relative paucity in regional academic integrity scholarship.

The View from the Gulf Region

The Middle East and North Africa is a vast and incredibly diverse region, home to 350–380 million people depending on the number of countries included in this elastic region (World Bank 2015). About one in five is between the ages of 15 and 24. In the Arabian/Persian Gulf Region, the GCC countries being home to more than 45 million, 48 % of whom are non-nationals (Gulf Research Center 2014). In some countries, e.g., the United Arab Emirates, it is estimated that as little as 7 % are nationals. It would be impossible, indeed misguided, to try to link any propensity towards honesty or dishonesty to a certain ethnicity, language, culture, or religion. However, it cannot be overlooked that historical events and antecedents have interacted with cultural practices and local mores in such a way as to discourage critical thinking and instead encourage and even value memorisation and thought development within the confines of the socially acceptable. Diverse socioeconomic development and resource endowments have further exacerbated the trend to outsource work – in some economies more than in others. Cheating as a

social coping mechanism and survival tool is prevalent and commonplace throughout the MENA and Gulf region, but the same can be said of many other regions of the world. By extension, some warn that by creating more ethical students, one might deprive them of a coping mechanism used by everyone in the society in which they have to live and function. Good deeds might inadvertently disadvantage the ethical person in the short run. One would hope that such a point would not deter attempts at enhancing integrity and good behavior.

The focus here will be on modern day HEIs – private and public – in the GCC countries (Kuwait, UAE, Qatar, Oman, Bahrain, and Saudi Arabia) with occasional reference to other MENA countries (e.g., Iran, Lebanon, Egypt). Further discussion on Egypt is provided in the following chapter in this volume. The information presented draws on personal experience, literature, empirical studies, and primary sources. For the purpose of this chapter, the term academic integrity (AI) encompasses the definition developed by the *International Center for Academic Integrity* (ICAI) in its Fundamental Values Project, which defines AI as "... a commitment, even in the face of adversity, to six fundamental values: honesty, trust, fairness, respect, responsibility, and courage. From these values flow principles of behavior that enable academic communities to translate ideals into action" (ICAI: Fundamental Values 2014). This definition is applied to a broad scope that goes well beyond student misconduct to include institutional professional integrity. It also invites consideration of a holistic, societal approach to fostering integrity. It illustrates through a few examples the modern day dilemmas faced by educators – indigenous and foreign to the region.

Oral Versus Written Traditions

Traditionally, MENA society has maintained an oral history – stories verbally transmitted from one generation to the next, poetry recitation, and memorisation and recitation of sacred text. The region has for centuries accorded great place of pride to committing to memory the Holy Qur'an as well as the ability to create and recite poetry. There was little need for citing a source, as most people grew up with and knew their sacred text, as well as their favorite and venerated poets. As many were illiterate, verbal transmission of knowledge and texts were the only way to preserve heritage and tradition. This is but one example of a distinct sociocultural norm, or historical acculturation to repetition, which is time-honored and respected (Foley 1989). One can forgive the confusion felt by a person, particularly a child or a young individual, raised in that tradition, who has yet to learn the modern ways of proper citation and referencing. Intuitively, memorisation, and by extension rote memorisation, is expected, valued, and even revered (Bremer 2014). As stated in an overview of quality assurance in higher education, "Most of the Arab universities adopt traditional education based on rote memorization of material without enabling students to be innovative and mix scientific knowledge with practical application. Students are not encouraged to take a critical, analytical approach

towards numerous problems in society, creating a spirit of student submissiveness and fear to voice their opinion” (Al Rashdan 2009).

Related to this is a custom of respect for both tradition and for authority. One is not supposed to question authority, be it the ruler, the religious leader, the parent, and certainly not the sacred text. A critical thinking approach, as promoted by international, Western-style education, in many ways runs counter to this tradition and cultural mores and is a bit unnerving to the student (Al Rashdan 2009). Creating an intellectual learning space where students are encouraged to dispute the answers and disrupt established traditions and patterns with their own creative and critical inquiry is a challenge. The safer space is that of repetition and regurgitation of the teacher’s or professor’s words (Howard 1999). Questioning things and altering the text is considered impolite. This inclination is not exclusive to the MENA region; one hears the same refrain from Asian and African students. Ballard and Clanchy (1997, p. 54) citing Ryan, state that “In a Confucian, Buddhist, Hindu, or Islamic society, for example, the ability to quote from sacred writings, from the saying of the ages, from the words of leading scholars, is the essence of scholarship”. Again, citing Ryan, Hall (2004, p. 4) adds, “Making changes to a text may therefore be seen as disrespectful”. Likewise, in some cultures it is considered impolite to explain or give citations, as this might offend an instructor.

Post-Colonialist Educational Traditions and Influences

The fall of the Ottoman Empire and the end of the Great War ushered in “Britain’s moment” in the Middle East. Those who were able to obtain primary or secondary education and perhaps later attend university were typically schooled in British or American style institutions in the Levant and Egypt. American and French missionaries established schools in Turkey, the Levant and Egypt; some later evolved into universities, while others were created independently. These institutions aimed to impart American-style curriculum and learning values and attracted students from the wider region. In 1927, the first group of Bahrainis enrolled at the American University of Beirut, Lebanon. Then, concurrent with the decline of British influence and the rise of oil revenues which facilitated an influx of migrant labor to the Gulf, inroads were made by educators from other countries. Teachers, professors, and administrators from Egypt, Jordan, Syria along with educators and bureaucrats of Palestinian origin came to dominate several of the ministries of education in the Gulf countries to the point where some residents lamented the dominance of “foreign mafias”. Throughout the 1960s and 1970s, American- and Indian-style schools were also established to cater to an increasing population and to the children of expatriate workers from all corners of the world.

From the 1990s onwards, American- and British-style universities have proliferated in the Gulf. A few individual manifestations aside, one detects a clear difference among those students who have received their primary education from a local school with instructors from the Gulf (rare) or from Egypt, the Levant or India, and those schooled in a western environment. The propensity towards rote

memorization and a teacher-centered/authority-driven approach is clear in the non-Western style. One also finds a certain lack of focus on originality, or of valuing individualism and individual thought processes and ingenuity. Perhaps not surprisingly, such students will usually not have been trained in good academic integrity practices. That is not to say that they have a low moral character, only that they have not been acculturated to good practices of valuing originality, respecting authentic sources, and giving credit via proper citation. Students coming from an American-style curriculum and modes of instruction have generally been exposed to some integrity or antiplagiarism awareness and training during their course work.

Language training and command of English as a foreign or parallel language is critical in this education setting (Carroll 2007). Understandably, students trained in an English language setting tend to have less need/excuse to copy, plagiarize or purchase assignment solutions from paper-mills than those coming from non-English medium institutions, who often feel overwhelmed at having to master the subject material *and* a second language. This may explain, albeit not excuse, why one group may feel more pressure to take shortcuts (Di Maria 2009). While there are culprits in both groups, and while laziness or poor time management may be the real reason for cheating, one cannot minimize the angst and sense of inferiority felt by some of the students who find themselves unprepared for university learning because they do not have the comprehension and expression skills in the language of instruction (Yusof 2009; Dawson 2004). An interesting parallel here is the path-dependency created by colonialism when it comes to language: in countries where English is imposed as the national language, despite hundreds of native languages and dialects (for example, India and Nigeria), students are generally comfortable with English at the university level. That removes one of the components that may induce some students to cheat.

University administration, admissions officers, guidance counselors, and teaching staff must be vigilant, exercise good judgment, and display integrity when placing students in college courses. Where preparatory or remedial courses are required – whether in language, mathematics, or other subjects – such officers must resist the pressure from parents and students asking to be allowed direct admission into credit bearing courses. Too often those students end up failing and feeling humiliated. Stressed and depressed they may fall into the temptation of cheating to pass a course. Sooner or later the truth catches up with the student, the family, or the institution: families are humiliated and angry, and feel betrayed and exploited. Where students make it through to graduation, employers soon complain that their new hires cannot string together a sentence – whether in English or in Arabic – for the simple reason that they have never mastered either, before or after university.

Institutional Integrity

Violation of integrity at the institutional level comes in many shapes. It includes appointing and promoting individuals based on nepotism, favoritism, and providing privileged access for some students based on kinship. Where meritocratic

achievement is overshadowed by advancement through influence attempts, nepotism, favoritism and parochial interests, good faculty and staff members will soon become disillusioned and leave for a more professional setting. Unfortunately, imposter degrees, inflated CVs and misrepresentation regarding credentials are all too common in the region (Alrumaih 2013).

Institutional integrity begins with transparency and fairness in hiring, promotion, tenure and other policies, where an emphasis on and adherence to institutional guidelines, policies, and procedures rather than undue influence and trading favors determine the fate of each individual employee. According to article 43 of the UNESCO International Recommendation (Lamine 2010), teaching personnel should enjoy:

... a just and open system of career development including fair procedures for appointment. ... The most important procedure for ensuring this fairness is transparent vacancy announcements which should be accessible to a wide audience and consist of a clear description of the required tasks, qualifications and selection standards and procedures. The position should be filled without distinction of any kind other than relevant qualifications and attributes. Finally, peers at the faculty should take part in this process. (Lamine 2010)

Adherent to this, institutions with good governance and detailed grievances processes are likely to fare better in the area of institutional integrity and command more respect in the educational landscape, and come to be seen as employers of choice and a workplace where clearer expectations and a sense of recourse and fairness trumps arbitrary decisions. The same applies to the area of student recruitment, admissions and retention. It would seem that more transparent policies and applications thereof in hiring, admission processes and clearly documented exceptions and exemptions could go some way to remedy the problem.

Institutional integrity breaches also include admitting students who are unprepared for university level work or re-enrolling them even when they fail year after year. This practice is rampant among the many private for-profit institutions that place revenue generation and accommodation of powerful society members above adherence to academic quality. In many institutions students can buy their way in, through and out of university. Bribery and influence attempts and using connections and trading favors when dealing with certain oversight bodies is not unheard of, and more vigilance and ongoing monitoring is needed to hold all institutions to task. One can hardly expect and demand honesty and integrity of students if such values do not exist throughout the institutions of learning and the oversight bodies charged with monitoring quality.

Equally important is an institution's commitment to supporting those faculty and staff who enforce good integrity practices, rather than undermining their efforts by allowing for exceptions or lax application of rules and regulations. The support of good practices must be sustained over time to create an environment where faculty members can enforce regulations without fear of retribution or denigration. Finally, faculty and staff members should be able to air general concerns without fear of retribution. Often senior management will change policies rapidly, without

consulting with the academics who are tasked with carrying out the changes, for example, in admissions standards, student prerequisites, and class sizes (Mervis 2012).

The Curse of Oil Wealth and Peculiarities of the “Rentier State”

The phenomenal influx of funds derived from natural resource extraction and export in the Gulf, primarily oil and gas, has afforded most of the GCC countries exponential growth and incredible wealth at the state and individual levels, and have turned them into what is referred to as “rentier states”. As an example, the tiny state of Qatar – home to 2,2 million people with an estimated indigenous population somewhere between 280,000 and 400,000 (Qatar Ministry of Development Planning and Statistics 2014) – is the richest country in the world as measured in GDP per capita (and among the poorest in terms of census data and accurate statistics). The MENA region, particularly the countries situated in or adjacent to the Arabian Peninsula, as well as some countries in North Africa, derive substantial income from hydrocarbon exports.

The rentier state and the political dynamics – or lack thereof – ensue as a result of windfall profits from natural resource endowment and extraction which allows the rulers certain political luxuries and licenses not available to rulers and elites in traditional economies. As indicated by Hazem Beblawi and Giacomo Luciano, enormous national incomes, largely unrelated to productive enterprise as seen in a typical national economy but rather derived from marketisation/monetisation of resource endowments through extraction and hydrocarbon exports, create specific political side effects. Beblawi and Luciano (1987) state that the dynamics and peculiarities of the rentier state may better explain what will *not* happen, rather than what *will* happen: rentier states exhibit a remarkable absence of pressure for a participatory political environment on the part of the general populace. Such nonproductive sources of national (and somewhat distributed) income make Middle Eastern regimes less reliant on extraction of wealth (in the form of taxation) from their populations to finance the state. It is the reverse of “No taxation without representation”. If nobody pays the piper, nobody can call the tune.

National income derived from such resources, particularly oil and gas in the Gulf region, serve to mediate the political space between ruler and ruled, attenuating any pressure for participatory politics or democratization. It may also contribute to a certain apathy and intellectual laziness on the part of the populace, even those educated and with the intellectual capacity to question the appropriateness of absolutist rule in the twenty-first century. However, it would be contrived to posit that the rentier state dynamics in themselves would induce or contribute to lesser or greater degrees of integrity – including academic integrity. It should also be noted that corruption at Olympian levels are found in countries devoid of natural resource endowments, or in countries that are not typical (or exclusively) rentier states, other than by some geographic proximity or through labor migration which ties them to

the rentier states. Transparency International's ranking of countries on the corruption perception index would substantiate this caution.

This wealth accumulation and distribution to nationals of rentier states have afforded a rather spoilt society in which most products and services are available for a fee, and where shortcuts can be made for a "facilitation fee". In a society where most families have several domestic workers – sometimes referred to as a nanny culture – nannies and drivers are expected to "help" the children with their school work. When students outgrow their nannies, their parents typically hire a tutor to do the work for the children, and finally at high school and university level these same youngsters cannot keep up with the demands and feel forced to plagiarize, find a shadow writer, or buy an essay from a term paper-mill. In a study of more than 2,000 students at six private and public universities in the UAE, "more than 80 % admitted to cheating by either copying other students' work and submitting it as their own, or paying someone to write their papers or do their exams for them" (The National 2014).

Understanding the *Wasta* Culture

Barnett et al. (2013) outlines the meaning of *wasta* as follows:

Wasta is an Arabic term that refers to an implicit social contract, typically within a tribal group, which obliges those within the group to provide assistance (favorable treatment) to others within the group. Members of the group have a largely unqualified obligation to provide assistance when asked, and those who ask for assistance have no obligation to provide direct compensation for assistance provided. (Barnett et al. 2013, p. 2)

While the literature on *wasta* is rather sparse for such a commonplace phenomenon and term, an early study by Cunningham and Sarayrah (1993) identified two types of *wasta*: intermediary and intercessory. Intermediary *wasta* is utilized to facilitate the resolution of intergroup or interpersonal conflicts. In this system, *wasta* improves human relations and reinforces social norms. Intercessory *wasta* on the other hand, involves someone intervening on behalf of a client to obtain an advantage or overcome a barrier from an authority figure (Cunningham and Sarayrah 1993).

In an academic context, the latter may be applied to the affects of hiring or admissions decisions, inducing a grade change or achieving other personal advancement unrelated to meritocratic achievement, running counter to all international best practices as devised from a Western perspective and reflected in Eastern quality assurance frameworks. Olson (2008, p. 27) poses the hypothesis that "Intercessory *wasta* is being used to accommodate western liberal education to traditional authority structures in Gulf". However, in the process the core of good liberal arts educational values are being compromised. As Olson (2008, p. 27) notes, those who should be standard bearers of quality – counselors and instructors– "soon come to realize that they will be besieged by students (if not their *wasta*

intercessors), seeking to negotiate grades if their charges are not passing at acceptable levels. It becomes expedient to devise grading schemes that permit the largest number to pass or overlook plagiarized content in papers". Emphasizing the relevance of looking at institutional as well as AI infractions, Olson's (2008, p. 27) survey indicated that "over twice as many students identified *wasta* issues with registration (35 %) as compared to faculty (15 %) in the survey comments. Some comments about faculty mention instructors exchanging grades for services or being influenced by *wasta*". Again, the relevance of looking beyond student wrongdoing is underscored.

Kendall's article on Kuwaiti students emphasizes the personalized relations that justify cheating and:

... treating grades as negotiable items – even though, this challenges western views of academic propriety. In intimate social formations, particularly in families, people make allowances for each other's personalities and predilections, adjusting their behaviors and discernments to the perceived requirements of the moment. Under such conditions, impartiality is impossible; under such conditions, partiality is demanded. By contrast, where people have few genuine moral obligations, where their interactions are casual or commercial, where they are ignorant of the factors playing upon others, they have little basis for recognizing mitigating circumstances and hence for exercising discretion. Under such conditions appeals to impersonal rules and abstract standards are indicative not so much of peoples' ethical sophistication and advance as they are indicative of their estrangement. (Kendall 1991, p. 101)

Olson (2008) integrates this in his analysis and proposes: "If the *wasta* intercessor becomes the guarantor of student performance outcomes early on and organizational learning is fostered in the context of a system of backward and forward linkages for quality assurance, an organizational structure might be created that would accommodate western liberal arts education in a traditional setting" (Olson 2008 p. 30).

This author sees some potential solutions, or at least remedies, that might be imagined at intraorganizational and extraorganizational venues. Perhaps co-opting those exercising intercessory *wasta*, inducing them to become partners or guardians/guarantors of progress and better behavior, taking a stake in the improvement and correct behavior of the individual who has been found wanting in ethical behavior in an educational setting can be a way to create buy-in and enhance understanding of integrity at the societal level. At the extraorganizational level, accreditation and quality assurance bodies could give more prominence to academic institutional integrity in evaluation of institutions. Some regional coordination and learning from international best practices, for example, from US accreditors, will further bolster integrity awareness. The nascent academic ranking schemes being devised in and for Arab universities might also assign points to an institution's demonstrated focus on and enforcement of good integrity practices, be it through rules and their enforcements, training and awareness sessions, or course content focusing on ethics (e.g., participation in Principles of Responsible Management Education).

Rapid Modernisation: Expansion of HEIs

The Gulf is not the only region where a wide variety of integrity violations are exposed, but rapid expansion has meant that many projects, including the planning, building and opening of many new universities and schools, have come under increasing time pressures, resulting in sloppiness and willingness to accommodate all manner of adventurism. Technology, better practices, international collaboration, and pressure should allow for an almost fail-proof system over time. Meanwhile caveat emptor is the appropriate caution.

The mushrooming of so-called American-style education presents an interesting case study. While a few such institutions are truly exerting great efforts to purvey an American-format, liberal arts education which fosters critical thinking skills, open-mindedness, and curricular breadth and depth, there is a plethora of institutions that convey the same philosophy but that do not stand up to scrutiny. “American” has become a coveted label to pander to a public disenchanted with local, state-provided education and enticed by foreign, particularly American, education. Yet, too many find out only too late that the institution to which they have won admission and paid a hefty tuition price may have nothing to do with America, but is in fact a private, for-profit company owned by local or foreign shareholders whose main goal is to maximize revenue generation and distribution of earnings. In some cases, such institutions serve as a cover for other activities or as a platform for an individual’s political and social ambitions.

What is clearly lacking is greater awareness on the part of purveyors and consumers of education to know the product and to adhere to the promises made in brochures and on websites. Local and international accreditation or absence thereof can serve as somewhat of a litmus test, but is not sufficient to guarantee quality. Knowing the product is important, but equally important is the commitment to doing the work, earning the grades, certificates, and diplomas. Far too many students and parents feel an automatic entitlement to a diploma as soon as the tuition has been paid. For a for-profit institution, the temptation to take the money rather than stand on principle by dismissing a nonperforming student is often too great. Over time, such institutions develop a well-earned reputation for being “easy” schools that are not serious about education. A recent scam at an American-style institution in the UAE landed admissions officers in jail for altering standardized test scores as a deliberate recruitment strategy to get the enrolment numbers up and granting access to academically unworthy and unprepared applicants. This has been widely reported in the local and regional press (Al Almir 2014).

The myriad manifestations of integrity violations, whether bribery or attempting to employ influence to obtain unearned credentials and diplomas, contribute to a culture of corruption, as detailed by Transparency International in their 2013 report, *Global Corruption in Education* (Transparency International 2013). The problem is not exclusive to the Gulf region. The report indicates that education sectors around the world are particularly prone to corruption and targets for manipulation in an area that is inadequately monitored. The report also

presents a welcome suggestion for including and enlisting the youth in fighting corruption. This is a welcome angle which has been underexplored in the West and hardly entertained in the MENA region. Such literature is an example that at least some individuals and organizations are willing to put in writing the malaise observed, while also pointing to potential remedies and fruitful collaboration and dialogue around these issues.

Regulatory Oversight and International Accreditation

The UAE has a national quality framework and a rather stringent quality assurance and monitoring of its HEIs, and those processes are themselves subject to audits by the State Audit Institution (SAI). Such audits often reveal discrepancies between reported facts and figures and the reality on the ground, but at least such exercises have called attention to some of the problems and there is a focus on remedying deficiencies. Most Gulf countries have oversight bodies monitoring the quality of their HEIs, some only monitor the private sector, and some countries have no quality assurance framework or monitoring.

Parents who seek private sector and foreign-model education for their children do so precisely because they are disillusioned with low standards, overcrowded classrooms, and corrupt practices in public schools. There is a perception that the foreign product is of a higher standard. Sometimes that is the case, but not always. Accreditation, mostly from the USA, is usually seen as a stamp of approval that vouches for the quality of the education. Most US regional accrediting bodies have as part of their core requirements and detailed in their standards, a focus on integrity – both academic and institutional integrity. For example, the Middle States Commission on Higher Education details in Standard 6 of its *Characteristics of Excellence in Higher Education*: “In the conduct of its programs and activities involving the public and the constituencies it serves, the institution demonstrates adherence to ethical standards and its own stated policies, providing support for academic and intellectual freedom” (MSCHE 2006) and the Commission expects candidates and accredited institutions to address both academic and institutional integrity in their self-assessment submitted in support of candidacy or renewal.

From first-hand experience, based on work at more than ten institutions in six MENA countries and a further six institutions in Europe, the USA and Africa, the author can testify to the immense diversity and variance in maturity across institutions in the Gulf region and within a given country. The variance is a natural corollary to the presence or absence of regulatory oversight and of local or international accreditation. Quality assurance in Arab countries vary greatly—from sophisticated to none and from fairly mature to embryonic, as do the institutions embedded in these countries. Egypt and UAE have well developed systems of oversight at the state level, and fairly sophisticated methods of monitoring institutions, and of gathering and presenting data. Lebanon and Qatar are devoid of quality assurance mechanisms at the national level, although some attempts have been

made in these areas in Lebanon. This illustrates that there is not necessarily a correlation between the age of academic institutions, nor the age of a country as an independent unit, and the level of sophistication when it comes to national framework, monitoring, oversight, and accreditation. For detailed overviews of quality assurance in Arab and MENA countries please see Labib Arafeh (2009) and Karma El Hassan (2013).

Despite various regional initiatives, no complete harmonization of HEI standards and practices have been achieved – even where such have been attempted. At national levels, few countries have initiated or implemented legislation defining policies and procedures for handling cases of misconduct. Even with harmonization attempts in Europe, only Sweden has devised such policies (Glendinning 2014a, b; please also see the chapter by Irene Glendinning, “► [European Perspectives of Academic Integrity](#)” (Chap. 5) of this volume). Not surprisingly, the Gulf region lags behind anything attempted in a mature landscape. While learning outcomes may have been stated and metrics may have been devised, AI standards are only vaguely subsumed under guidelines arising out of the Bologna process or embedded in some accreditation standards in the USA. The autonomy of faculty and invocation of academic freedom by faculty means that any common set of AI standards would be all but impossible to enforce. Given that other regions look to Europe and the USA for inspiration/validation, it is not surprising that the Gulf region has not developed a common set of accreditation standards, nor a common framework for good AI practices, to the extent that the topic is even on the radar of practitioners in the region.

Academic Freedom, Freedom of Expressions, Limits, and Off-Limit Topics

Academic freedom is meant to protect the right of a professional academic to investigate and to express opinions on findings within a given field of expertise as far as it is relevant in a certain classroom or research setting. Academic freedom is not meant as a license for rabble rousing. This is particularly important for foreign faculty and staff members to keep in mind as they serve as guest workers on foreign soil. While it stands to reason that faculty are not in the classroom to propagate against a local ruler or ruling form or to speak against religion, the caution can become exaggerated and develop into paranoia, or worse, serve as a tool for dismissing an employee under the pretext that he or she has insulted the ruler of the local culture. There is a fine line between respecting the turf one is on, and abrogating one's field of expertise to the point where it becomes meaningless to talk of instruction and learning.

This requires a broader definition of integrity – to include that of a scholar/teacher who is obliged to cover the entire field of inquiry within his or her domain of expertise and training. While a chemistry professor would not be expected to express sentiments regarding the local ruling structure in a given country, a professor of political science, sociology, economics, and several other fields is, in

fact, obliged to cover the various ruling forms, and should be able to ask students to define the types of government and identify the ruling form found in their society without fear of being accused of insulting the country, culture, or ruling family. Professors at a university in the UAE were asked to submit any and all publication and conference presentations for vetting by a provost, before being allowed to list the name of the university next to their own name.

This vetting process, which might short-circuit perfectly valid academic inquiry, is just one of the processes that abrogates the very basics of academic freedom, simply because the findings from, for example, an economic perspective might go against the government's plans and programs. This is prevalent throughout the region, where fear of government interference stunts free expression.

The fact that universities in most Arab countries are government institutions and depend on state financial and administrative support is at the heart of the crisis. Governments impose their rigid regimes without analyzing the reality of these scholarly institutions, inevitably creating unsound practices, even so distorted as to make the universities lose much of their academic status. These governmentally superimposed restrictions on the university directly lower the ceiling of academic freedom and prevent faculty from participating in decision-making, voicing their opinions, and publishing freely. Taken together, such limitations restrict scholarly innovation (Al Rashdan 2009).

Likewise, universities and their libraries may be required to remove or sequester certain material that may be considered offensive to some. For example, Zayed University in the UAE has a procedure regarding "challenging material" and students or faculty may object to the material being in the library. Subsequent to complaint and review the material may be retained on the shelf, redacted, sequestered, or removed (Wand 2010). It is interesting to note that Zayed University has achieved full accreditation status from Middle States (MSCHE), although it could be argued that the facts stated above do not comply with Standard 6 as regards integrity and academic freedom. This further points to some accommodation within the context even on the part of respected accrediting bodies.

How can instructors claim to have covered the span of their fields – preserving the integrity of that field of knowledge – if certain topics are off limits and have to be left off the syllabus and out of the classroom? Another example from a Gulf country saw an art professor being taken to task for teaching nude art. She had been assigned a survey course in art history from ancient Greek and Roman to contemporary art. The presumably innocent act of assigning students to read text-book chapters that contained pictures of nude statues from ancient Greece and Rome suddenly became offensive to some students, after they had seen their midterm grades and wanted to complain about the instructor. The higher administration sided with the students and the instructor declined to teach the course again in the future. This is an example of lack of integrity on the part of the institution and the students (although it could be argued that they may lack the sophistication to appreciate this). Had the instructor agreed to abridge the course material, such would have constituted a breach of professional integrity in terms of being true to one's field of training.

These are a few examples of how integrity is so much more than students behaving ethically. It encompasses an instructor's professional integrity and the duty to cover one's field of training and expertise.

Potential Solutions, Practical Suggestions

While the task seems daunting, there are several ways in which universities can move integrity forward, globally and regionally. Many universities have found value in creating honor codes to which students, and sometimes faculty and staff, pledge their commitment at the beginning of their tenure. Good AI practices are introduced to students during orientation programs in their 1st year of studies and the values are emphasized throughout their time as students and included in each course and activity. For those who engage in integrity violations there is a consequence, whether a failing grade, repetition of the course, extra work and remedial sessions on integrity, or ultimately suspension and dismissal from university. Some institutions have integrity pledges or even a small test, which all faculty and staff must pass periodically in order to retain access to their university email. Such innovative tactics serve as reminders not only to students but to all community members. Sharing best practices not only expands our knowledge but creates a sense of camaraderie among colleagues who often feel like lone voices or who become the target of ridicule for being too idealistic rather than realistic. International cooperation, voluntary agreements, oversight, regulation, audits, accreditation, and rankings can all serve as ancillary tools to induce good behavior.

It is crucial to set guidelines, rules and expectations upfront and ensure uniformity in enforcement. It should be mandatory for all instructors to clearly state AI expectations on all syllabi, and indeed many universities do demand this. What also helps in many settings is a written contract between the instructor and each student, in which the student acknowledges having received, read, and understood certain material about AI. Keeping a copy while giving one to the student comes in handy, especially if/when at the end of a semester a student shows up to complain and plead for leniency, often accompanied by a parent or a friend, after having earned a low or failing grade due to integrity violation. It pays to spend part of the first few class sessions explaining AI and giving ample opportunity for students to practice and demonstrate that they have understood the concepts and the consequences of infractions.

Students must be given ample opportunity to practice and display good AI habits, such as proper citation and doing their own work. While most will understand that it is wrong to cheat, copy from a friend or from other published material, it usually takes some time to train the students to cite appropriately. Here the faculty members may do well to show some patience, understanding that this is new for most students. As long as the good intention is there, to give credit and attribute the source, the instructor might be forgiving in terms of the exact manner of citation. This might be one of the gray areas, at the perimeter of the baseline expectations when it comes to integrity practice. Another area that is sometimes difficult for

students to grasp is that of multiple submissions or serial submissions of their own work, or parts thereof, without indicating that it was previously used in fulfillment of course requirements elsewhere. This is also new to many students so initially some leniency and patience might be warranted. Enlisting the students in compiling and sharing the “tricks of the cheating trade” can also get students to buy into the quest for busting the bad practices. An instructor can invite students to volunteer information on cheating, whether undertaken by themselves or heard about through others. This could result in a “Student Insider Guide to Cheating” which can be shared among faculty members near and far. Students could also be invited to grade each other’s work anonymously while giving bonus points for spotting infractions.

One thing that is crucial is clarity in rules and regulations and uniformity in enforcement. Collaboration among faculty members and administrators to ensure uniformity in policy and regulations and consistency in application of penalties would go a long way in terms of setting clear expectations, especially where several faculty members teach the same course. It can also help prevent inadvertent popularity contests where some instructors become the good guys who do not catch and report violations, while others are seen as mean and unfriendly if they follow procedure and have a moral compass. Universities and faculty members can also encourage students to join the *International Center for Academic Integrity* and other societies focused on good academic practices, and encourage them to participate in essay competitions, and to share their experiences and suggestions for improvement. Making integrity something “cool” while ridiculing violations and shortcuts can inspire many students to get on the right track. Universities could also include as part of their admissions process a short essay on academic integrity, and most importantly institutions must create an environment that supports those faculty members who are dedicated to and vigilant about enforcing the regulations and good practices, rather than castigating them and asking them to bend the rules to keep a customer or family happy.

Ways Forward

While technology, the Internet, rapid information sharing and transmission has facilitated cheating and lifting of information, that very same technology could hold the promise of early detection, exposure, and suggestions for correction of wrongdoing, whether accidental or unintentional or devious and malicious. It is well known that technology on its own is not enough. Text matching software and search engines detect false positives and lead to a certain detached, robotic attempt at fixing a problem. With refinement and engagement, technology has great promise. Yet, personal interaction, constant exploration, nurturing of best practices, continuous vigilance at the group, individual, and societal level is required to sustain any progress.

Regional and international associations that work to promote integrity and prevent infractions are needed to keep the pressure on everyone to do the right thing all the time. Until integrity has become part of personal and societal DNA

worldwide, organizations such as Transparency International, the *International Center for Academic Integrity*, PRME, and other like-minded groups of professionals can help by keeping a spotlight on the topics of corruption and integrity by reporting trends and by serving as repositories of knowledge, and, in effect, by naming and shaming. Such associations can also create international repositories of cases, provide guidelines for resolutions, develop a common vocabulary/terminology and they could perhaps develop an academic integrity “driver’s license” that might be subject to periodic renewal.

There needs to be a much more holistic approach to academic and institutional integrity and understanding the ecology of education in various settings and more linkage to the “real world”. Both ICAI and PRME are focused on this area. There is a need to focus on developing an understanding of integrity in its broadest sense, and then applying this to the educative aspect, while the punitive and negative aspects should be seen as the last resort. While a focus on peculiarities of national/regional/cultural specificity is needed to understand nuances, it should not serve as a “fig leaf” for actual infractions. There are also vast untapped resources and lack of cross-functional and interdisciplinary collaboration that can be utilized. Many fine librarians lament the failure to incorporate information literacy sufficiently into the college/university experience and stand ready to cooperate with faculty and administrators in this regard. This would also lead to optimisation in resource allocation and good stewardship of university funds – another point of integrity in action through professional endeavors.

Regulatory bodies and voluntary audits, accreditation bodies and inspection agencies should serve as incentives for institutions and individuals to do the right thing; however, they can only be partial enforcers by virtue of their role in identifying and mandating ethical behavior in order for institutions to uphold certain rights and privileges that come with accreditation and licensing. In the long run, the positive impact is only as good as the intentions and capabilities of the leaders, administrators, faculty members, and students in any given institution. This is true in the Gulf, the MENA region, and globally.

Summary

Can a set of universal norms of academic and institutional integrity be derived from cross-cultural dialogue? This chapter has traced a few historical antecedents and regional cultural penchants from the Arabian/Persian Gulf Region, which may explain differing approaches to and conceptualizations of what constitutes integrity and what can be seen as collaboration and friendly facilitation as opposed to cheating and corrupt practices. Some of the ingredients to be mindful of are a culture of oral transmission of knowledge, a respect and veneration for memorisation and recitation, a norm of respect for authority and limitation on critical thinking, an affluent culture with a penchant for outsourcing, sometimes combined with lax institutional oversight and absence of national policies, guidelines, and enforcement. Enhanced dialogue and sharing of best practices,

workshops, and a certain regime creation amongst actors in the area of academic integrity can go a long way towards standardizing expectations and arriving at a better understanding and acceptance of minimal thresholds below which scholars, their students, and fellow researchers will not fall in their research and learning behavior.

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Mohamed Nagib Abou-Zeid

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Abstract

This section provides an overview of the status of academic integrity in Egypt as one of the central and most populated countries in the Middle East and Africa. Education in Egypt is a key activity that involves 11 % of Egyptians, with more than two million employed in the area and about another 20 million students enrolled at various stages (Central Agency for Public Mobilization and Statistics (CAPMAS (2014). *Fact book of Egypt year 2013*. CAPMAS.). Academic integrity is a major concern in Egypt with more or less similar patterns of violations to other countries. The most distinct observation is the higher frequency of integrity violations when compared to western countries for instance (Abou-Zeid (2003–2008). *Surveys conducted at the American University in Cairo (AUC), Egypt*, Unpublished. AUC’s Council for Academic Integrity). The dominating patterns are ones related to cheating in the schooling system and plagiarism and multiple submissions in higher education. The severity of the problem is partly due to ineffective awareness and insufficient cooperation amongst various stakeholders in order to foster academic integrity concepts, attitudes, and practices and combat all forms of malpractice. For decades, remedial actions have focused

M.N. Abou-Zeid (✉)
Department of Construction & Architectural Engineering, The American University in Cairo,
Cairo, Egypt
e-mail: mnagiba@aucegypt.edu

on tightening the punitive measures, yet evidence shows that more needs to be done to effectively address promotion and prevention measures as well. In addition, there needs to be an aggressive campaign in the form of a national project which tackles the root cause, which is the low quality of education. On a more global level, education deliverables need to be continuously assessed and monitored to better match and serve the job market needs.

Introduction

Egypt is a country whose history dates back thousands of years. Its unique geographical location, as shown in Figs. 1 and 2, places it as the central country in the Middle East, the “old world” around the Mediterranean Sea, as well as serves as a northern gate to the continent of Africa. With 95 % of its landscape as arid desert, Egypt possesses an area of one million square kilometers in which more than 93 % of its population is concentrated within the narrow Nile River Valley and within the northern delta (Central Authority for Public Mobilization and Statistics [CAPMAS] 2014) (Figs. 1 and 2).

From a population and demographics point of view, Egypt is a country that presently has a population approaching 90 million. This human capital is the largest and most densely concentrated within the Arab world and comes as third highest in Africa, after Nigeria and Ethiopia. As shown in Table 1, most of the population is concentrated in the greater Cairo area (Cairo, Giza, and Kalyobia), followed by the northern delta region, with the remaining population within Upper Egypt, Sinai, and a few desert oases. Informal settlements exist in Egypt in large concentrations, thereby representing a threat to both development and social stability (CAPMAS 2014) (Table 1).

Unlike Europe and North America, a recent census in Egypt demonstrates that Egypt’s demographic population is one that is skewed towards a younger age (Ministry of Health and People 2013). Table 2, for example, highlights that 63.2 % of the population is under the age of 30, with 22.6 % of the population between 15 and 25 years of age. This demonstrates the strong impact on human resources development at a younger age and its impact on Egypt’s workforce and population as a whole. As is the case with other countries, there is an evident increase in the life span of Egyptians, thus, together with the need to cope with international evolvments, emphasizing the need for continuing education and lifelong learning practices (Table 2).

From an economic standpoint, agriculture has been the dominating economic activity until the mid-twentieth century. However, as of today, agriculture involves no more than 11 % of the human workforce. An almost equal share of the population ranging from 9 % to 11 % is involved in each of the following: commerce, tourism, construction, and education sectors. It is worth noting that while the official workforce is estimated to be in the range of 25 million, an equal share of population is involved in informal economic activities, the majority of whom are illiterate or have not completed basic education. Such a large informal



Fig. 1 Map of Africa (Source: World Atlas, <http://www.worldatlas.com/webimage/countrys/africa/eg.htm>)

sector mandates that changes in society have to include the educational system but also extend to the society and the business community at large.

Education Landscape in Egypt

Perhaps, the most negative aspect of the educational scene in Egypt is the high illiteracy rate, estimated to be around 28 % of the total population (Egyptian Authority for Literacy 2014). Most of this percentage is comprised of females due to complex factors and inherited practices. More severely, a good percentage of those who have received basic education possess questionable reading and writing skills (R & W) or become “dropouts” that lead to them later categorized as “virtually” illiterate which is a regional phenomenon (UNECEF-MENA 2015).



Fig. 2 Map of Egypt (Source: Lonely planet <http://www.lonelyplanet.com/maps/africa/egypt/>)

These were key reasons for the low ranking of the Egyptian education system in the Global Competitiveness Report (The Global Competitiveness Report 2014). Nevertheless, Egypt has been for many decades a major cultural and educational hub in the Middle East and Africa and has been the pioneering nation in higher education on various fronts. Students from the region have received their education in Egyptian schools and universities. Also, Egyptian teachers and professors have been serving for decades to initiate, administer, and teach in schools and universities particularly in the Arabian Peninsula and the Gulf area.

One of the fundamental constitutional rights is free tuition education at all stages. In that sense, about 82 % of Egyptians receive their education with almost no tuition fees except for minimal taxes and service fees (The National Project for Education 2014). Yet, joining schools, institutes, universities, and specialized education is determined on a competitive grade basis. As this puts a strain on funding that is primarily provided by the state, it has a strong impact on the academic integrity behavior, attitudes, and policies implemented. The remaining 18 % of the students are enrolled in private schools or universities either to attain a presumably higher quality of education than public institutions or to join a major of choice after not fulfilling preset admission criteria for the public educational system (The National Project for Education 2014). A mushrooming phenomenon in the midst of this picture is a private tutoring that renders the schools as the secondary providers of education and replaces the classroom learning by home tutoring that

Table 1 Population estimates by gender and governorate (2013) (CAPMAS 2014)

Governorate	Male	Female	Total	(Overall percentage)
Cairo	3,620,149	3,506,494	7,126,643	9.2
Alexandria	2,227,108	2,133,187	4,360,295	5.6
Port Said	307,478	296,309	603,787	0.8
Suez	279,838	269,499	549,337	0.7
Helwan	939,223	887,924	1,827,147	2.4
6th of October	1,449,894	1,329,330	2,779,225	3.6
Damietta	603,842	577,089	1,180,931	1.5
Dakahlia	2,710,162	2,626,488	5,336,650	6.9
Sharkia	2,939,679	2,791,459	5,731,138	7.4
Kalyobia	2,336,663	2,205,367	4,542,030	5.8
Kafr El-Sheikh	1,415,213	1,385,061	2,800,274	3.6
Gharbia	2,159,777	2,099,601	4,259,378	5.5
Menoufia	1,799,686	1,693,133	3,492,819	4.5
Behera	2,597,508	2,469,069	5,066,577	6.5
Ismailia	522,987	504,835	1,027,822	1.3
Giza	1,694,479	1,627,326	3,321,805	4.3
Beni Suef	1,255,593	1,211,342	2,466,935	3.2
Fayoum	1,404,790	1,312,891	2,717,681	3.5
Menia	2,282,675	2,188,731	4,471,406	5.8
Asyout	1,887,990	1,809,739	3,697,729	4.8
Suhag	2,027,062	1,978,482	4,005,544	5.2
Qena	1,613,618	1,595,250	3,208,868	4.1
Aswan	632,409	623,846	1,256,255	1.6
Luxor	247,380	236,715	484,095	0.6
Red Sea	186,294	120,385	306,679	0.4
El-Wadi El-Gedid	102,564	97,037	199,601	0.3
Matrouh	184,642	167,589	352,231	0.5
North Sinai	194,145	179,607	373,752	0.5
South Sinai	103,338	21,589	154,927	0.2
Total	39,726, 187	37, 975, 374	87, 01561	100

Source: CAPMAS (2014)

consumes a large percentage of the income of Egyptian families (The National Project for Education 2014).

With about 10 % of the population working as teachers, instructors, and administrators, education stands out as a major employment sector (CAPMAS 2014). This should not be perceived as a reflection of high-quality education. The distribution of students within the educational matrix is highlighted in Table 3 (Metwally 2013; Ministry of Health and People 2013). In this table, it can be noticed that while there is a relatively reasonable level of enrolment in the early stages of the educational ladder, these numbers decrease when moving towards secondary schooling and higher education. This is clearly the result of a significant dropout and in many instances leaving the school system in search of formal or informal employment (Table 3).

Table 2 Distribution of population in censuses by age group (Egyptian General Authority for Literacy 2014)

Age group (years)	1976 (%)	1986 (%)	1996 (%)	2013 (%)
Less than 5	15.8	15.3	11.6	10.6
5–15	12.8	13.2	12.9	10.5
15–25	12.4	13.6	13.3	13.6
25–35	13.9	13.6	14.6	14.8
35–45	10.4	10.9	11.6	12.8
45–55	9.3	9.7	9.4	9.8
55–65	9.3	10.1	10.9	12.8
More than 65	14.9	14.3	14.6	15.1

Source: Ministry of Health (2013)

Table 3 Students' distribution in the Egyptian education system (Metwally 2013; Ministry of Health and People 2013)

Item	Number of schools/universities	Number of students
Primary schools	28, 000	9.9 million
Preparatory schools	17, 619	4.3 million
Tech. education schools	1, 984	1.3 million
Secondary schooling	2, 994	1.5 million
Higher education	22 public + 21 private universities	2.1 million

Source: Ministry of Education Statistics

Recent political developments which started in 2011 resulted in a slowdown of the economy and a substantial increase in unemployment. Most recent statistics by CAPMAS indicate that the highest rates of unemployment are, surprisingly, neither for the illiterate nor for the “only read and write” or in the below-average education segments (Fig. 3). Rather, unemployment is concentrated in the graduates or recipients of medium and high levels of education. Part of the reason is due to the lower quality of education as well as the fact that the Egyptian education system is still operating more as supply driven rather than as demand driven. This has created a gap between the educational deliverables and the “*world of work*.” Nevertheless, recipients of college degrees (white collar) have a superior social image than the medium education working force (blue collar). With that, many young men and women opt to join the higher education path regardless of their potential job opportunities (Fig. 3).

On the whole, there are numerous educational challenges facing the Egyptian educational system including the following (United Nations [UN] 2010):

1. The system, on the whole, has been operating for many decades as a supply-driven system and not as demand-driven system, thereby creating a gap in the job market.
2. There is an overwhelming lack of resources and funding mechanisms to adequately support growing numbers and evolving diverse specializations.

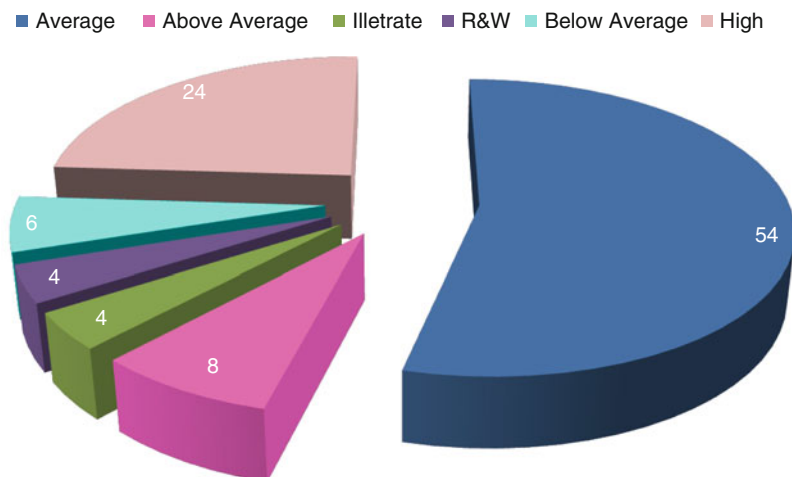


Fig. 3 Unemployment in Egypt categorized by level of education (CAPMAS 2014)

3. There is inadequate coordination amongst major players within the education system, thus creating duplication of efforts, skill gaps, and unclear strategic directions.
4. The system as a whole is mainly state-run, and the role of the private sector, business owners, and potential employers remains insufficient to create the needed paradigm shift throughout the system.
5. The system remains void of comprehensive monitoring and evaluation in which clear assessment and corrective measures are instilled with feedback received towards improvement.
6. There is a high density of pupils/students per classroom which reduces the effectiveness of the educational process, both in teaching and learning.
7. A national framework for skill standards and qualifications is missing which can tie the system together and allow rational migration and continuation throughout various education and qualification paths.
8. Methods of learning and teaching are, on the whole, following old/conventional practices. In that sense, information technology, cross-discipline, and distance learning are modestly practiced.
9. Particularly within the schooling system, it is believed that much of the learning is based on rote memorization and not through in-depth understanding. This is nourished by a style of examinations that calls for listing information, coupled with standard problem-solving techniques, thereby limiting innovation and creativity.
10. Private education entities still represent a small fraction of the education providers. On a higher education level, the private establishments have little impact on the overall education outcome.

11. Last, but not least, the aforementioned factors have led to a mushrooming phenomenon of private tutoring resulting in high rates of school absences and defying the free tuition concept in practice. This phenomenon represents a true financial burden on Egyptian households.

Academic Integrity in Egypt

This section highlights the violations and challenges with respect to academic integrity in the educational matrix in Egypt as well as key actions taken to foster healthy practices and attitudes. This will be presented within the schooling domain and the higher education domain.

- (a) **Academic integrity within the schooling domain:** Academic integrity has for decades been recognized as a major issue in the schooling system (Shoura Parliament Council Report 2008). Egypt has about 50,000 schools spread throughout its 27 governorates/provinces (CAPMAS 2014). Violations are occurring due to a variety of reasons including high competitiveness for grades in order to join a selected school or major as well as getting high enough grades to secure a place in colleges and universities. The key violations can be summarized as follows:

- Cheating: whether from papers, cell phones, signs, signals, or through assistance of classmates and, in some cases, teachers.
- Leakage of examinations beforehand through dishonest actions of a few administrators and teachers, thus assisting in granting unfair advantage to some students. This is also linked to other forms of favoritism offered due to family status or when students are recipients of private lessons from class instructors.
- Misconceptions with respect to collegiality and friendship amongst students that obligate, in their view, assisting one another by providing information or solving assignment problems or passing information during examinations. This is often witnessed, if not encouraged, by parents.
- Perhaps the severest of all is the phenomenon of “collective cheating” that takes place particularly in rural areas. With that, an individual provides the entire body of students with what is believed to be a “model” answer, thus, granting them an edge over other students of other areas or other schools.

Acknowledging the complexity of the issue, the following have been suggested by a variety of committees and state representatives as key remedial actions:

- The most urgent action required is to address the root causes of violations, the priority being inadequate quality of education, and the lack of coordination between the various providers and job market.
- Awareness of the importance of academic integrity needs substantial efforts from all stakeholders. A weak link has been identified in parents who exercise pressure on their children to obtain good grades regardless of the means or behavior.

- There is clearly a need for providing an environment that is less inviting for cheating through modernization of curricula, orientation of both students and teachers, enhancing teaching methods, and applying assessment of learning outcomes. Adopting examinations that rely on sound understanding and not solely on provision of facts and information is indispensable.
- (b) **Academic integrity within higher education:** Egypt has about 22 public universities and about a similar number of private ones. Yet, the public institutions comprise more than 85 % of the total enrolled students in the country (The National Project for Education 2014). Similar to the schooling domain, violations of academic integrity concepts, attitudes, and practices are identified as major areas of concern in the higher education system. Such violations can also be looked upon as a continuation of malpractices and lack of awareness of academic integrity in the schooling system. Yet, one distinct difference is that the two dominating forms of violations within the higher education domain are plagiarism and multiple submissions. It is also believed that the lack of societal support and awareness has a strong impact on negative integrity practices (Metwally 2013).

To better understand the nature and extent of academic integrity issues in higher education, the author is presenting but a sample of a compiled set of data from one major higher educational institution in Egypt. This data is believed to serve as a qualitative representative of characteristics with respect to academic integrity in higher education. As for the frequency of cheating data shown in Fig. 4, when comparing this sample data against the depository of similar data acquired from hundreds of higher educational institutions in the USA, cheating can be reported as more frequently occurring in Egypt. The relatively large cheating percentage highlights a more acute and prevailing violation phenomenon which is in turn a reflection of societal and cultural issues not only in one institution but across the educational scene (Author's surveys at AUC 2003–2008) (Fig. 4).

When addressing various student cohorts in multiple surveys conducted from 2003 to 2009 at a private institution as well as several widely attended discussions conducted within the Parliament Education Committee, the following key reasons for the lack of abiding of academic integrity principles were given:

- Time pressure and overload of work;
- Pressure of parents to obtain high grades;
- The quest for a good grade in order to meet expectations and to be accepted into the major of choice or to graduate as distinguished;
- The relatively high stress of exams;
- The prevailing cheating and plagiarism patterns that can put honest students at a disadvantage;
- Instructors not explaining course materials well enough; and
- Forgetting answers and thus referring to a colleague for assistance.

As recognized by the International Center for Academic Integrity (ICAI), remedial actions to combat academic violations and foster academic integrity are

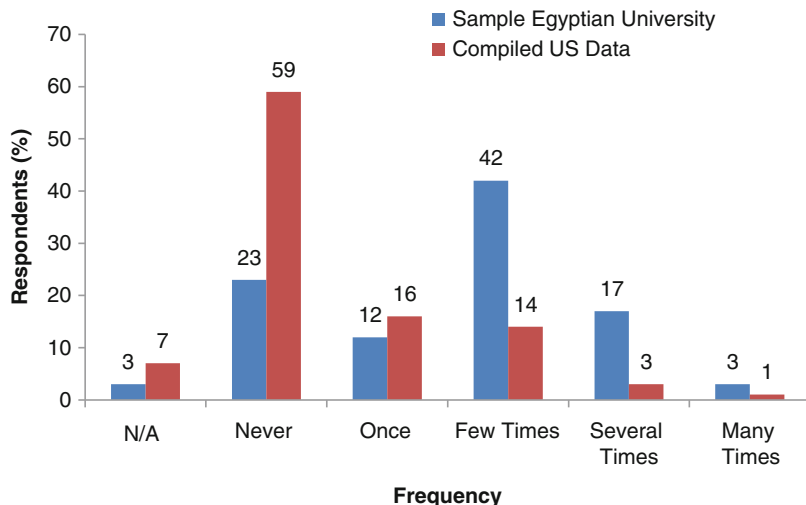


Fig. 4 Frequency of cheating in a sample university in Egypt (The Global Competitiveness Report 2014)

usually threefold: awareness measures, prevention measures, and penalization measures. The accumulated survey data shown in Fig. 5 demonstrates that there is a similarity in the perceptions regarding the severity, effectiveness, and support of academic integrity policies in the samples taken from Egypt when compared to US institutions. This pinpoints that the weakest link in upholding academic integrity in Egypt, both at the schooling level as well as at the level of higher education, is the awareness and promotion of ethical practices. This requires sincere cooperation and coordination amongst all stakeholders including parents and employers (Fig. 5).

It is worth noting that the remedial actions can be effective in Egypt only through a political and societal will to change and improve. The large illiteracy rate and the gap between the world of work and educational providers call for a meaningful involvement of society at large to combat integrity violations and to link such behavior to corresponding professional and societal malpractices.

Summary

The concerns with respect to academic integrity in Egypt are ones that are similar to those encountered elsewhere worldwide. The relatively low income and the competition towards finding adequate places in schools and universities add to the acuity of malpractices, and as such, violations are more commonly occurring than, for instance, in the western hemisphere. Surveys, literature, and accumulated experience all suggest that parents are exercising more pressure on their children, thereby encouraging cheating and plagiarism in particular. The negative impact on

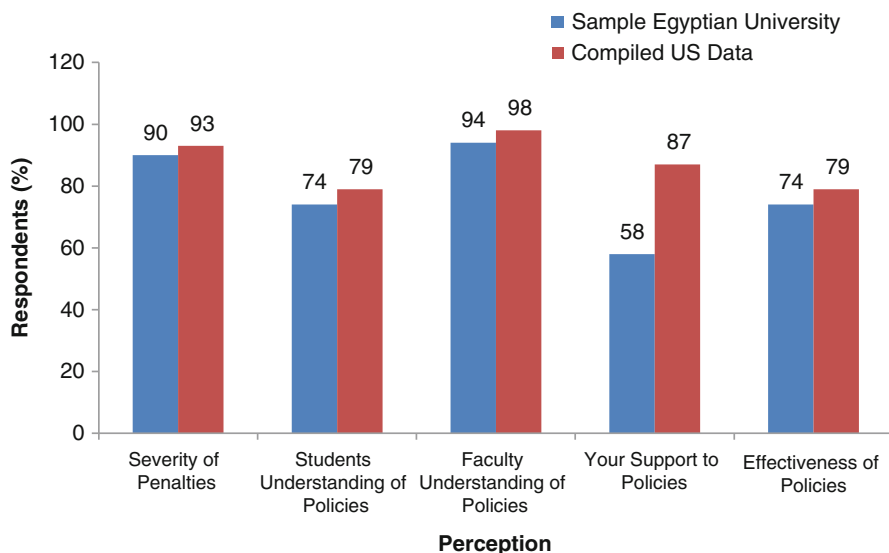


Fig. 5 Perceptions on penalization measures (The Global Competitiveness Report 2014)

friendships and collegiality places another burden on those who refrain from engaging in integrity violations. By and large, community awareness about academic integrity importance and the need to endorse ethical practices are areas that deserve further efforts from all educational providers and the community.

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Abstract

Integrity or honesty is crucial to the pursuit of academic knowledge in learning institutions such as those in the Nigerian educational system. In recent times, this system has been replete with reported and unreported cases of academic integrity breaches, making the goal of achieving academic integrity a major challenge. This could be, in part, as a result of various perspectives of what constitutes academic integrity in the Nigerian context. A number of factors have been identified as being responsible for this variation, including the education system, pedagogy, sociocultural environment, economic environment, infrastructure,

S.-M. Orim (✉)

Lecturer in Information Systems, Department of Information Systems, Faculty of Engineering and Computing, Coventry University, Coventry, UK

e-mail: S.Orim@coventry.ac.uk

technology, institutional policies, and management systems. This chapter provides a synopsis of the different perspectives of academic integrity in Nigeria. It then examines the present academic climate, policies and practices, and their impact on academic integrity-related issues. It also provides an overview of the development of research and practice in the field of academic integrity in Nigeria, highlighting the unique issues relating to academic integrity. It concludes by presenting an overview of the major challenges associated with academic integrity and possible ways of instituting a culture of integrity in the Nigerian academic system.

Introduction

Integrity or honesty is crucial to the pursuit of academic knowledge in learning institutions such those in the Nigerian educational system. The Nigerian educational system has been replete with reported and unreported cases of academic integrity breaches, making the goal of achieving academic integrity a major challenge. This difficulty in achieving a culture of integrity in Nigerian academic institutions could be due to the diverse views and perspectives of what constitutes academic integrity. There is a need for a unified view and holistic approach to achieving integrity in the Nigerian academic arena.

Outline of the Different Perspectives of Academic Integrity in Nigeria

In the Nigerian educational system, there are diverse views of the meaning of academic integrity and what constitutes academic integrity. These views are informed by different factors that are peculiar to the educational stakeholders. The term encompasses the honesty involved in academic conduct, from teaching, learning, and assessment to the management of the educational process. The diverse views held are as follows:

Inclusion: Most of the time, when academic integrity is perceived in the Nigerian educational system, it is viewed based on the parties included in the required honest practices. It is usually held in relation to students and their academic conduct, with less emphasis on teachers, lecturers, or other staff members' integrity. This view is widely held in all the sectors of learning: primary, secondary, and higher institution.

Academic performance: Some view academic integrity in connection with assessment and particularly as a form of dishonesty in examinations (cheating, collusion, impersonation, bribery, etc.). This view is incomplete as it focuses only on the students and also predominantly on assessment and a particular form of assessment.

Behavioral: There is the perspective of academic integrity as a form of transparency and self-discipline in any academic activity which is required of all stakeholders (students, teachers, and administrators). This view of transparency and self-discipline was presented by Olasehinde-Williams (2005). However, this view is not widely held in some of the Nigerian educational sectors, such as the primary education sector.

The prevalent behavioral forms of academic misconduct in Nigerian universities were identified (Olajuwon 2008) in relation to examinations, for example, insulting/assaulting examination officials, irregular activities inside and outside the examination hall, smuggling in answers, contracting someone else to sit the exam (“paying someone to sit in”), refusing to submit the answer script at the end of the examination, impersonation, networking, dubbing (“copying another’s written exam paper”), taking in microchips (“taking in notes/scribbles”), leaking examinations, mass cheating, collusion, taking in a hi-tech microcomputer, “super print,” “bullets” or “missiles” (taking in notes/scribbles), and exposure (having access to the questions ahead of the examination).

Climatic: This refers to the accepted way things are done in the Nigerian educational sector. There appears to be some discussion around integrity in relation to examinations but not in relation to other aspects of academic misconduct. This has presented the accepted way of doing things in the Nigerian educational systems which may not be entirely appropriate.

Psychological perspectives of morality and motivation: In primary schools, views on academic integrity are more often related to cheating in examinations and tests. In secondary schools the views are similar with few exceptions in relation to collusion in examination. In higher educational institutions, the emphasis is more on examination-related misconduct and rarely on overall academic misconduct. Furthermore, there is a morality angle attached to academic integrity-related issues. This presupposes that the students and teachers/lecturers know what is right from wrong in the academic community. However, this view is not ideal; Nigerian staff and students need consistent information and education about what constitutes academic integrity (Vardi 2012).

Punitive: There appears to be a shared perspective in some institutions that any aspect of academic misconduct that is observed should be punished. Also, there appears to be less consensus on the need to understand the cause of such misconduct.

Possible Reasons for Differing Views of Academic Integrity in Nigeria

A number of factors have been identified as being responsible for this variation in the view of what constitutes academic integrity. These factors include the education system, pedagogy, predominant student learning style, and predominant assessment style. These are explained as follows:

Education System and Pedagogy

The education system and pedagogy is effectively the teaching, learning, and assessment styles predominant in Nigeria. The teaching style is mostly of the traditional type where the teacher (in primary and secondary schools) and the lecturer (in higher education institutions) are perceived to be epitomes of knowledge.

There are basically five teaching styles which are identified and described by Grasha (1996): the expert (seen as having knowledge and expertise and expected to transmit information to students), formal authority (concerned with the provision of feedback, setting learning goals, and acceptable rules of conduct), personal model (focus on teaching by personal example, overseeing, guiding, and directing students), facilitator (concerned with guiding, supporting, and encouraging students to develop themselves), and the delegator (who focuses on the students' ability to work independently but provides assistance when required). Others include the motivator (who introduces the subject, provides the overview and meaning, and generates enthusiasm in the students), coach (who provides opportunities for students to apply the material, develop problem-solving patterns), and evaluator (who provides opportunities for self-discovery and for students to share discoveries and evaluate performance).

Since the predominant teaching styles in the primary and secondary schools in Nigeria are that of teachers seen as formal authority and experts, the students are given to copying what the teachers says and using the teachers' words and ideas in their assessments. Hence, their perception of academic integrity does not consider their heavy dependence on the teacher's lecture notes as a form of misconduct. In most of the higher institutions, however, it differs slightly as there are also situations such as the student project, where the lecturer is seen as a facilitator.

Predominant Student Learning Style

Fleming and Bauma (2006) identified four basic learning styles from a survey they conducted in order to evaluate the way people prefer to take in and give out information. These were visual (viewing images, models, etc.), auditory (learning through discussions, seminars, lectures, debates, conversations, etc.), reading/writing (prefer learning through textbooks, taking notes, manuals, Web pages, readings, and printed handouts), and kinesthetic (learning by engaging in an activity, preferring examples, field trips, role play, hands-on approaches, trial and error, solutions to problem, using their senses, etc.). Unlike the view of Fleming and Bauma (2006), Grasha (1996) suggested that there are six types of learning style. These are the competitive students (who learn material in order to perform better than others), collaborative students (who feel that they can learn by sharing ideas and talents), avoidant students (who prefer not to be seen and who like large group situations where they can remain anonymous), participant students (who enjoy participating in class as much as they can), dependent

students (who show little intellectual curiosity and learn only what is required), and the independent students (who are confident in their learning abilities and like to work alone).

In cases where the students are given to the reading/writing approach to learning, they are more conversant with the misconduct that relates to those forms of learning. Predominantly dependent students will learn just the basics and will tend to rely on sources as the usual way to respond to assessments. As the students engage with different learning styles without appropriate guidance, they will assume that their learning style is acceptable – even if it is not applied with integrity. Hence, it is common practice to find a set of students in the Nigerian educational system collaborating on a piece of individual assessment without understanding the academic implications.

Predominant Assessment Style

In the Nigerian educational system, the predominant form of assessment throughout all levels is summative. As such, the students do not attach any view of misconduct to the formative type of assessment in the rare cases where they exist. Also, their view about academic integrity and the summative types of assessment is limited to cheating in examinations. So students can be found “helping each other” (cheating) in the examination and in-class tests as they believe that they are rendering assistance to each other. In many cases, examination invigilators are insufficient in number or collude with the students, making it difficult for some students to have a clear understanding of what constitutes academic misconduct.

Formative assessments are those where students are assessed but the score does not contribute to the final mark they receive for the subject. Rather, detailed feedback is given which contributes to the students’ learning. The summative assessment on the other hand is used for demonstrating the extent of a learner’s success in meeting the learning outcomes listed in the assessment criteria for the subject. Some examples of formative assessments are peer evaluation, in-class worksheets, pop quizzes, presentations, journals, and diagnostic tests. In Nigerian educational institutions, there are cases where the teacher or lecturer uses pop quizzes, but mainly as a form of summative assessment. On the other hand, some types of summative assessments which could be used in Nigerian educational institutions are controlled examination, open book examination, essay or report, term paper, critical analysis, portfolio, dissertation, oral presentation, skill performance, and attendance. Such a wide variety of assessment types is rarely used in most Nigerian universities. As a result, the predominant use of one form of assessment over the other possible forms of assessments has caused the students to think of integrity in relation to those forms of assessment such as “examination” rather than any other form of assessment. Hence, they may overlook the requirement for integrity in forms of assessment which are rarely used such as essay writing or term papers and may collaborate with other students when it is not permitted.

Other Possible Reasons for the Perception of Academic Integrity

There are other factors which could impact Nigerians' views of academic integrity, including the economic and sociocultural environment, technological infrastructure, institutional policies, management systems, and staff immunity. These include:

Economic and sociocultural environment: The environment is driven by the desire for financial success due to the need to be able to “make-it-in-life” (be successful in life). The environment is basically result driven and motivated by a “good certificate”, without much consideration of how the result was achieved or the skills and knowledge that have been acquired. This view is corroborated by a number of authors (Animasahun 2011; Famoriyo 2007; Fadele 2007; Oyebamiji 2011) who believe that students, parents, teachers, schools, and the Nigerian society compound the problem of academic misconduct with this type of perception.

Technological infrastructure: The available infrastructure caters for examination as the major assessment type. In quite a number of the Nigerian Institutions, the insufficient exposure to information and communication technologies in teaching and learning and the related forms of assessment has limited the students' view of what constitutes integrity in the academic arena. There are insufficient and ineffective policies and management systems in a number of Nigerian institutions of learning. The focus of the existing policies is basically on examination malpractice. This has led to a situation where the students are more aware of the ills of examination malpractice (cheating) as opposed to academic integrity as a whole.

Staff immunity: In most Nigerian institutions of learning, the focus of academic integrity is in relation to the students and rarely in relation to the teachers and lecturers. This is not appropriate as there are issues in relation to teachers' or lecturers' involvement in dishonest academic practices. Some of these are in relation to bribery and corruption, sexual harassment of students, and continuous assessment malpractices (Animasahun 2014).

Present Situation and Its Impact on Academic Integrity-Related Issues

Presently, among the stakeholders of most of the Nigerian institutions of learning, there is a lack of awareness of the constituents of academic integrity. It is surprising though that this is not only among the student group but also among some of the schoolteachers and lecturers. However, a few of the lecturers and management staff that have this awareness believe that students should be aware of academic integrity and all its constituents without being informed actively. This relates to the academic climate prevailing in these educational institutions. Although cheating is viewed as a form of academic misconduct, some researchers (Olasehinde-Williams 2006)

argue that the climate of academic integrity may be the most important factor affecting the incidence of student cheating.

The data from a study of Nigerian students (Orim et al. 2013) suggested that students were more likely to get involved with academic dishonesty particularly when it is unrelated to examination cheating. This disposition was mostly due to their lack of awareness that a number of these acts constitute academic dishonesty (such as collusion, plagiarism, impersonation, etc.). Also, there was the perception that they will not get caught since the institutional authorities appear to focus more on examination-related issues. Moreover, most primary and secondary institutions do not have adequate tools or the frameworks for detecting some of these other types of academic misconduct (e.g., plagiarism) among their students or staff. This is as opposed to some universities, who recently acquired licenses for the use of Turnitin text-matching software. Due to the lack of adequate tools, their academic climate and culture appear to be lenient towards non-examination academic misconduct, as expressed by Olasehinde-Williams (2006). With students and teachers holding these kinds of views, it is not a surprise that the environment will be mostly conducive to and encourage academic misconduct activities.

This gives rise to the question of the policies in place to check the occurrence of academic dishonesty in staff and students. Regardless of the emphasis on high quality in education by the National Policy on Education (FGN 2004), it appears that academic misconduct has not been properly addressed, particularly with respect to those which are unrelated to examination. There have been reports of persistent occurrences of academic misconduct in Nigerian universities, which is a major concern to Nigerian educationists (Aluede et al. 2006). Some researchers (Adeniyi and Taiwo 2011; Aluede et al. 2006, 2012) have written about academic misconduct in Nigerian universities, but there is less emphasis on issues which are unrelated to examinations. It is also noteworthy that there are a number of inconsistencies in the views of some lecturers about where the responsibility lies for the monitoring, review, and revision of their universities' institutional policies. This presents the need for institutions to keep the lecturers informed and promote a consistent approach to the mitigation of academic misconduct or reorientation of the stakeholders.

Development of Research and Practice in the Field of Academic Integrity in Nigeria

Although there has been little research carried out in Nigeria on academic integrity, much of the existing literature is in relation to students and not to staff. Also, most of the research is not strictly empirical in nature but based on perceptions of occurrences of various types of academic integrity issues. It appears that there are several areas where integrity is lacking in the Nigerian educational system; there is a need for further in-depth research in relation to academic dishonesty. Even when researchers have investigated the issue of examination malpractice, they have failed to empirically examine the occurrences of the different forms. They have not

considered the causes of such identified malpractice such as using unauthorized notes in a test, copying from another student with or without his or her knowledge, using unfair means to determine in advance what will be in a test or examination, helping someone else to cheat in a test or examination, sitting for an examination for someone else or getting someone to sit for an examination for you, and giving a false excuse for missing an examination or a deadline. Consequently, some researchers (Emiloju and Adeyolu 2012) have gone ahead to examine the ethical issues in relation to the challenges of maintaining integrity of public examinations in Nigeria, while Añulika et al. (2014) have designed and proposed a test and examination result processing system for public secondary schools in Nigeria that can be used for student record keeping and data processing in both public and private secondary schools. These researchers, like many others, have not focused on academic integrity as a whole but on examination as the predominant form of academic dishonesty.

Regarding dishonesty in written papers such as term papers (coursework), essays, and dissertations, little work has been done by researchers, possibly because this form of assessment is not greatly explored in most aspects of the Nigerian educational system due to large class sizes or high ratios of students to lecturer (100:1) as observed by Udotong (Obinna 2012). Some researchers (Adeniyi and Taiwo 2011; Aluede et al. 2006) have barely mentioned them as existing forms of academic dishonesty in the Nigerian education system, while others have focused on plagiarism (Babalola 2012; Orim et al. 2013). In their research, these authors have explored themes such as copying from sources (including the Internet) without citations, fabricating or falsifying a bibliography, falsifying quotations, listing real sources which were not read in a bibliography, using a submission for more than one subject without approval, copying from sources and presenting it as one's own, and submitting someone else's work as one's own. However, there are so many other forms which have not been investigated yet, including collaborating on an assignment which should be carried out individually; receiving significant, unauthorized help on an assignment; allowing someone to copy your work; falsifying laboratory data; writing a laboratory report without doing the experiment; not doing one's fair share of a group assignment; removing items from a reserved reading file so that others cannot use them; signing an attendance sheet and not attending the class; and signing an attendance sheet for an absent student.

Major Challenges Associated with Academic Integrity in Nigerian Institutions of Learning

There is little research on academic integrity in primary and secondary schools although there are several investigations into examination malpractice. There should be a strong emphasis on academic integrity at these early stages, so that students are aware of what to expect in higher learning. The students' attitude towards examination invigilation is not as it should be; in some primary and

secondary schools, the teachers assist some students, giving those students an unfair advantage over the others.

Animasahun (2014), in his study on academic integrity in Nigerian secondary schools, focused on examination malpractices and suggested that attitudinal reorientation is a possible solution. He, along with a number of other authors (Fadele 2007; Famoriyo 2007; Animasahun 2011; Oyebamiji 2011), identified institutional stakeholders as being responsible for examination misconduct. These stakeholders include the students, parents, teachers, school, government, law enforcement agencies, society, and religious agencies. They (Animasahun 2011, 2014; Oyebamiji 2011; Fadele 2007; Famoriyo 2007) claim that students are academically incompetent, lazy, with poor study habits, with poor time management skills, truant, suffering from peer group influence, not ready to learn, influenced by alcohol and drugs, overambitious in desiring good grades, and desiring to succeed at all cost. Although these identified situations were in relation to students' examinations, the situations also affect the students' overall academic integrity competence. The authors' (Animasahun 2011, 2014; Oyebamiji 2011; Fadele 2007; Famoriyo 2007) claims can be seen in several cases at virtually all levels of learning (primary, secondary, and postsecondary) with some few exceptions.

However, the authors (Animasahun 2011, 2014; Oyebamiji 2011; Fadele 2007; Famoriyo 2007) claim that the reasons for the examination malpractices are not only due to the students but also due to the parents. They explain that the parents lack parenting skills – they lack time and genuine love for children. They also said that they overindulge their children; abuse their children; and misuse their power, wealth, and opportunities. They stated that the parents have misplaced priorities, mounting undue pressure on children to pursue courses which they are not suited for. In situations where these claims are true, the pressure on such students could lead to academic misconduct. Factors identified in relation to the teachers as stakeholders in academic misconduct included lack of interest in the teaching profession, incompetence, intellectual laziness, bribery and corruption, teachers seeking favor from students and parents, sexual promiscuity, and continuous assessment malpractices by teachers and school counselors. In relation to the school more broadly, the factors identified were irregularities in admission, admission of unqualified candidates, illegal registration of candidates for the senior secondary school certificate examinations, lack of/underutilization of guidance counselors, incomplete syllabus, poor invigilation, and students forced to share insufficient examination materials.

The factors identified by Animasahun (2011, 2014), Oyebamiji (2011), Fadele (2007) and Famoriyo (2007) in relation to how the government's support has an effect on institutions' management included poor funding and monitoring of schools, overcrowding of classrooms, indiscreet setup of private schools, poor admission policies, automatic promotion, and subjective and politically motivated recruitment of teachers. There were also identified issues with teacher incentives, textbooks inadequacy, inadequate libraries, ill-equipped laboratories, and poor-quality teaching materials. They equally cited as a problem the lack of

professionally trained guidance counselors in schools and overemphasis on paper qualification. In addition, they mentioned law enforcement agents as being contributors to the problem due to bribery and corruption, running errands for other perpetrators, and serving as shields for the perpetrators. The society in general was mentioned as one of the contributing factors due to the authors' (Animasahun 2011, 2014; Oyebamiji 2011; Fadele 2007; Famoriyo 2007) views of deterioration of the value systems and carefree attitude towards patriotism which was observed in a number of Nigerian institutions. They (Animasahun 2011, 2014; Oyebamiji 2011; Fadele 2007, and Famoriyo 2007) linked the occurrence to religious factors, stating that morality and religious teachings are no longer effective and that there are political influences on religious leaders.

These authors (Animasahun 2011, 2014; Oyebamiji 2011; Fadele 2007, and Famoriyo 2007) focused on examination malpractices, listing factors which they felt were impacting on its occurrence, and most of these factors also influence the occurrence of academic misconduct in the Nigerian educational system more broadly. It is observed that in most Nigerian institutions, the responsibility for the prevention of academic dishonesty rests on the teachers or lecturers and does not fully assume a consistent or comprehensive approach. There is little research into reasons why students engage in dishonest activities, but there have been some investigations into how to reduce the cases of student dishonesty as stated by Olasehinde-Williams (2006).

Another challenge is that the in-depth knowledge about academic integrity is low across most of the learning sectors (primary, secondary, and higher institutions) primarily because institutional authorities give it a low priority. Academic research is carried out in some of the Nigerian institutions with the use of outdated tools which are characteristically imprecise, making validity and reliability of the results and conclusions from these questionable as a meaningful contribution to knowledge.

Possible Ways of Instituting a Culture of Integrity in the Nigerian Academic System

The most likely way of instituting a culture of academic integrity would be to create awareness of what academic integrity is and what it constitutes, create enabling structures, and establish skills support initiatives across all levels of learning. The creation of enabling structures involves establishing key institutional guidelines which clarify what academic integrity entails and what it comprises, ensuring there are accessible institutional policies, and establishing defined and consistent response procedures and parameters. This clarity is important as the teachers, lecturers, and students may not have a complete view of what academic integrity entails. Furthermore, the curriculum and teaching, learning, and assessment styles need to be modified to be more focused on students' learning outcomes, with various creative assessments to ensure deep learning has occurred. This would include the use of detailed formative feedback practice. Although this is difficult

to achieve, there could still be positive changes as a result of the reorientation of the staff. There is a need to focus on the admission policies at all levels of learning in Nigerian study institutions. The policy and its use should focus on the admission of competent students, teachers, and lecturers.

Skills support initiatives would help cultivate an ethical view and culture of academic integrity in Nigerian universities. This is important as a number of primary, secondary, and university institution stakeholders do not seem to consider the whole constituent of academic integrity of much concern. It would be desirable to introduce academic integrity courses at every year of the students' study, as well as teaching, training, and monitoring students' use of the skills, to help establish their understanding of the concept. This would also involve the encouragement of electronic submissions and use of several methods of assessments. Also, in establishing these support skills, orientation sessions could be instituted for new students and staff which would foster the awareness of academic integrity, academic requirements, and institutional responses to academic misconduct cases. There would be the need to monitor students' work and conduct reviews to check if they are acquiring and transferring the relevant skills across subjects. Whenever academic misconduct arises, these should be dealt with consistently in line with the institutional policies with a focus on educating the students. All students involved in such cases of misconduct should receive guidance and support on appropriate academic practice, and following proper investigation, penalties can then be utilized as appropriate (as per the institutional policies). The consistent handling of penalties and the acquisition of transferable skills are important to the context of Nigerian learning institutions. The institutional policies would need to be assessed periodically to check whether their procedures and guidelines are working effectively and to benchmark them against other institutions (primary, secondary, and postsecondary) in developed countries.

In reviewing the policies, there is a need to ensure that they are accessible, detailed, and clear to all academic stakeholders. All these will involve the tasks listed below:

Review of the General Understanding

- Focusing on attitudinal reorientation as suggested by Animasahun (2014);
- Creating awareness of the need for academic integrity at all levels of learning (primary, secondary, and higher institutions);
- Creating a general understanding of what academic integrity is, and what it constitutes, among all (primary, secondary, and postsecondary) learning institutions in Nigeria.

Review of the Institutional Policies and Framework

- Evaluating the academic institutional policies and frameworks;
- Benchmarking against policies and frameworks for other academic institutions in developed countries;
- Reviewing policies to focus on responses and support for the staff, students, and other academic community stakeholders;

- Ensuring that the institutional policies are updated to focus on academic integrity as a whole; and
- Ensuring that all staff, students, and other academic community members are aware of the regulations governing academic integrity in the learning institutions.

Adopt a Student-Focused Teaching Approach

- Facilitating students' self-awareness of their learning styles with a focus on how to apply this understanding to improving learning and
- Teaching students how to study and engage with the content and present their work for assessments.

Focus on Reorientation of the Staff and Students

- Teaching staff and students about ethical values of self-worth, values of education, integrity, the principle of hard work, and academic responsibility;
- Providing a favorable academic environment for the attainment of academic goals without compromises;
- Rewarding, promoting, and motivating good academic integrity practices among the staff and students of the academic communities; and
- Adopting high standards of integrity in the conduct of staff activities.

Revise the Teaching and Learning Quality Approaches

- Ensuring that the admission policies into all levels of academic endeavor are competitive and transparent;
- Monitoring institutions for standards and quality and ensuring that the staff from these regulatory bodies are not taking bribes; and
- Reviewing the institutional curriculum to allow for the development of innate potential.

Adopt Measures to Enhance the Assessment System

- Refraining from re-using the same course assessment repeatedly;
- Adopting an electronic examination system that minimizes the existing academic misconduct challenges and lapses, as suggested by Adebayo and Abdulhamid (2014); and
- Protecting the examination questions sent to such electronic examination centers via the Internet or intranet, by encrypting the data and using biometric fingerprint authentication to screen the stakeholders (Adebayo and Abdulhamid 2014).

Invest in Adequate Tools for Learning and Similarity Detection

- Updating teaching materials to reflect current practices;
- Ensuring that there are adequate and up-to-date tools for supporting students' learning (books, centers for academic integrity, adequate infrastructure);
- Ensuring that there are adequate and up-to-date tools for the detection of academic integrity misconduct in examinations, written submissions (essay type), and laboratory work;

- Careful handling of activities relating to examinations such as question paper production, invigilation, marking, and result collation and computation (Abdulkareem and Alabi 2004); and
- Adopting and implementing the use of a similarity detection software (such as Turnitin).

Summary

The prevalent type of assessment (examination) appears to be what forms the perception of academic integrity breaches in most Nigerian institutions. Also, the focus of academic integrity research conducted in Nigeria is mostly on examination. It is notable that most of the research findings are based on perceived occurrences of the identified forms of academic misconduct and not on the exploration of the situations to determine the actual forms in existence. Hence, the researchers assume there are occurrences of examination malpractice without actually observing examination situations to determine if there are instances of its occurrence.

Also, most researchers have focused on academic integrity or dishonesty in relation to students. Those which have focused on lecturers considered bribery, improper or biased grading of students' work, grade fraud, deliberate negligence towards cheating or assistance in cheating, plagiarism, data falsification, and sexual harassment of students; however, these were also about perceived occurrences and not an exploration of actual occurrences. It will be useful if further research could explore the existent forms of academic misconduct, ascertain the actual prevalent forms, and recommend feasible and realistic measures that can promote academic integrity at all levels of learning in the Nigerian education system.

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Mauricio García-Villegas, Nathalia Franco-Pérez, and
Alejandro Cortés-Arbeláez

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Abstract

This chapter aims to provide a general overview of the current state of research on the subject of academic integrity (AI) in Colombia, with general reference to Latin America. Firstly, it explains why AI is becoming an important issue in Colombia's national context and in Latin America's regional context. Secondly, it refers to studies that have been conducted on AI in Latin America, focusing on those carried out in Colombia. Thirdly, the paper describes some of the government and nongovernmental initiatives that have been implemented in Colombia

M. García-Villegas (✉)

Universidad Nacional de Colombia, Bogotá, Colombia

e-mail: mvillegas@wisc.edu; mgarciavillegas48@gmail.com

N. Franco-Pérez • A. Cortés-Arbeláez

Universidad EAFIT, Medellín, Colombia, South America

e-mail: nafranco@eafit.edu.co; alejandrocortes90@gmail.com

to promote AI. Finally, in a closing section, it presents some conclusions and attempts to explain the possible link between AI violations and the broader phenomenon of rule breaking in Colombia and Latin America.

Introduction

Violations of academic integrity (henceforth AI) appear to have become more commonplace over the past two decades in Latin America. There are no studies demonstrating that they have indeed risen in number; it just seems clear that there is a perception that these violations have become a more serious problem and that is attributable to an increase in the number of news articles published on the subject over the last decade. Nevertheless, it is highly likely that the perception that this is a growing cause for concern corresponds to a certain extent with a real exacerbation of the problem.

This perception could be associated with related phenomena such as the high levels of perceived public sector corruption in the region. The Transparency International Corruption Perceptions Index measures the perceived levels of public sector corruption around the world, “on a scale from 0 (highly corrupt) to 100 (very clean)” (Transparency International 2014, p.1). In its 2014 annual report, Transparency International showed that most Latin American countries received a score lower than 50. For example, Colombia received a score of 37, Mexico’s score was 35, and Ecuador and Brazil obtained scores of 33 and 43, respectively. There are some notable exceptions, such as Chile and Uruguay, which each received a score of 73 (Transparency International 2014). But the regional trend is a negative one. Although the high levels of perceived public sector corruption and the impression that there has been an increase in cases of AI violations in the region are likely related, it is not sufficient for establishing a correlation between both phenomena, since there is no empirical evidence sustaining such an assertion.

Regarding the presumption that an increase in cases of AI transgressions has in fact occurred, it is possible that phenomena such as greater access to information via Internet, digitization of academic output, growth in the university population in recent decades, and increased competition among students, among other things, have contributed to a rise in the number of behaviors contrary to AI (it is also likely that more effective fraud-detection mechanisms have made this conduct more visible now than it was before). In addition to these global factors, whose impact has been felt in the vast majority of countries, local or regional causes also may trigger an increase in behaviors contrary to AI. These more particular causes will be addressed at the end of this chapter.

For now, the key point to emphasize is that AI is a recent and little-studied subject in the region and in Colombia in particular. This is evidenced by the lack of a uniform expression for discussing this issue. Whereas the expression “academic integrity” has been used for several decades in the English-speaking world, in Latin America terms such as “fraud,” “cheating,” and even “nonfulfillment of academic duties” are used to refer to this subject. It bears mentioning that these different

labels carry opposite connotations, with the term “integrity” placing the emphasis on the positive and “fraud” and “cheating” highlighting the negative.

The following text is divided into three sections. The first reviews the recent literature on AI in Colombia, with some general references to the rest of Latin America. The second refers to some initiatives at the grassroots, government, and university levels aimed at promoting AI in Colombia. The final section presents some conclusions.

Literature Review

The AI issue has taken on particular importance in recent decades, as Bertram Gallant (2012) and Macfarlane et al. (2014) have shown. In Latin America, interest in the subject is more recent and has yielded less comprehensive research relative to what has been produced in the United States and Europe. Nevertheless, the news media has published articles in recent years showing that AI violations are not as exceptional or inconsequential as previously believed.

Concern over this issue has been particularly notable in Colombia, as evidenced by numerous articles in the press. The weekly magazine *Semana*, for example, has referred to the current generation as a “‘copy-paste’ generation” (Semana 2008); the newspaper *El Espectador* has described the present era as a “copy-paste paradise” (Ayala 2012); the *El Tiempo* newspaper, for its part, published a feature article several years ago about the existence of a black market for university theses. The article brought to light the case of a woman who sold these research papers for between 900,000 and 2,000,000 Colombian pesos (roughly between US\$435 and US\$967) each (Oquendo 2008). More recently, two fraud cases were uncovered in 2013 at Medellín’s two most prestigious private universities. In the first case, two employees in Universidad Pontificia Bolivariana’s Admissions and Registrar’s Office were found to have altered students’ grades in the computer system in exchange for money (Calle 2013). In the second case, 40 students at Universidad EAFIT were discovered to have fraudulently obtained their TOEIC (*Test of English for International Communication*) Certificate of Achievement, a graduation requirement (Valencia 2013).

Published cases of academic fraud are not restricted to students but also involve university faculty. In the most notorious and controversial case, a literature professor at Universidad Javeriana was accused of taking a portion of one of her students’ theses and publishing it as her own work in a Mexican literary journal. That professor, in a decision that came under heavy criticism (Holguín 2008; Mendoza 2010), was sentenced in 2008 to 24 months in prison (the offense was probationable) and ordered to pay a fine. That sentence was upheld by Colombia’s Supreme Court in 2010. In another controversial case, a political science professor at Universidad Nacional’s Medellín campus was recently accused of publishing an article by an Argentine professor as his own in a Colombian academic journal. The professor acknowledged that he had not written the article, but attributed the mistake to mishandling of the essay by others (Semana 2014).

Plagiarism cases are not restricted to the academic world. In 2013, a senator introduced a bill to reform Colombia's Penitentiary and Prison System, a pressing issue in a country beset by a prison overcrowding crisis. It was later discovered, however, that the bill was "an almost verbatim copy of a proposal that Universidad de Los Andes' Public Interest Law Group and Rapporteurship on Prisons had drafted in cooperation with the Justice Ministry" (García 2013).

AI transgressions also have garnered media attention elsewhere in Latin America. This has been evident in several academic fraud scandals involving government officials and prominent public figures. These include the discovery in El Salvador that several individuals with fake law degrees were working as prosecutors in the federal Attorney General's Office (El Universal 2001). In Ecuador, a former Central Bank director resigned after admitting he had forged his undergraduate degree in economics to meet the requirements for admission to Costa Rica's *INCAE Business School* (Kawa 2013). In a plagiarism scandal in Brazil, a 2014 presidential candidate was accused of including in her electoral platform a portion of a decree on human rights issued by former President Fernando Henrique Cardoso (Lima and Dias 2014).

In another case in Mexico, the decision to confer the Guadalajara International Book Fair prize on an author accused of writing several newspaper articles containing plagiarized material sparked a great deal of debate (Manrique 2012). The controversy was heated because the author accused of plagiarism received both support and condemnation from Mexican and foreign academics and intellectuals (Breña 2012; El País 2012).

The cases presented in the previous three paragraphs cannot be considered AI transgressions in a strict sense, since they refer to politicians, public servants, and a writer and journalist, and the term AI is normally used in reference to the conduct of students and academics (Macfarlane et al. 2014). However, the cases were included since they reflect a general atmosphere of tolerance for conduct that contravenes basic social norms, among them the rules of behavior in academic settings. This ties in with one of the chapter's theses, which states that AI violations in Colombia and Latin America can be viewed as a particular manifestation of the broader phenomenon of a rule-breaking culture (García Villegas 2009).

The coverage of these and many other AI-related cases by major media outlets indicates the growing concern over this issue in Colombia and throughout Latin America.

Although AI is a relatively new concern in Latin America, some academic studies have been carried out on this subject. The following is a brief review of these studies, with particular emphasis on Colombia.

General Overview of AI-Related Research in Latin America and Colombia

This section, which will refer to AI-related studies involving not only students but also faculty and researchers (Macfarlane et al. 2014), is divided into two

subsections: one pertaining to Latin America as a whole and the other to Colombia. The emphasis, however, will be on the Colombian studies, which, as noted above, are the main focal point of this article. Each of these two subsections will cover two types of studies, as set out in Hirsch (2012): the first are focused on conceptual analysis and involve reviews of the academic literature and institutional documents for the purpose of analyzing behaviors constituting AI violations, such as plagiarism, fraud, lack of transparency, etc., or establishing typologies on academically dishonest behavior on the part of students and faculty. The second type of studies, on the other hand, are empirical and use methodological tools, such as surveys and interviews, in order to gauge different AI-related aspects, including perceptions, types, motives, frequency, and causes of academic fraud and academically dishonest behavior at universities.

Latin America

Conceptual Analyses

Studies of this type focus on conceptually delimiting behaviors that transgress AI so that a particular violation can be identified when it occurs. In that sense, these studies are similar to those aimed at establishing criminal offenses under a penal code.

Aluja and Birke (2004a), for example, attempted to classify unethical conduct in Mexican academia, building a detailed typology of improper conduct on the part of academics in their different spheres of activity, especially during the publishing process and the preparation of their *résumés* or *curriculum vitae*. Montaña (2004), also focusing on Mexican academia, undertook the similar exercise of classifying improper academic conduct during the thesis-advising process. A topic mentioned by these authors and explored in the case of Brazil by Lins and Carvalho (2014) was the impact of performance measurement systems in terms of influencing researchers to engage in conduct contrary to AI in the university sphere. The intense pressure these measurement systems exert is frequently cited as a factor that explains – albeit does not justify – violations of AI codes.

Other conceptual analyses have examined the scope of terms such as “academic dishonesty” (Vaamonde and Omar 2008) and “unethical conduct in the university sphere” (Hirsch 2012). Also falling under this category are studies that have explored the concept of plagiarism, understood as the appropriation of another person’s ideas or work, and proceeded from there to conceptually analyze and delimit various plagiarism (Miranda 2013; Soto 2012) and digital plagiarism (Medina and Verdejo 2012) situations, with the goal of including a series of behaviors under that label and excluding others. Other similar studies contained analysis of the relationship between plagiarism, intellectual property, and copyright (Nettel 2013; Toller 2011).

Empirical Studies

These studies use empirical research methodologies to measure and analyze different phenomena related to AI transgressions.

A book coordinated by Aluja and Birke (2004b), for example, contains various studies of this type in which students and researchers were asked about their perception of the prevalence of AI violations at Mexican universities. The authors conducted surveys of undergraduate students (Castillo and Garibay 2004), graduate students (Flores 2004), and researchers (Pérez and Macías 2004) to investigate improper conduct on the part of faculty and students.

Although the surveys used in these studies were not identical and each of them focused on different aspects of ethical conduct in universities, the studies coincided in pointing out that favoritism, camaraderie, and logrolling are serious problems in Mexican universities that undermine what should be the primary role of merit in the academic world. This is not viewed as an isolated problem that is exclusively confined to the academic sphere. On the contrary, corruption in Mexican universities is perceived as a reflection of corruption in Mexican society (Castillo and Garibay 2004), since “we cannot deny there is an entrenched culture of corruption in Mexico and scientific work is not immune from it” (Pérez and Macías 2004, p. 236).

The aforementioned studies also pertain to faculty. However, most empirical studies focus on AI transgressions on the part of students. Ayala and Quintanilla (2014), for example, examined different types of fraud committed by undergraduate students at a private Mexican university and the milieu that influences that behavior. In Brazil, Da Costa et al. (2006) sought to determine the frequency with which medical students at Universidade Federal da Bahia commit fraud, as well as their motivations. Garcia Barbastefano and Gomes de Souza (2007), for their part, studied production engineering students’ perceptions of plagiarism and their level of knowledge about copyright issues. Modesto et al. (2014), in their study, investigated the levels of fraud among undergraduate and graduate business students at three private higher education institutions and assessed how the propensity to commit fraud varies when a friendship is involved.

In Peru, studies have been conducted seeking evidence of plagiarism in research papers written for a second-year human medicine course at Universidad Nacional Mayor de San Marcos (Huamaní et al. 2008) and in premed thesis projects at a public university in Peru (Saldaña et al. 2010).

Lastly, an investigation whose methodology differed from that of the aforementioned studies deserves mention. In it, the author analyzed how the three best universities on each continent and in Brazil (according to the *Webometrics Ranking of World Universities*) addressed the issue of plagiarism, based on information available on those institutions’ websites (Krokosz 2011). That study showed that, compared to the approaches of the best universities on the five continents, Brazil’s leading universities paid scant attention to this phenomenon.

Colombia

Conceptual Analyses

Just as in the case of the conceptual analyses outlined above, there has been a certain interest in Colombia in recent years in conceptually delimiting conduct that

transgresses AI. Buitrago (2004) and Aldrete (2011), for example, addressed the issue of fraudulent conduct in medical research and constructed typologies of dishonest behavior in the medical sciences. Mendoza (2006) reflected on literary plagiarism by pondering the scope and limits of originality in literature. Herrera (2012), for his part, examined the types of plagiarism and the consequences of that practice, drawing upon notorious cases in both Colombia and other parts of the world and his own experience as a scholar and professor. López (2014) registered the growing concern among academics about unethical conduct such as plagiarism and data fabrication and explained how professors and academic editors can confront these challenges. In an exercise similar to that of Soto (2012) and Miranda (2013), Jaramillo and Rincón (2014) built a plagiarism typology and explained the negative consequences of that practice for society.

Rojas and Olarte (2010) adopted a legal perspective and addressed the concept of plagiarism in the Colombian legal system. Another study conducted from a legal point of view was that of Amaya et al. (2007), who, drawing on the jurisprudence of Colombia's Constitutional Court (henceforth the CC), analyzed the existing tension between university autonomy to expel or suspend students who violate AI and their right to higher education. According to these authors, that right of students is one that implies accepting some responsibilities, including respect for the principles and rules of the institution where they study. Therefore, when students commit fraud and violate their university's rules, they repudiate the obligations incumbent upon them as part of their right to higher education. Accordingly, they say, the expulsion of a student who commits academic fraud is legitimate as long as the punishment handed down by the university is proportional to the severity of the student's infraction (Amaya et al. 2007).

Legal considerations related to AI transgressions can be found in the CC's jurisprudence. In the T-457/2005, T-263/2006, and T-264/2006 decisions, the CC ruled on lawsuits filed by students who had been suspended or expelled from their universities for committing fraud and who maintained that the disciplinary procedures brought against them violated their due process rights. The CC rejected the students' arguments and said the penalties they had received were valid because the universities had acted in accordance with applicable norms.

In these rulings, the CC established a series of requirements that universities must fulfill when penalizing a student: (i) the institution must have rules and regulations that are applied uniformly to the entire university community, (ii) the rules and regulations must contain descriptions of the punishable conduct, (iii) the institution may not impose penalties for behavior that occurred prior to the moment in which they were established as punishable (the non-retroactivity rule), (iv) the person under investigation must be afforded all guarantees needed to defend himself or herself, and (v) the punishment must be proportional to the seriousness of the infraction committed.

In its T-941A/2011 ruling, the CC criticized a university that was reluctant to investigate three law students accused of plagiarism on their undergraduate theses. The CC ordered the university to include measures enabling the effective investigation and punishment of plagiarism in their rules and regulations, and it sent copies

of the case file to the Ministry of Education and the Attorney General's Office so they could investigate this case.

Lastly, in its T-058/2013 decision, the CC ruled on a case of plagiarism and the right to good name. A student who was expelled from her university for plagiarism asked that institution to provide her with academic transcripts certifying that she had been a student there, with the aim of continuing her studies elsewhere. The university issued the transcripts but stated therein that the student had been punished for plagiarism. She argued that this violated her right to good name and asked that that information be removed from the transcripts. The CC sided with the student and ordered the university to issue transcripts that merely stated the courses the student had taken and the grades she had received.

Empirical Studies

Within this category of studies, some investigations carried out in recent years are particularly noteworthy. One of them, which was based on a survey of students and faculty, addressed the phenomenon of academic fraud at Universidad de los Andes (Mejía and Ordóñez 2004). In that survey, students were given a list of dishonest behaviors and asked if they considered them to constitute fraud or not and to rank them in order of seriousness. Lastly, students were asked if they had had engaged in any of the behaviors mentioned and asked to select the reason for their conduct from among a list.

A total of 94 % of the students surveyed admitted to having engaged in one or more of the fraudulent behaviors at least once during their university life. It is interesting to note that in the case of some behaviors, such as someone in a group who did no work or adding one's own name to a group assignment despite not participating, approximately 50 % of those surveyed did not consider those behaviors to constitute fraud. In terms of reasons given for committing fraud, the students said: (i) only their memory was being tested, (ii) they had a lot of academic work, and (iii) they were helping a classmate (Mejía and Ordóñez 2004).

In another study, Ordóñez et al. (2006) conducted a series of interviews with students penalized for academic fraud and with students who had attended courses in which fraud had been discovered, in order to complement the quantitative analysis carried out in Mejía and Ordóñez (2004). A total of 60 % of those interviewed said helping others in the name of solidarity, friendship, and camaraderie was a factor that served as justification for fraud (Ordóñez et al. 2006).

Some of the reasons students gave to justify acts of fraud, including saying the grading method was inadequate or useless or their academic workload was excessive, were attempts to blame the university for their own conduct. In other responses, a lack of knowledge about the improper nature of certain behaviors was evident. For these reasons, the study recommended that fraud not only be addressed through a punitive approach but also be looked at from an educational and cultural standpoint. It proposed that consideration be given to institutional changes – such as a better distribution of students' academic workload – aimed at creating an academic culture more focused on genuine learning than on obtaining positive outcomes as measured by students' grades (Ordóñez et al. 2006).

In another study of this type, the authors replicated at Universidad Nacional de Colombia the survey that Mejía and Ordoñez (2004) had conducted at Universidad de los Andes to compare the levels of fraud at those two institutions (García Villegas et al. 2009). The study found that fraud acknowledgement levels, though very similar at the two universities, were slightly higher at Universidad Nacional. It also discovered that the students at that latter institution tended to rate different fraudulent behaviors less seriously than did their counterparts at Universidad de los Andes. It concluded that a potential explanation was that Universidad de los Andes had paid greater institutional attention to the academic fraud phenomenon and thus created more awareness of the seriousness of fraud (García Villegas et al. 2009).

At both of the universities analyzed in the study, the following fraudulent behaviors were most commonly acknowledged by students: allowing a classmate to copy answers on a test and including someone in a group who did not help with the work (García Villegas et al. 2009). That showed the important role that the values of solidarity and camaraderie play in terms of justifying and committing fraud. Indeed, peer pressure appears to be a frequent cause of noncompliance with AI-related norms in Latin America (Da Costa et al. 2006; Mejía and Ordóñez 2004; Modesto et al. 2014; Ordóñez et al. 2006).

In addition to the aforementioned studies, students in their undergraduate and master's level thesis work have conducted research that involves empirical analysis of academic fraud. Some of them used surveys to diagnose academic fraud at different universities. Puertas and Peláez (2005) measured the level of fraud among students at Universidad de La Sabana. Avellaneda (2013) researched the degree of tolerance of fraud among students at Universidad del Rosario, comparing the human sciences and administration departments. Ceballos and Vásquez (2008), for their part, interviewed and surveyed psychology students at two universities in San Juan de Pasto to compare the levels of fraud at the two universities and the motivating factors.

Another unpublished study (Hernández 2013) analyzed the results of a survey on academic and citizenship culture conducted by Universidad de los Andes and the Corpovisionarios think tank in 2013. According to this study, the more time students spend at university, the greater awareness they will acquire about the seriousness of fraud; in addition, the greater extent to which students perceive their immediate university environment to be a dishonest environment, the less seriously they will view fraud. The author of this thesis also found that "those who are more willing to tolerate improper conduct in their daily life also are more willing to do so in the case of fraudulent academic conduct, and therefore they will view fraud less seriously" (Hernández 2013, p. 23). This idea of a link between AI and a culture of legality is consistent with the findings of García Villegas et al. (2009) and also those of Modesto et al. (2014), in that the academic fraud phenomenon must be interpreted within a framework of sociocultural contexts in which a flexible view of societal rules exists and is conducive to noncompliance with those same rules.

In Colombia, studies have been carried out that analyze the transgression of academic norms in a specific department. Vengoechea, Ruiz, and Moreno (2006) surveyed medical students at a private university in Bogota and tried to determine whether there was a connection between students' fraudulent conduct and the high level of stress associated with their degree program, although their results were not conclusive. Díaz et al. (2010), on the basis of interviews, analyzed academically dishonest conduct at Universidad de Cartagena's School of Dentistry and found that a significant number of the students interviewed did not consider it fraud to copy and paste an author's work or not cite an author whose work they paraphrased or summarized; they also showed that the reasons why students commit fraud range from personal and family problems to lack of interest in the subject.

AI Experiences in Colombia

The following overview of practical AI initiatives is restricted to Colombia; the vastness of Latin America and the scarcity of regional information make it impossible to survey all the existing initiatives. It bears mentioning that there are no academic gatherings in Latin America comparable to the *International Conference on Academic Integrity*, which has been held for the past 21 years in the United States and Canada.

Few long-term institutional programs focused on AI exist in Colombia. This does not mean, however, that this issue is completely overlooked in the country, as evidenced by the four AI initiatives described below. Two of them originated at universities, while one is an initiative of Antioquia's regional government and the other of Corpovisionarios, a think tank led by former Bogota Mayor Antanas Mockus, who has promoted the concept of citizenship culture through different organizations.

This does not mean that other universities in the country have not implemented AI initiatives. Universidad del Rosario, for example, has carried out a campaign to raise awareness about the seriousness of academic fraud and sought to educate students about topics such as citation rules and copyright (Universidad del Rosario 2014). There is also a Web portal, located at *plagiosos.org*, that is dedicated to promoting respect for intellectual property and copyright and denouncing plagiarism cases that have occurred in academic settings, mainly through the use of case studies. However, the four initiatives below were selected taking into account their visibility, impact, interaction with other government/institutional programs, and contribution to the understanding of the AI issue.

Universidad del Norte: Cheaters

The Universidad del Norte is a private university located in Barranquilla. Initial concerns about academic fraud at that university arose in 2004. A year later, a

graphic campaign created by advertising students was launched under the title “NFA: No al Fraude Académico/Nueva Forma de Actuar” (No to Academic Fraud/A New Approach), which was aimed at informing the university community and raising its awareness about the problem of fraud.

Later, as cases of AI transgressions were being documented, a fraud-prevention program was created with the catchphrase “Cheaters Can’t Be Trusted,” and it is still active today. The program created several channels for promoting a culture of legality at the university: research and support for pedagogical innovation, interventions through workshops and courses, support for students implicated in cases of academic fraud, and counseling for faculty.

In the exploratory phase of these projects, the Universidad del Norte discovered, firstly, that there is a lack of knowledge, among both students and faculty, of disciplinary regulations pertaining to penalties for academic fraud; secondly, that the most common types of fraud are plagiarism and copying answers from a classmate on an exam; and thirdly, that certain factors lead people to commit fraud, including students’ tendency to take the easy way out, their irresponsibility, their lack of interest in the subject matter, professors’ lack of control over students’ behavior, and the fact that exams only test students’ ability to answer memorization-based questions.

These findings came, first of all, from a self-reporting survey, in which 37 % of the students polled acknowledged having committed fraud during their academic life (according to Dairo José Cervantes Díaz, that institution’s coordinator of university culture and student leadership, this survey has a high level of under-reporting), and secondly from different focus groups, in which participants were asked about their perception of the level of compliance with academic regulations and about the university’s response to fraud in terms of imposing appropriate penalties on students ([Interview 1](#)).

Rather than measuring the percentage of students who commit academic fraud, or the frequency with which those transgressions occur, Universidad del Norte’s surveys focused on evaluating students’ perceptions of the consequences of fraud and the beliefs that validate and reinforce the behavior of the “cheaters.” Asked about the possibility that a student committing fraud would be discovered, 15 % of respondents said in 2010 that this was likely, rising in 2012 to 37 %. Asked about the probability that a student who copies a classmate’s answers on a test would be punished, 18 % said in 2010 that that was likely climbing to 41 % in 2012. With respect to the likelihood of the university punishing a student who submitted a research paper he or she did not write, only 6 % thought in 2010 that that was highly probable, compared to 23 % in 2012.

In conclusion, the Universidad del Norte has made an effort over the past 9 years to study and counter the academic fraud phenomenon at that institution. Highlights have included educational interventions to reduce social acceptance for those who commit fraud, permanent support for faculty dealing with situations of academic dishonesty, and the participation of advertising students in creating campaigns.

Universidad EAFIT: Dare to Think

Universidad EAFIT is a private university located in Medellín. It is home to the *Atreverse a Pensar (Dare to Think)* program, established in 2011 due to concerns raised by some student leaders, faculty, and officials about instances of academic fraud at the institution. The first step in developing this program involved conducting a perception survey and employing a tool used years earlier at Universidad Nacional and Universidad de los Andes to evaluate and compare the academic fraud phenomenon at those two institutions (García Villegas et al. 2009).

EAFIT's results were just as worrying as those at the other two universities. In the survey of 706 undergraduate students, 96 % of respondents acknowledged having committed fraud at least once during their academic lives, and on average the students said they had engaged in five of the 14 specified types of fraud.

These results led to the creation of a multi-year project with phases that would address issues related to legality, ethics, and honesty both on and off campus. To date, the project has covered five topics through the following programs: The Cult of Cunning, Academic Dishonesty, Citizenship Culture, Being Better, and Academic Integrity. Each phase sought to generate an individual and collective reflection on the system of beliefs and values that for decades has characterized Antioquia's population, for whom the notion of achieving one's aims by hook or by crook tends to be justified and even deemed praiseworthy.

Thought-provoking catchphrases were used in the campaign to grab students' attention. They included the following: "A fool and his money are soon parted," "Just copy and paste. The professor never checks," "Hey, don't look at me. He dug his own grave," "Everyone has a price," "Are you going to take shortcuts to get your English certified or are you going to take the path of integrity?" and "Rules were made to be broken." Each was followed by the question "What do you think?" The campaign has been highly memorable and that success has been attributed to its simple, direct, and provocative language.

In addition to the graphic material, which appeared on billboards, posters, and displays, conferences also were organized featuring domestic and international guest speakers who extolled the virtues of responsibility, excellence, and integrity, as well as cinema forums, discussion groups, and video contests on the AI topic. The survey results were shared with groups of professors and student leaders, giving rise to compelling discussions.

Among the program's most notable achievements, it bears mentioning that *Dare to Think's* impact has transcended the university: the lecture "The Cult of Cunning," written by Universidad EAFIT President Juan Luis Mejía, has been brought to more than 70 institutions nationwide (high schools, universities, public entities, and private companies) that are eager to create space for reflection on ethics and values and in some cases to even replicate the program. A mandatory two-hour AI workshop, led by students from the *Dare to Think* Committee, also was created for students in their first semester.

A second survey that was conducted in August 2013 and collected fraud self-report data from students revealed an increase in their perception/awareness of what

constitutes academic fraud; however, it also must be noted that no significant reduction was seen in actual levels of fraud behavior.

Antioquia Legal: Cheat-Free University

Antioquia Legal, a program Gov. Sergio Fajardo has promoted during his current 2012–2015 administration, has involved implementing a broad set of cultural and political strategies in an effort to counter the tolerance for illegality that characterizes a portion of Antioquia’s culture, particularly in recent decades. This phenomenon is largely the product of the influence of drug trafficking. According to Rubén Fernández, director of *Antioquia Legal*, the purpose of the program is to change our “ambiguous relationship with the rules, known in some circles as a culture of illegality” (Interview 2).

The program is based on the idea that education is the main engine of development and social equity and that a culture of legality promotes citizen trust, reduces transaction costs, and fosters economic development. Two strategies were created on the basis of these theoretical suppositions: one focused on the department’s public high schools and another on public and private universities looking to promote a culture of integrity.

The first strategy, known as “The Cheat-Free School,” is designed for high schools and seeks to make teachers active participants in the struggle against illegality. To support this effort, an Ethics Instructors Departmental Network was established that has had its own online platform in operation since 2013. This network is a tool that allows teachers to learn about good practices and jointly discuss ethical dilemmas and solutions to the real problems they face in educational institutions.

The second strategy, known as “Cheat-Free University,” is a campaign aimed at calling into question the illegal behaviors that arise during professional training and generating reflection on issues such as legality, transparency, and AI. In the diagnostic phase, 15 universities in Antioquia conducted the survey (the same one used at Universidad de los Andes, Universidad Nacional, and Universidad EAFIT) on academic fraud among the student population. The survey of 5,944 undergraduate students revealed that 84 % had copied and pasted a text off the Internet without citing their source, 80 % had allowed a classmate to copy off of them during an exam, 56 % had copied a classmate’s answers on an exam, 9 % had submitted a false medical certificate to justify an absence, and more than 75 % had committed some type of fraud during their academic career (Antioquia Governor’s Office 2013).

Corpovisionarios: Study of Academic Culture

The last of these four initiatives took place at Corpovisionarios, a Bogota-based think tank focused on issues related to strengthening citizenship culture. As part of its effort to promote respect for the law, Corpovisionarios (2013a) conducted a study on academic and citizenship culture at the following Colombian universities: Universidad Nacional, Universidad de los Andes, Universidad Pedagógica

Nacional, Universidad Tecnológica de Bolívar, and Universidad EAFIT. A total of 2,749 students, as well as faculty and administrative staff, participated in this perception study.

Some of the more telling results were the following: 80 % of students said they believed that more than half of their peers had committed academic fraud and that 60 % had arranged for a third party to write papers for them. In addition, one in every three students did not consider copying an idea or a paragraph without citing the source to be a problem, and 53 % thought signing the attendance list for a classmate was either not too serious or not serious at all. Likewise, the justification that 50 % of students gave for cheating was equally concerning: that the university values grades more than learning (El Tiempo 2014).

The study also examined the language students use to describe those who engage in this type of conduct: 59 % said that those who “take shortcuts” to get what they want are cheaters, 22 % said they were opportunistic, 17 % said they were clever and 1 % labeled them successful” (El Tiempo 2014).

In terms of issues such as bribery and tax evasion, 50 % of the young people surveyed said they believed everyone has bribed a police officer at least once in their lives. Four out of ten respondents said tax evasion is a lesser crime and 30 % said most successful people have engaged in corrupt conduct at some time.

In the area of citizenship culture, 50 % said feigning an illness to evade responsibility was not too serious or not serious at all; 49 % thought the same about using public transportation without paying the fare, while 48 % and 43 %, respectively, said the same about keeping extra change from a cashier and evading sales taxes by buying pirated merchandise.

One of the main conclusions of this study was that “it reinforced the hypothesis that a better opinion of others would make people more willing to obey the law and not commit transgressions that violate a citizenship and academic ethic” (Corpovisionarios 2013b, p. 49).

Expectations and beliefs about the behavior of others in large part serve as a model for our own conduct, and therefore the Corpovisionarios study recommends “undertaking actions aimed at fostering better perceptions of others in the university population, especially among the student population” (Corpovisionarios 2013b, p. 49).

Summary

As was pointed out in the Introduction, AI is a recent topic that has been little studied in Latin America, particularly in Colombia. This is seen in the lack of a common concept, comparable to the use of AI in the United States, to refer to studies pertaining to this subject. Researchers write about academic fraud, plagiarism, cheating, intellectual property, copyright, etc., but typically they do not make explicit reference to AI as their research topic. Furthermore, most authors who have devoted attention to these topics have only done so for a limited span of their research careers. They have published a couple of articles on the subject, some of

them of very high quality, but they cannot be considered AI experts on a par, for example, with Donald McCabe in the United States.

It is probably because of the novelty of AI research in the region and in the country that basic unresolved problems still exist, such as the absence of a commonly used concept to refer to AI-related issues. In order to promote AI, this conceptualization issue is the first problem that must be overcome: AI cannot be tackled as a social problem and a research topic if those concerned about this subject do not share some basic terminology that facilitates debate on different AI problems arising in the academic world.

Leaving that matter aside, it's unclear why AI has not been more widely studied in Latin America and in Colombia. There is no definitive answer to that question, although some explanations can be offered. One is that this region and this country have historically suffered severe social and political problems—such as poverty, extreme inequality, authoritarian rule and armed conflicts—that have kept the public focus elsewhere. Many people think that academic dishonesty and plagiarism are bad, but they do not believe they are society's most pressing problems and therefore pay scant attention to them.

This relative lack of interest in AI may also be attributable to the tolerance in Colombia and Latin America for behavior that violates basic societal rules. Rule breaking is a very pervasive phenomenon in Latin America (García Villegas 2009, 2014a, b; Mafud 1971; Mockus et al. 2012; Nino 1992). Numerous political, sociological, and cultural reasons account for Latin Americans' negative attitude vis-à-vis the law, understood as statutes, rules and regulations, decrees, administrative directives, etc. The lack of effective sanctions against those who breach the norms (an incentive for noncompliance), the perception that authority figures are authoritarian and lack legitimacy (an incentive for rebellion), and the frequent technical failings in the conception and application of the law (the origin of the renowned Latin American expression: "se obedece pero no se cumple" – to be obeyed but not followed) are, among other reasons, those that have played the biggest role in reviving a cultural phenomenon rooted in the colonial era (García Villegas 2009; Girola 2009; Waldmann 2006). This does not mean Latin Americans' behavior is not rule governed, but simply that these rules tend to be social and moral, rather than legal, in character. In other words, when a conflict arises among legal, social, and moral rules, people frequently choose to disobey the former and comply with the latter two.

The academic world is not immune to this culture of rule breaking. Distrust of authority (source of rebellion and noncompliance) is a relatively common phenomenon not only in society at large but also in the academic sphere. It is conceivable that this attitude is linked to the type of education that has prevailed in the region since the start of the nineteenth century, when the Latin American countries first began to gain their independence from the Spanish Empire. This tradition is inherited from the European education model that is characterized by a very pronounced hierarchical gap between the professor and student in terms of both authority and knowledge.

Social stratification, furthermore, is a phenomenon that pervades nearly all aspects of social life in Latin America and the academic world could not be alien to this situation. This is the source of a very common mutual mistrust between

faculty and the student body and a kind of solidarity among students, which they justify in terms of a form of self-defense against eventual abuses by professors and the academic authorities (Mockus et al. 2012). Indeed, as seen in some of the studies summarized in this chapter, many of the reasons students in Latin America use to justify conduct contrary to AI relate to the need to counteract purported abuse suffered at the hands of faculty.

On the other hand, there appears to be a positive correlation between a weak civic culture and the lack of AI at universities. This has been gleaned from Juan Camilo Cárdenas' analysis of data from the *Corpovisionarios 2013a* survey, which was conducted at five Colombian universities and previously summarized in this article. According to that study, there is a negative correlation between strong academic performance (defined as high grade-point averages) and less justification given for breaking the law and committing fraud on an exam (Corpovisionarios and Universidad de los Andes 2014).

Other factors also may have contributed to a deterioration of citizenship, culture, and AI in Colombia and two of them seem particularly noteworthy. First is the influence of drug trafficking on the country's social and institutional life over the past four decades. The drug business has profoundly transformed the country's economic, cultural, political, and social life. Drug trafficking has been an illegal means of social mobility that has led to a widespread belief among many sectors of the population that shortcuts and rule breaking are valid given the difficulties to ascend socially through the legally established channels (Mockus 1994; Thoumi 1995, 2002).

The crisis of the educational system is a second factor that may be contributing to low levels of AI in Colombia. Education in Colombia has undergone major changes in the second half of the twentieth century due primarily to the growth of private education, which was intended to counter the deficiencies of both basic and higher public education. This private offering, frequently characterized by economic interests alien to the academic world, has been very unequal due above all to the widely divergent levels of quality it provides (García Villegas et al. 2013). As a result, a type of "educational apartheid" exists in Colombia in which not only does each social class have its own educational institutions but upper and middle class children receive a high-quality education, while children from the lower class and lower-middle class receive a substandard education. These circumstances promote the growth of a culture contrary to AI, in which the educational system is viewed as a private business that is divorced from the public interest, from the idea of citizenship, and from public values and the ethical component intrinsic to education.

In recent years, the idea that Colombian society must overcome the problems derived from the two aforementioned factors (drug trafficking and the precariousness of the public education system) has gained traction. Significant effort is being made in Colombia today to reduce drug trafficking's impact on society (among other things, by resolving the armed conflict, which is a key driver of that crime) and improve all levels of the educational system. This is a monumental and essential task that hopefully can be carried out successfully in the coming decades.

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Interviews

- Interview 1. Interview with Dairo José Cervantes Díaz, Coordinator of University Culture and Student Leadership, conducted on September 2, 2014.
- Interview 2. Interview with Rubén Fernández, Director of the Antioquia departmental government's Antioquia Legal program, conducted on August 21, 2014.

Section II
Breaches of Academic Integrity

Helen Marsden

Helen Marsden

Abstract

The values of academic integrity may be breached in many ways. This section explores six key domains of such breaches; three that might almost be considered ‘traditional’ and three that have emerged in response to the online environment which we all now inhabit.

Standard definitions of academic integrity often turn on the upholding of a small number of key values, and yet the number of ways in which these values can be compromised is far greater. This section explores six key domains of breaches of academic integrity, and the reader will come to appreciate that each of these domains contain many, many ways in which the values of academic integrity are breached.

The common theme in these six chapters is the notion of deliberate intent to deceive. The first three chapters of the section visit some age-old behaviors, deliberate cheating, plagiarism, and collusion, while the subsequent three chapters examine some emerging practices – paid third parties, file-sharing, and emerging markets for doctoral writing. Clearly, behaviors that breach academic integrity have existed in one form or another for hundreds of years, but, taken as a whole, this section demonstrates how these behaviors have evolved and others emerged in response to the new digital environment in which we have very quickly found ourselves operating.

This section begins with a reflective chapter by a researcher who has become the leading international expert on the topic of academic cheating. Don McCabe has, with a small number of colleagues, undertaken extensive research on the topic over more than two decades, and his work has inspired and informed many, many subsequent studies of academic integrity. McCabe revisits the findings of a 15-year portion of the long-term research project. During that time, over 130,000

H. Marsden (✉)

Graduate Research and Researcher Development, University of Canberra, Canberra,
ACT, Australia

e-mail: helen.marsden@canberra.edu.au

students were surveyed about their own beliefs about and engagement in a wide variety of dishonest academic behaviors. The trends revealed by this massive dataset are somewhat surprising and will hopefully spur other researchers on to investigate the factors influencing these trends.

Jude Carroll walks to reader through a framework for identifying and addressing plagiarism when the assessor suspects the student of deliberate attempt to cheat. The chapter provides practical advice, illustrated with contextual examples for a marker faced with suspected deliberate plagiarism. The guiding questions and comments provided in this chapter are offered to help individuals and institutions develop systems to address deliberate plagiarism in a consistent, timely, and equitable manner. Carroll argues that the implementation of such a systematic approach helps to reduce the administrative burden on academic staff and benefits the student by improving the learning experience.

In the third chapter, Sue McGowan visits the complex topic of collusion, reporting that around half of all students surveyed worldwide on this topic report working together on assignments that have indisputably been set for individuals to complete on their own. The difficulty lies in defining the space between honest, appropriate collaboration and dishonest collusion. Where in this space lies the line that students should not cross, and how should educators address the problem? McGowan provides both a definitional framework for collusion and a variety of strategies that can be employed to identify and address this multifaceted and complex issue.

Moving to emerging behaviors, Phil Newton and Chris Lang alert us to the ever-burgeoning “paid third-party” marketplace. In this emerging economy, custom writers, online labor markets, file-sharing sites, and prewritten essay banks provide a quick – but often very expensive – fix for students who choose to outsource their assigned work. It seems that, for digital natives, the step between unable or unwilling to complete their academic work and the decision to outsource all or part of it may be all too easy and perhaps all too natural. The authors provide a glimpse into the types of service available and explore some strategies that may be more effective than simply detecting the extent of use of such sites. Newton explores a range of assessment-based preventative strategies, while Lang visits a number of legal approaches to deterrence. Both authors agree that a positive focus on academic integrity may be a useful tool to deter the use of these services.

Ann Rogerson and Giselle Basanta address what could be considered the other side of the same coin. Their chapter explores peer-to-peer student file-sharing sites which facilitate the acquisition – either free or at reduced cost – of educational materials. The student’s acquisition of learning or assessment materials is achieved through a variety of means including bartering and swapping. Through these means, users are able to obtain papers by uploading something of value to the site – and that can be another person’s work. The authors explain that the peer-to-peer sites used for student papers are based on the same model as those used to pirate movies and TV shows. Peer-to-peer sites exist as online communities that do not appear in regular searches of the usual Internet browsers, making detection of their use both difficult and time-consuming.

In the final chapter of the section, Claire Aitchison and Susan Mowbray take us inside the little-investigated area of doctoral writing markets. The authors propose that the identity construction, knowledge acquisition, and researcher maturation traditionally associated with the doctoral journey are being increasingly undermined by the commodification and marketization of doctoral writing. Aitchison and Mowbray give insight into the services of a variety of providers of doctoral writing services and identify a continuum of offerings which range from shady, fee-for-service provision of complete theses to legitimate sharing of knowledge in an open, gift economy. The authors point out that their exploration of these issues gives rise to many more questions than it can possibly answer: a statement that can be said to be true for all the chapters in this section.

A common thread emerging in each of these chapters is the massively increased influence of the digital world on dishonest behavior. That world provides everything from easy access to massive amounts of information online, to fee-for-service providers who will write a first-year essay or a doctoral thesis for the right fee, to instant access to peers who are willing to share or barter their work – and the work of innocent others.

All the authors in this section point to the learning opportunities lost when students do not engage with the educative process. The body of knowledge presented demonstrates that much of student body is willing to engage in dishonest behaviors and that the ability for all students to sidestep the learning process becomes easier all the time. Knowledge and learning outcomes dishonestly gained cannot translate into the valid and reliable tertiary outcomes that the conferral of a degree signifies, and so educators are cautioned to take note of the temptations available to students and the strategies suggested here to guard against them.

Cheating and Honor: Lessons from a Long-Term Research Project

16

Donald McCabe

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Abstract

This chapter reviews key findings from a research project into student academic dishonesty conducted over a period of approximately 15 years. The project replicated and extended a large-scale seminal study which was conducted across 99 US campuses in the 1960s Bowers (1964). Over the life of the project, thousands of students have provided self-report data about their own dishonest academic behaviors including those involving various forms of copying, cheating on tests and exams, and fabricating data. Twelve of the 28 behaviors

D. McCabe (✉)
Rutgers Business School, Newark, NJ, USA
e-mail: dmccabe@business.rutgers.edu

measured in the project were replicated from the Bowers study, enabling comparison of results over approximately half a century. Interestingly, a consistent reduction in reported engagement in dishonest behaviors is seen over time in most of the domains measured. The chapter also provides an overview of the role that honor codes play in many of the participating institutions and the effects of these codes on cheating behavior, as witnessed over the lifetime of the project.

Introduction

The author's research agenda has focused on issues of academic integrity and student cheating for roughly 25 years. His introduction to the concepts around academic honesty, and dishonesty, came over 50 years ago, when he received his admissions package in the mail from Princeton University, including information about their honor code. As the son of an alumnus, the author was aware of the basic code, but this was his first explicit, intense exposure to it. He wondered if his new classmates, who had been described as the top-ranked students from the best high schools around the country, had made it to the top through cheating. Would he witness a rampant lack of academic integrity (which was not even a common term in 1961) among his peers? If so, would he have the courage to report it? Thankfully, neither happened. His worries were for naught as he never observed a single individual cheating on a test or exam.

After some vacillation, the research has led the author to remain a strong proponent of honor codes as one of the most effective strategies to reduce cheating in academia and the larger society that is read about daily in the newspaper or seen on the television news.

A Long-Term Research Project into Academic Dishonesty

At around the same time, seminal research by Bowers (1964, discussed in more detail below) reported less cheating by students from honor code schools. Almost 30 years later, McCabe and Trevino – both of whom had been undergraduates in schools with honor codes – undertook a research project designed to test the proposition suggested first by Bowers (1964) that cheating was lower in institutions that had honor codes. The study was replicated and somewhat extended 5 years later. The results of the two studies (McCabe and Trevino 1993; McCabe et al. 1999) bore out Bowers' findings that students' self-reported engagement in nine different dishonest academic behaviors was consistently lower in schools with honor codes than in those without codes.

About the Project

The research project continued and evolved from that time with data being collected from thousands of students over a period of more than 20 years. The goal of this chapter is to review the findings from data collected from college and university students and faculty over a particular 15-year period of that longer-term research into academic dishonesty. The research was primarily conducted to aid in understanding the level of cheating in which students engage.

The benchmark data for the project was collected in the seminal study conducted by Bowers (1964) in a survey of almost 6,000 students across 99 campuses. For the first time on this scale, Bowers asked the surveyed students to self-report their own dishonest academic behaviors. Most of the data in the McCabe project were gathered over the period from the fall semester of 2002 to the spring semester in 2013 for all types of schools – 2-year and 4-year, large and small, and geographically dispersed (although all in the USA) – probably the most robust sample collected in terms of school characteristics. Although the students in these studies were located in the USA and Canada, surveys were also administered to students from Mexico, Egypt, the UK, Australia, the United Arab Emirates, and Hong Kong.

Although additional data was gathered in 1991 and 1996 by McCabe and colleagues (McCabe and Trevino 1993, 1997; McCabe et al. 2001), this additional data is not reviewed here in detail, although reference is made to it on occasion.

As noted in McCabe (in press), the student and faculty surveys that were employed in this project “...remained relatively consistent over the period in question with only minor changes being made and most of these changes have involved additions to the survey. . . . Most of these changes have taken place in the section of the survey which attempts to ask both students and faculty about the frequency with which they have either engaged in (in the case of students) or observed (in the faculty survey) selected behaviors which some might consider cheating.”

With the exception of some additions, the survey instrument involved in this project remained relatively constant over time. The same basic survey was used for both students and faculty with only minor necessary changes. The student survey can be found at <https://honesty.rutgers.edu/rutgers.asp>, and the faculty survey can be found at <https://honesty.rutgers.edu/rutgersfac.asp>.

The primary emphasis of this chapter is on the specific behavior section of the survey which details behaviors which one might consider cheating. Twelve of the 28 behaviors used are directly from Bowers (1964), while two represent electronic types of plagiarism not possible in Bowers’ day. The other 14 include such behaviors as homework copying, fabricating laboratory or research data, and copying someone else’s computer program.

Some Key Findings Over the Years

Plagiarism

Only cursory attention is paid to plagiarism in this chapter, leaving a broader discussion of deliberate plagiarism to Jude Carroll in the next chapter. Plagiarism of various types has been researched in each of the surveys reviewed here. In each case, of course, it is made clear to survey respondents that if the (student) author has cited the text in question, there is no violation of the rules of plagiarism.

Typically, lesser forms of plagiarism are described as “cut and paste” plagiarism, where selected sentences are woven together to construct the answer to a particular question or are woven together throughout an entire essay. Large-scale plagiarism, either from written sources or the Internet, is where essentially the entire paper is being taken from another source. Not surprisingly, surveyed students readily admit to the “cut and paste” category of offenses which they do not generally view as a “big deal” and either are more reluctant to admit to more significant plagiarism or are defining larger-scale plagiarism differently than faculty might.

Review of the data collected from ten large state universities in 1995 (McCabe et al. 2012), some Canadian universities collected in 1994, and follow-ups to an honor code study conducted in 1996 and 2006 (McCabe and Trevino 1997; McCabe et al. 2001, 2012) reveal some interesting findings. As shown in Table 1, for self-reported plagiarism a somewhat surprising pattern can be seen – a reported decrease in engagement in these activities by students over the period studied. This is despite ongoing media reports to the contrary and is especially surprising in the case of Internet plagiarism where the media would have us believe there has been a dramatic increase in cheating.

Table 1 Reported student engagement in plagiarism

	2002/ 2003	2003/ 2005	2005/ 2007	2007/ 2009	2009/ 2011	2011/ 2013
Total responses^a	19,355	41,801	35,477	17,013	13,599	7,464
Written: small amount	38 %	36 %	31 %	28 %	22 %	23 %
Written: large amount	11 %	7 %	4 %	4 %	4 %	3 %
Internet: small amount	35 %	35 %	33 %	26 %	24 %	24 %
Internet: large amount	4 %	4 %	2 %	1 %	1 %	1 %

Note: Percentage values are calculated by adding the “once” and “more than once” responses (indicating how often the respondent has engaged in academic dishonesty of the type specified) divided by the sum of the “never,” “once,” and “more than once” responses. Calculations of this type have the effect of excluding the missing values and non-responses

^aIncludes missing data and “not relevant” responses

It is likely that these results can be influenced by a number of factors, including the following:

1. The manner in which the statistics have been calculated – e.g., in the case of smaller quantities of text, if we go back as far as the Bowers data in the 1960s, it can be seen that Internet plagiarism was zero at this time as it was nonexistent.
2. The reliance on self-report data which may result in the data being influenced by self-presentation bias. Although it might be expected that such bias is relatively constant over time, we do not know this for a fact.
3. The manner in which the surveys have been conducted with a switch to Internet surveys rather than paper-based. This could result in an underreporting of actual engagement in dishonest behaviors where respondents feel their identity may be traced.

Views on the Seriousness of Plagiarism

The research has also looked at evaluations of the *seriousness* of cheating. In the 2002/2003 survey, 43 % of respondents rated small Internet plagiarism as *not cheating* or merely trivial cheating. Ten years later in 2012/2013, this number had fallen quite significantly to only 33 % of respondents who viewed the behavior as trivial (McCabe et al. 2012). Similar increases were also seen in perceived seriousness of plagiarism from written sources (McCabe et al. 2012, p. 59). The shift suggests that over time respondents have come to view Internet cheating as a *more* serious offense.

Other Forms of Cheating on Written Work

Data were collected on three other forms of cheating on written work beyond just plagiarism – submitting work done by someone else, working collaboratively when not permitted, and fabricating or falsifying a bibliography. From the data collected in the period from 2002 to 2013, a general pattern emerges of a decrease in cheating between the Bowers study in 1963 and the data collected in 2012/2013. This is the case for all types of schools, and the pattern is repeated for many of the different cheating behaviors investigated.

As shown in Table 2, we observe roughly the same pattern of engagement for self-reported (non-plagiarism) cheating on written work that can be seen in Table 1 for plagiarism. While some minor differences to the overall trend are noted for *fabricating a bibliography* in 2002/2003 and *working collaboratively* early in Table 2, both of these variations are very minor and have little effect on the observable trend.

Cheating by Copying on Tests

When looking at behaviors involving copying from others on tests and exams, as shown in Table 3, again we see the same basic pattern for the self-reported

Table 2 Self-reported engagement in cheating on written work other than plagiarism

	2002/ 2003	2003/ 2005	2005/ 2007	2007/ 2009	2009/ 2011	2011/ 2013
Total responses^a	19,355	41,801	35,477	17,013	13,599	7,464
Submitting work of other	11 %	5 %	4 %	3 %	3 %	2 %
Unpermitted collaboration	37 %	40 %	41 %	38 %	35 %	33 %
Fabricating bibliography	13 %	17 %	13 %	9 %	8 %	6 %

^aIncludes missing data and “not relevant” responses

Table 3 Percentage engagement of copying on tests

	2002/ 2003	2003/ 2005	2005/ 2007	2007/ 2009	2009/ 2011	2011/ 2013
Total responses^a	19,355	41,801	35,477	17,013	13,599	7,464
Copying with others’ knowledge	7 %	7 %	8 %	7 %	5 %	3 %
Copying without others’ knowledge	11 %	8 %	10 %	8 %	7 %	6 %

^aIncludes missing data and “not relevant” responses

Table 4 Perceived seriousness of copying on tests

	2002/ 2003	2003/ 2005	2005/ 2007	2007/ 2009	2009/ 2011	2011/ 2013
Total responses	19,355	41,801	35,477	17,013	13,599	7,464
Copying with others’ knowledge	10 %	8 %	8 %	8 %	6 %	7 %
Copying without others’ knowledge	9 %	7 %	6 %	7 %	5 %	6 %

Note: Values represent the percent who consider the offense as either not cheating or trivial cheating

engagement described above for plagiarism and other forms of cheating on written work (other than plagiarism).

As expected, the percentage of engagement is consistently lower in the case of those copying with other’s knowledge than for those copying *without* the other’s knowledge. This is not surprising since copying with knowledge technically involves both people cheating, and we would expect that in most cases the source of the material is an individual who would prefer not to be involved.

If we look at the seriousness of these two offenses that are shown in Table 4, we see that in every case respondents consider copying without the other person’s knowledge is *slightly* more of an issue. Although the difference is consistent, the difference is indeed minor suggesting that students do not see much of a difference between the two offenses.

Some Notes About the Data

The reader should be aware that the first column of results represents a 1-year period, and all the others cover a 2-year period. However, the first column has more data than the last three. The differences in sample size and time frame simply reflect how many schools decided to participate in the survey and when. In this sense researcher control was sacrificed for greater number of respondents – perhaps a good trade-off, but one that requires further examination.

In particular, both undergraduate and graduate students' numbers are "lumped" together in the sample even though it has been shown previously (e.g., McCabe et al. 2012) that graduate students cheat less often than undergraduates or at least report less cheating. However, closer examination of the sample suggests this is not a major factor in the large samples. Examination of the composition of each annual segment in the sample reveals a total range of only 6 % from a low of 10 % graduate students in 2005/2006 to high of only 16 % in 2007/2008. Therefore, it is unlikely that these results are skewed because of different graduate student representation in the different samples.

Some Observations on Motivation to Cheat

Across the length of the research project, the contextual influences of peer behavior, campus culture of integrity, and the perceived opportunity to cheat are the three that bear consistently strong relationships with cheating (McCabe et al. 2012). Of these, students' perceptions of peer behavior were the strongest influence on decisions to engage in dishonest behavior themselves.

At the individual characteristic level, the research project reported here has shown that cheaters tend to be males majoring in business or science, and these respondents suggest that faculty have not discussed the rules as much as the faculty of those who do not cheat (McCabe and Trevino 1995). This latter relationship is not surprising, as noted earlier, cheaters often tend to place some blame on faculty for their cheating.

Indeed, when students are asked about motivations to cheat, two reasons have been repeatedly offered more than any others: firstly, professors have not made the rules clear, and secondly, the student *must* get an A grade. While these observations are based on student comments, the frequency with which they are offered adds to the researcher's confidence that they are highly relevant in any discussion of motivation to cheat.

Unclear Rules and Unrealistic Expectations

In relation to making the rules clear, there are equal arguments to be made that faculty instructions are not as complete as they should be and that students have a certain obligation to take responsibility to educate themselves. This is not meant to

free either party of all blame as there is certainly a shared responsibility here and students should have already internalized these “rules” to a certain degree. For example, the comments of the following students from a large public university in Canada touch on these points:

When there is an evaluation specifically assignments and essays, it would be great if professors could go over plagiarism and academic misconduct because when I first came, it took a long time for me to properly cite references.

Although it may seem like students know how to properly cite, profs should go over their expectations for every assignment. I just had a prof let us know while she handed back the assignment that using our textbook as a reference was wrong. It was considered a secondary source and she wanted us to go to the primary sources and read/cite those. No one in our class had a clue that we were supposed to do that. Clarity works.

There would not be cheating if students valued learning more than their grades but that’s not the case and multiple professors stack the amount of work due and between our life and everything else cheating is easiest.

An A Grade: “The Coin of the Realm”

In general, it appears that “cheaters” are sometimes people who do not feel the rules apply to them for some reason and very often people who either feel the need to cheat to “survive” or to compete.

The following student from a major public university in the southeastern USA seems concerned about the competition for good grades:

The cheating is extraordinarily rampant to the extent that if you do not at least a little [cheating] it is nearly impossible to compete.

Another disturbing response was from a junior at an honor code university in the East who suggested that although he did not cheat in his first 2 years at university, he felt he might have to cheat from now on due to the fact that the administration had been putting pressure on the faculty to reduce the number of A’s given in their courses. This student believed that a straight A average was more important than any concept of honor.

Also concerning grades, although not necessarily A’s in this case, is a quote from a faculty member at a large, public university in the southeastern USA concerning admission into selective programs on campus:

I explain the use of test banks in my class this way – “these are in place in order that someone who cheats can’t get as high of a grade as you and get into the competitive nursing . . . program before you.”

Perhaps the most disturbing quote noted over the years on the topic of grades was from a young gentleman attending a *very* prestigious school in the mid-Atlantic region. Since he was not at Harvard or Yale, he was concerned about competing against students from those universities when he graduated and looked for a job on

Wall Street. In his mind, this required that he cheat to maintain the straight A's needed, and if he had to cheat to get them, so be it.

Faculty Views

There are also some data available from the only other group intimately involved with student plagiarism – teaching faculty. Generally, faculty feel there is a need to improve the education of both students and faculty in relation to academic integrity. For example, the following comments from a faculty member at a medium-sized private university in the US Midwest support this need:

Make the academic integrity policy more readily available to everyone. For instance, I checked the University website on Academic dishonesty and it refers people to [a page], which is nowhere to be found on the web. The process needs to be as streamlined as possible to reduce the cost to faculty of using the system. Savvy students know faculty don't want to deal with it. . .and that lowers the expected costs of cheating.

Since teacher pay is tied to student evaluations of teaching, teachers are legitimately afraid of alienating students. Take this out of the equation and teachers will be more bold about confronting cheaters.

Such comments capture faculty dissatisfaction with the policies currently in place in their schools. They also suggest reasons why the research reports more students cheating than might be expected. The reference by the faculty member quoted above to teacher pay being tied to student evaluations is particularly relevant for adjunct faculty whose livelihood depends on their continued employment at the institution and hence to student ratings of their performance. The bottom line is that students today feel that they can get away with cheating which helps in part to explain the high incidence of engagement in dishonest behaviors.

Some Observations on Honor Codes

There is no universal agreement on what constitutes an honor code, and not every code nor system which an individual school classifies as an honor code has all four of the characteristics normally associated with such codes. As suggested by Melendez (1985), these four characteristics are the following:

1. The signing of some kind of pledge, ranging from one designed to be signed once, typically upon matriculation, to one designed to be signed with the submission of any work governed by the code (tests, examinations, or a written assignment);
2. Unproctored tests and examination;
3. A student-controlled hearing process; and
4. A degree of obligation on students to report any cheating which they learn about or observe.

Melendez (1985) argued that any one of these elements indicated the school used an honor code, but a more rigorous definition of a minimum of two of these characteristics with some elements of a third is used for inclusion in the honor code category in the project discussed in this chapter. Most codes, but not all, have some form of student governance although the exact form may vary widely in practice. We see variation ranging from total student control over the sanctioning process through to the involvement of administration at some point in the process, often in the assignment of sanctions.

The success of honor codes like the 1960s Princeton code mentioned at the beginning of the chapter can, in the author's view, be attributed to three things: (1) it was simply a different time with students more concerned about Vietnam and the draft and less concerned about their class rank, including some who were more concerned with simply graduating; (2) fear of being asked to leave school, which occurred on occasion, was probably the primary motivator for many, including this author (who could not imagine explaining expulsion to his father, who was so proud of his son's admission to Princeton); and (3) the fact that Princeton had a "partial" code that only covered in-class tests and not plagiarism on written work. This latter feature was undisputedly a point of contention as students, who felt they were not being completely trusted, pushed for full control of the code, while school administration resisted. In spite of all the rhetoric associated with this debate, the typical Princeton student surely had to feel less trusted than a student governed by a full honor code – like the one at Washington and Lee University. Although it was rarely stated aloud, one of the factors keeping the focus of the code on tests and exams was some lack of trust by administration, and possibly faculty, that students would not do their written work honestly. Not surprisingly, most students disputed this "fact."

Nonetheless, in conversations the author held with about one hundred classmates after he started this project a quarter century ago, he only encountered one classmate who knew of a single attempted incident of cheating. These conversations also seemed to confirm the fact – at least among the Princeton students of the early 1960s – that the fear of being dismissed was a primary motivator for students to comply with the very concept of honor itself.

Conclusions

Probably the most surprising conclusion of this work is the finding that students are suggesting cheating is decreasing while they rate the behaviors we would consider cheating more seriously of late. This holds for every relationship studied.

Over time the research revealed an increasing reluctance on the part of students to report cheaters for fear of being ostracized (summarized in McCabe et al. 2012). Students typically associated terms such as "narc" and "tattle" with reporting cheating. In addition, they seem to have no intention of reporting any cheating they might see. For example, the following are quotes from students at a major public university in the South:

Students are very unlikely to report another student, especially a friend, but possibly creating an anonymous system where people could report incidents could help.

I don't feel students should be held responsible for other students' cheating habits unless they are directly involved.

A student at a 2-year school in the Midwest seems to agree:

Students should play no part in academic integrity because it pertains to tattling. What if a student tells on their ex friend for cheating when they really didn't. There are a lot of immature students and allowing students to tell on each other will increase the caddishness in the future work field.

Finally, the body of research also revealed a tendency for students to seek out like-minded students in regard to cheating. The research has not yet identified a school where all the students surveyed felt there was absolutely no cheating at all. On every campus studied over the years (now approaching 200 campuses), there was a cluster of students who felt there is no cheating, while at the same time another cluster felt that cheating is rampant.

The difference evident between the campuses is the respective size of the two groups. Campuses with an honor code generally have a large segment of non-cheaters who seem to be attracted by the code, whereas those students with strong pro-cheating attitudes seem to seek out non-code schools. These two comments from students at the university in the South cited above seem to offer excellent summary comments:

Honestly, it is going to happen regardless. Students are smart enough to get around anything and everything that the University could do to regulate cheating. It is nearly impossible to regulate each and every single student. Realistically, no one is going to report someone cheating because no one cares. It is a serious issue but honestly all college students are in college for themselves. Someone can cheat on an exam but when they go to take the MCAT or LSAT, it is more difficult to cheat and they will just suffer there. I do the best that I can and that's all I care about. This comment might sound harsh but it's reality. I'm not going to take the time to report another student. I have myself to worry about and my grades. [This university] would probably be wasting time, money, and energy by trying to more highly regulate cheating. Students will just develop smarter ways to cheat.

Students know which classes and which professors tend to keep the same tests year after year, and it just supports the circular idea of cheating. If I know that a friend of mine has answers to all of an online class' tests and assignments that have been passed down for a few semesters that haven't changed, I'm much more likely to take that class, especially if it counts for a requirement that doesn't fall within my major or interests.

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Making Decisions on Management of Plagiarism Cases Where There Is a Deliberate Attempt to Cheat

17

Jude Carroll

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Abstract

This chapter provides a framework for markers who suspect that work they are assessing contains deliberately plagiarised passages. Five guiding questions are provided to assist the marker move from the point of suspicion through to deciding on and imposing appropriate penalties. Answers to the five questions are usually complex and often contested. The principles of fairness and defensibility are central to decisions regarding breaches of academic regulations and those principles shape the framework proposed for making decisions about

J. Carroll (✉)

Independent Educational Development Consultant, Formerly at Oxford Brookes University,
Oxford, Oxfordshire, UK

e-mail: jude@judecarroll.co.uk

deliberate plagiarism. Fishman's (2009) definition of plagiarism is used to help determine whether plagiarism exists in the submitted work. The second question revolves around the marker's decision about intent: was the plagiarism deliberate? Finding that an attempt to gain unearned academic credit has been made leads to the third question which is around the severity of the cheating. This third section outlines criteria that should be used when assessing severity of a breach and stresses the importance of local or institutional agreement on the criteria and the need for them to be explicitly stated in policy documents. Having decided the extent of the breach, the fourth step is to decide an appropriate penalty. A tariff system is proposed that provides a framework for matching defined levels of seriousness with a small number of pre-determined penalties. The fifth and final question revolves around ensuring that decisions are fair, defensible and sustainable and presents five significant factors that should be considered when establishing a framework to deal with deliberate attempts to breach academic regulations.

Introduction

This is a chapter about managing student plagiarism in coursework and assignments where the marker suspects a deliberate attempt to cheat. Discussion is focused on the decisions that a marker or assessor needs to make if he or she suspects the cheating is linked to plagiarism. This is a relatively narrow focus in the larger topic of managing breaches of regulations that involve plagiarism. Readers interested in the broader issues of plagiarism are referred to other chapters in this section and across the handbook: to advice and guidance on dealing with collusion between students; on how to manage cases involving paying others to do work (often referred to as commissioning); on educational approaches to deterring plagiarism from occurring; on redesigning assessments to deter students; and so on. Here, the chapter starts with the moment of suspicion when marking student work ("Is this plagiarism?") and then discusses the chain of interconnected decisions that typically follow. The system being advocated is one which involves creating and applying a tariff that matches the level of severity with the imposed penalty (Carroll and Appleton 2005) and then applying it consistently across a department or at best, across a whole tertiary institution. The guiding questions for assessors and for policy-makers creating procedures for dealing with breaches involving plagiarism are as follows:

1. [On beginning to suspect the piece of work is not authentic and honest]: is the piece of work being assessed actually plagiarism?
2. [On having decided the work is plagiarism]: is it an example of *deliberate* plagiarism – that is, is this plagiarizing student actually cheating?
3. [On deciding the student is cheating]: how serious an example is it?
4. [After having decided the level of seriousness of the plagiarism]: what is the appropriate penalty?
5. [After having imposed the penalty]: is the imposed penalty fair, defensible, and sustainable?

Answers to each question are complex and often contested, especially those involving penalties. For students, penalties have a role in shaping their behavior and decisions (Rigby et al. 2015). Penalties influence whether teachers trust and are willing to apply policy and to use case-management procedures, judging them neither too harsh nor too lenient (McCabe 2005). For administrators, penalties are important because they often are called to deal with post-decision challenges. For institutions, the priority is often whether or not penalties align with available resources and institutional priorities (Martin and van Haeringen 2011; Baird and Dooley 2014). In brief, decisions in the management of breaches to academic regulations involving plagiarism must not just be fair, but be able to be shown to be fair and to be defensible as such. Fairness and defensibility shape the approach taken in this chapter.

Question 1

Context: A tertiary teacher or assessor looking at a piece of student coursework or reading a document designed to make research output publicly available

This seems to be not the student's/author's own work. Can some or all of it be plagiarism?

Defining Plagiarism

There have been decades of discussion about problems in defining plagiarism. As illustration, the reader might look to Walker (1998), Howard (2000), Levin (2003), Park (2003), Saltmarsh (2004), Hunt (2004), Blum (2007), or Borg (2009). There are differences of opinion on what sources and work should and should not be acknowledged. Publications dispute the importance of intention in determining whether or not plagiarism has occurred. Authors discuss paraphrasing, searching for a clear answer to questions about how much change or alteration renders something that is written in one person's words into something that the current user can claim to be his or her own words. Discussions of definition often cover how much acknowledgment of others' work is required, and there are various views as to how accurately acknowledgment needs to be done. The list is not exhaustive, and in the texts cited above, most authors resolve the complexities by offering their own views and their own definition of plagiarism. In this chapter, the author uses the definition proposed by the Director of the US-Based International Center for Academic Integrity (Fishman 2009) because it specifies the elements that must be present to deem something to be plagiarism. Fishman defines plagiarism as occurring when someone submits the work product(s):

- Of a named or identifiable source;
- In a situation where original work is expected;
- Without sufficient acknowledgment of the original source; and
- For credit or benefit.

Although the definition appears explicit, in order for it to be used consistently by those assessing student work, the significance and meaning of each element must be agreed. Agreement might be across an academic department or even a whole institution and usually requires interactive discussion in a search for shared views. The alternative is allowing individuals to interpret the meaning of each element, which will inevitably lead to inconsistencies. The following points may be useful in discussions seeking consensus.

On Work Products

Fishman's use of "work products" includes all outcomes of others' work in all areas of student endeavor – to texts as well as computer programs, design portfolios, engineering projects, dance choreography, and so on. It also includes work from fellow students or from unpublished sources, where the work can be deemed to be that of a named individual. It is the outcome, not the work itself that is being considered.

On Submission for Credit

Work not submitted for credit or benefit (e.g., a draft for review) cannot be deemed to be plagiarism.

On Sufficient Acknowledgment

Academic judgment of sufficient acknowledgment depends on level, context, stated rules, disciplinary variations, and so on. Discussion here usually requires examples.

An example of insufficient acknowledgment might be a doctoral student using an identified person's data and ideas plus a string of 10 or 12 of the words in her text and referring to the source by name, at the point of use, with a phrase such as "... as [person x] wrote more than 10 years ago." Informal acknowledgment like this is unacceptable in a doctoral-level author – there must be "quote marks" and an in-text signal of use in line with whatever citation system is in use (Author 1929, xx). Citation will improve the quality of the text and show research competence, but even if submitted uncorrected, the text is not plagiarism because the source was acknowledged (albeit insufficiently). On the other hand, suppose a first-year university student copies another's ideas and/or words and simply notes the source in a bibliography, with no clear indication as to where use occurred in the text. The submission could be judged to be plagiarism as long as the requirement for in-text citation at point of use had been made explicit.

On Originality

In a few instances, the work generated by students and researchers does need to be original in the sense of being novel and/or unique. For example, originality in this sense is expected in the elements of a dissertation where a researcher indicates his or her contribution to the disciplinary knowledge base. On the other hand, there are instances where little or no originality in any sense is required (leaving aside the issue as to whether or not setting this type of task is pedagogically useful). For example, the teacher might set a fact-based coursework question with the answer available in the course textbook, perhaps asking the student to provide a physiological sequence, or to set out the standard way of managing a problem, or to create a list of historical events. If the student does so without indication of the source in such coursework, the submission is not plagiarism – in part because the work product (i.e., the answer) is not something that belongs to a named person or source but largely because the task only required the student to locate and reproduce. The submission would be *improved* with a citation. Citation could show the authority of the source; it could show how recently the answer was published; it would allow the teacher to check accuracy and so on, but a citation is not needed to counter an accusation of plagiarism.

In most coursework, originality refers to work that the student creates through his or her own efforts, in the sense of “I made that” and which is authentic in the sense of “That is my own work.” Students (and some teachers) often are unclear about which of the above meanings of “originality” are implied when discussing plagiarism, and considerable effort may be needed to resolve differences of interpretation and understanding on this point.

On Named or Identifiable Sources

This component of the definition addresses the vexed question of when something can or cannot be deemed common knowledge. Where something is common knowledge (or where it is agreed to be so, given a complex list of contextual factors such as the disciplinary rules, the level of study, the method used to present the knowledge, and so on) – where knowledge is deemed to be held in common – then citation becomes an optional and often useful academic device which can also add value as noted above. Its absence cannot be deemed plagiarism.

In Summary

Determining occurrence or nonoccurrence of plagiarism is always contextual and subjective. It relies on indications in the work itself, on the context, and on the academic significance of the student’s action. When one or more of the elements in Fishman’s definition is missing, the submission cannot be deemed plagiarism, but it

can still be unacceptable. Determining whether or not a piece of student work is plagiarism does *not* involve judgment as to a student's motivation and/or reasons for the behavior. Plagiarism can happen unintentionally and still be plagiarism, as long as all five conditions apply. However, when deciding on how *serious* the plagiarism might be and when deciding the consequences or penalties that should apply, then decisions will inevitably involve issues of intent. This is the next question that requires resolution.

Question 2

Context: Making a decision about a piece of work that has already been deemed to be plagiarism

This is plagiarism, but is it deliberate? Has the student cheated using plagiarism?

The short answer is that a submission containing plagiarism can be treated as intentional as long as the student submitting the work has had sufficient opportunity to learn how *not* to plagiarize. The finding of "sufficient opportunity" is always a judgment and can be hard to establish. Studies that probe students' claims to "understand what plagiarism is" often show their understanding is partial and more importantly that they lack what is referred to as "procedural knowledge," meaning they cannot put knowledge into practice. See, for example, McGowan (2005), Marshall and Garry (2006), Bertram Gallant (2008), Pecorari (2010), Bretag et al. (2011), Davis (2013), and many more.

Another problem with establishing sufficiency is the difficulty students have in understanding why plagiarism matters. If discussion focuses on referencing conventions, it risks being sidetracked into trivial issues such as whether or not to put a comma after a date in a bibliography and/or risks attracting too much emphasis in teachers' feedback comments (McCulloch 2012). Allusions to copyright can also seem problematic as a justification for regulations that forbid plagiarism because most student work has only one reader (the teacher). References to intellectual property can seem equally irrelevant because students rarely judge their output to be sufficiently novel or unique to warrant protection. The same sense of disconnection often holds when teachers talk about cheating if students do not see themselves as cheaters. In all these circumstances, many simply stop listening (Zivcakova et al. 2012).

The challenge is to help students understand and perhaps to value the educational beliefs that underpin rules and regulations about source use yet does not resort to what Chanock (2010) describes as either denigrating others' practices or lionizing one's own. One approach is to explain constructivist learning, where students who have learned are expected to make sense of others' work. Constructivist pedagogic practices require interpretation and transformation in order to demonstrate understanding (and, conversely, do not value finding and copying material as evidence of learning). Assessment tasks in a constructivist learning setting should require students to make choices between different versions of the

truth and to support their own “original” version or argument with evidence by referring to others’ ideas – a scholarly activity that is usually termed “using and acknowledging your sources.” A student who “gets” constructivist learning theories and who understands the rationale for conventions of referencing and rules for academic acknowledgment can move beyond rule-following about avoiding plagiarism. They might be able to resolve issues that previously seemed paradoxical (as in “How can I simultaneously have ideas and be expected to use those of others?”), or arbitrary (as in, “Why is ‘find-and-replace’ paraphrasing such as substituting ‘house’ for ‘home’ unacceptable?”), or mysterious (as in, “How do others’ work and words become ‘my own’?”). Perhaps, too, the student can see that all plagiarism, whether it is intentional or not, breaks the links between effort, understanding, and learning. Scholarship enhances those links, and more importantly, scholarly acknowledgment enhances the evidence of learning.

All students find these concepts problematic, but some groups are more likely than others to persist in misunderstanding about rules and expectations. Those who often continue to have serious misunderstandings of “the rules of the constructivist learning game” include those who have:

- *Changed disciplines*
Newcomers often meet new expectations and must abandon those common in previous subjects.
- *Returned to study after some time*
The rules on citation have tightened significantly in the twenty-first century.
- *Moved between systems* (e.g., between countries, moved from professional practice to study, from a lower level of study etc.)

One shift in systems specific to academic writing happens when moving from a reader-responsible academic culture to a writer-responsible one (Hinds 1987). In many educational contexts, a student can write with the assumption that the reader (usually the assessor) is an expert in the field, and so, the reader will know what sources have been used and will make the effort to deduce what the writer (usually the student) thinks about the source. In reader-responsible discourse, it might seem impolite or just boring to spell these things out. On the other hand, in writer-responsible contexts [and as Connor (2005) and many other authors assert, most Anglo-western universities are highly writer responsible], it is up to the writer to make things explicit for the reader and to demonstrate the author’s personal achievements. This means that writer-responsible authors are expected to meticulously record sources and should present the reader with traceable statements and explicit links to evidence. Switching between discourse styles presents many students with significant problems as described by McGowan (2005), Schmitt (2005), Chanock (2010), McCulloch (2012), and many others.

Rules on citation and acknowledgment are context and situation specific, yet when students change contexts, they commonly do not anticipate that academic requirements will change, too (Gu et al. 2010). Radical changes in demands, especially when language issues compound the challenges, leave many struggling

(Marshall and Garry 2006; Baird and Dooley 2012; Davis 2013). Neville (2009) found these difficulties extended over many months in half of his survey cohort, despite intensive teaching and practice:

- *Had little or no experience of writing independently*
There are numerous new skills to learn when acknowledging others' work – far more than just applying the formatting rules of a specific referencing system. Bailey (2013) describes novice academic writers' skills gaps, such as inexperience with finding or using authoritative sources and not knowing how to be explicit as to which ideas are one's own and which are others' ideas.
- *Did not expect to be required to write*
Academic literacy is generally not regarded as part of professional competence in subjects like architecture, mathematics, engineering, and fine art (among others), and students in these disciplines can be reluctant to put energy into developing skills that seem to have little or no value for their prospective professional identity.

Membership of one of the above groups is not a license for ignoring regulations that prohibit plagiarism nor can those who teach these groups fall back on “the students are still learning” as grounds for inaction when students misuse or fail to acknowledge the work of others. If an assessor sees plagiarism anywhere at any time, it needs to be labeled as such, as in, “Here, you have used someone else's work without acknowledgment and this is what we mean by plagiarism. Instead, you should have . . .” (Davis 2013). Sometimes, teachers offer a general comment like, “Fix your referencing,” which can seem like kindness, avoiding “hot” terms like plagiarism and protecting students from the implication that they are cheaters. However, implicit or hinted feedback and/or vague mentions of “poor practice” might sidetrack students into concentrating on formatting issues such as whether they have punctuated correctly. A more serious risk might be encouraging over-referencing, leading to novice students peppering their text with citations to protect against accusation rather than encouraging them to use a citation where it is both warranted and where it shows scholarship (Bailey 2013). Explicit feedback is even more important for deliberate deception. Whitley and Keith-Spiegel (2002) found that the single best predictor of academic dishonesty was having been dishonest previously, making early intervention a priority.

In summary, if the student has learned what is meant by honest and transparent use of others' work and if the student has the academic skills necessary to follow the rules, then a behavior that breaches regulations for honest, transparent, and scholarly use of others' work can be assumed to be deliberate plagiarism. Deciding when students have had sufficient opportunity to learn is an academic judgment, made on the balance of probabilities, with a level of proof appropriate to civil rather than criminal law (Sutherland-Smith 2010). Indicators that could signal sufficiency include the student passing a study-skills-type module, or attending a lecture where worked examples are discussed, or an academic literacy workshop in the library. Evidence increases if there has been some sort of interaction with feedback

to check understanding, especially if it occurred within the subject area. Discipline-specific practice and feedback would mean the student has learned the particular expectations and habits of his or her area of study. Better still would be practice and feedback over time – how much time, practice, feedback, etc. being a matter for local assessors and colleagues to resolve, ideally through discussion and consensus. A judgment on sufficiency based on the presence of “no plagiarism” statements in course documentation is not defensible because there is almost no chance that students have spontaneously read and/or understood them.

It is reasonable to assume a student who has had sufficient opportunity to learn and who breaches regulations using plagiarism has done so deliberately. The intentional plagiarist is attempting to gain academic credit unfairly, without effort. It is cheating but labeling it as such prompts a further question: how serious is it? Determining the level of severity is discussed in the next section.

Question 3

Context: referring to a piece of work that shows evidence of intentional plagiarism

How serious is this example of cheating involving plagiarism?

Establishing the seriousness of cheating requires decisions based on agreed criteria, applied according to explicitly described procedures, usually set out in a policy or in accompanying documentation (Morris and Carroll 2011; Bretag et al. 2013). This section discusses the thinking and shared understanding needed to create and apply this type of criteria-based decision-making about cheating and might be useful for anyone writing or revising policy and procedures. A range of publications have addressed the issue of agreeing criteria and then using them to set levels of severity. As examples, see Walker (1998), Park (2004), Carroll and Appleton (2005), Yeo and Chien (2007), Carroll (2007), Martin and van Haeringen (2011), Bretag et al. (2013), and Baird and Dooley (2014). Some or all of the following issues and options are discussed in the case studies and policy proposals listed above. Decisions about seriousness need to consider some or all of the following aspects:

- *Amount*

Care is needed that judging “amount” is not equated to noting the amount of copying found in a piece of work because plagiarism involves misuse of work as well as misuse of words. Judgments on amount need to ignore copying examples that have no impact on awarding academic credit because the small amount of copied material does not threaten the judgment of the work as the student’s own. Examples might be very brief copied extracts or replication of standard phrases. Another issue is to ensure that seriousness is not based on headline percentages from text-matching reports, as in, for example, regarding any report over a specific percentage as automatically serious. Instead, text-matching reports require human investigation of the significance and relevance of identified

matches. Even low levels of unattributed copying might be significant in circumstances such as publication of important research findings, and the same is true for unattributed use of work that does not involve copying.

- *Significance*

This has two meanings: the impact of unattributed elements on overall academic worth and the significance of the piece of work itself. Higher significance is generally seen for elements specifically designed to show the student's learning. For example, assessors are typically more worried about unoriginal unattributed work in the key operational elements of a computer program or in the discussion section of a thesis and less worried about unacknowledged, unoriginal work in an appendix or in a description of the difference between, say, a quantitative and a qualitative research methodology. Of course, if research methodology is the focus of the piece of work, then the significance of a plagiarized element increases.

Particularly, significant work examples might include a doctoral thesis, capstone course, professional ethics assessments, or externally published document.

- *The stage in the student's academic "journey"*

Particular care is needed in the early stages/months after enrolment, in "top up" programs or in postgraduate study – most require a transition to unfamiliar pedagogic practices and conventions.

- *Whether it is a first or subsequent offense*

Repetition is usually treated as an exacerbating factor, assuming subsequent breaches cannot be unintentional. In some instances, repetition is also treated as disregard for the opportunity to learn and change. There are exceptions to labeling multiple offenses as repeats such as when two pieces of coursework are handed in at the same time, both containing plagiarism. Another contested area is where similarities (or lack of similarity) make it difficult to decide whether a student could have transferred lessons learned from the first instance to the second: for example, when the first instance of plagiarism involved inadequate textual acknowledgment, and the second was due to inappropriate copying between students.

- *Whether or not there is evidence of deception*

Evidence of deception always tips the probability towards intentional plagiarism and, therefore, to cheating. Deception is discussed in the next section.

What Would Constitute Deception?

Deception involving plagiarism is usually defined as a behavior that aims to mislead and/or create a false impression. Deception must be inferred, based on what can be seen in the submission, and the decision-maker who decides an act is deception must use a "balance of probabilities" level of proof. Any of the following might tip the balance:

- Misuse of references and bibliographic material

A low-level example of deception might be a reference list containing unread material to make the author seem more scholarly. More serious deception would be a student who dropped unacknowledged “cut-and-paste” text of, say, 40 lines in length into a submission and more serious still if the student extracted the citations and added them to the reference list. Levels increase if the students fabricate references or change dates to seem more recent. In the latter cases, there is evidence of effort to mislead the assessor and of deliberate lying.

- Duplication

If a student hands in the same work twice, this is deception because it creates a false impression about the amount of learning effort that the student has invested. It also claims benefit unfairly since the student has already “cashed in” the learning effort once. There is of course an issue as to why a program has been designed so that duplication was an option for the student (with the alternative being a program designed in such an integrated way that duplication would not be possible). Discussion of the issue is probably best addressed at a higher organizational level than when considering an individual student’s actions, but the appearance of duplicated work should probably prompt such a review.

- Misuse of others’ work

To illustrate deception by misuse of others’ work, it is common to refer to percentages of the text which reflect “chunks” that are not the student’s own work (as in 5 %, 10 %, 50 %, and so on). It is also common to assume that as the overall percentage rises, the severity of deception rises as well. There is no absolute percentage or threshold to denote more or less severe deception, and in a real-case scenario, local consensus on how variations would be treated will support greater consistency and fairness. Discussion is usually based on examples such as the following: suppose a student copies from a source without any acknowledgment, constituting 10 % of the total submission, yet in the remaining 90 %, she shows understanding of the rules for paraphrase and correct use of acknowledgment conventions. The 10 % is plagiarism but a “balance of probabilities” explanation of carelessness could be defended. However, if unacknowledged, copying forms a significant part of her claim for academic credit – again, “significant” requires agreement but perhaps 30 % or 40 % with the remaining 60 % correctly attributed – then in this case, carelessness is unlikely on balance of probability. Instead, a decision on balance of probability tips towards deception. Suppose the same student alters text in the unattributed section, for example, by using the “find and replace” function to substitute references which were not relevant with replacement words which were, such as by retaining the cut-and-paste text but replacing every reference to Japan by one referring to Korea because this was the subject of the piece of work. If a student does this, then it is clearly misconduct because the resulting text is untruthful, a deliberate attempt to deceive, and of significant length to threaten the link between original work, learning, and academic credit. In the last example, the cheating is serious with deception as an exacerbating factor.

- Technological “fixes” (sic)

Technological deception largely aims to evade or “confuse” text-matching software. Practices can include *back-translation*, where someone converts a text into another language and then back into English with the purpose of altering it sufficiently to go “under the radar.” An assessor might encounter *character insertion*, where a program replaces one or more characters with something that prints the same but has a different digital “identity.” Replacement interrupts the digital sequence that should have triggered identification of copying. Another deception technique involves *masking and camouflage*. An example is to place “quote marks” around copied text where submission is via a text-matching program set to ignore text within such markers. By using white rather than black digital “ink” for the quote marks, they become invisible when a hard copy is handed in. New ways pop up regularly and use of any would be serious deception.

Deception always exacerbates seriousness and can tip serious cheating involving plagiarism into fraud.

Cheating and Fraud

Examples of fraudulent behavior would include falsifying data, theft, acquiring data by threats or intimidation, and impersonation and/or a student paying someone to create work and then submit it as their own. The latter instance is often called commissioning or sometimes called contract cheating (Lancaster and Clarke 2012). It is common to find commissioned work referred to as plagiarism, probably because commissioned products are submitted as coursework, and therefore, they appear to be analogous to those created by academic misconduct and cheating involving plagiarism. However, prohibitions about plagiarism are usually linked to academic regulations that are designed to safeguard the connection between effort, learning, and academic credit. The definition of plagiarism cited previously in this chapter sits within a constructivist and learning-centered context where original work is expected. The definition’s author, Fishman, refers to plagiarism occurring when a student identifies and uses the work of others without acknowledgment in their own work. However, in commissioning, no use by the submitting student is involved. There is no effort, no learning, and therefore, no attempt at justifying a claim for academic credit. Commissioning is much closer to fraud than to plagiarism, and when managing it, many policies for plagiarism include ways to remove cases of commissioning and other fraudulent behaviors from consideration. Instead, commissioning is dealt with in the same way as universities manage other instances of fraud. There are detailed discussions on managing commissioned work in other chapters within this section.

In summary, determining seriousness in breaches of academic regulation involving plagiarism requires agreement on the criteria used to judge the level of severity and agreement on how many levels of severity will be used. Good

practice requires that the procedures used to judge severity are stated explicitly (Morris and Carroll 2011).

Question 4

Given [level x] for severity of cheating using plagiarism, what is the appropriate penalty?

Matching level of severity and penalty is complicated so it is understandable that people would seek shortcuts such as adopting what is often called “zero tolerance”. Here is an example from a US college teacher, writing in the course handout for a course in critical thinking. He warns his students:

Plagiarism – copying someone else’s work without giving them credit – is taken very seriously by colleges and universities. I have a zero-tolerance policy for cheating; students who cheat or plagiarize will receive an automatic F on the assignment and will be referred to Administration for disciplinary action as outlined in the Student Code of Conduct. “From <http://nicomachus.net/wp-content/uploads/2014/01/syllabus1.pdf>”

By its nature, zero tolerance does not recognize either that offenses can range in seriousness or that they can occur unintentionally. Zero tolerators, like the teacher in the example above, usually elide plagiarism and cheating. Another characteristic is that the number of penalties available is limited (or in this case, a single one, being fail and refer).

Support for “zero tolerance” usually arises from the belief that it keeps things simple and perhaps, too, that it is justifiable because a single instance of plagiarism, however small and however it was caused, will invalidate the whole piece of work (and often, taints the offender, too). However, there are significant problems with zero-tolerance/one-penalty systems: the available penalty often seems too harsh (or sometimes too lenient), and so, teachers ignore cases when they identify them during assessment (McCabe 2005; Carroll 2007; Tennant and Rowell 2009). Assessors often choose their own penalties (Barrett and Cox 2005; de Lambert et al. 2006; Tennant and Duggan 2008). For students, zero tolerance can make plagiarism seem such a dangerous offense that fear of it drives them to being apparently more interested in avoiding accusations than in skilful scholarship (McCulloch 2012 and many others). Finally, the danger is that “threaten and punish” becomes the deterrent method of choice, yet threats, especially when not carried through, are far less effective in getting students to comply with rules than an intervention that includes teaching them academic and scholarship skills (Sutherland-Smith 2010).

The alternative to a zero-tolerance approach and/or letting each teacher, individually, deal with breaches as he or she feels is correct is to develop local or sometimes institution-wide agreements which combine three elements into a tariff. The elements are:

1. A small range of penalties, probably five or six;
2. A small number of levels of seriousness, usually three but commonly in the range of two to four; and
3. A system for matching level and penalty, with sufficient flexibility to allow for academic judgment and sensitivity to the individual case context.

Each of the sources listed have created slightly different criteria, variations in the name and number of levels of severity and in the range of penalty choices. However, the underlying principles are the same: decisions on case management must be criteria-based; they must impose only designated penalties, must be able to show how the penalty matches the level of severity, and must demonstrate that decision-makers have followed stated procedures. The remainder of this section draws upon the cases and documents stated above. The aim is to facilitate the reader in creating and/or modifying a tariff for managing breaches of academic regulations using plagiarism.

Low-Level Cases of Severity of Plagiarism

Criteria generally used to deal with plagiarism as a low-level breach of academic regulations include identifying:

- Low amounts of inauthentic work (i.e., “not the student’s own”) in less significant aspects of the submission;
- Occurring early in the program;
- Following little or no opportunity to “learn the rules” and to gain skills; and
- Where there is no evidence of deception or seeking unfair benefit (i.e., no evidence of cheating).

In cases at this level, Sutherland-Smith (2010) makes the case for thinking about consequences rather than penalties. Whatever the outcome is called, the impact on the student needs to be significant enough to capture the student’s attention, clear enough so students understand that continued behavior along the same lines risks more severe penalties, supportive enough to encourage skills development, and efficient enough to be sustainable (both for the student who may have a full timetable and for the teacher who will certainly be time poor). In practice, the most common consequences cited in the literature for plagiarism of low-level severity include some or all of the following:

- A one-to-one tutorial or conversation.
- A record being made of the occurrence and/or discussion to prevent future claims of naivety.
- A requirement for additional activity. This might include testing out of an online tutorial, attendance at a workshop, or accessing additional guidance.

Sometimes, correction and resubmission are required although this puts pressure on hard-pressed teachers and may overburden students. It should be used with care.

Even at this level, establishing systems and keeping records are important because cases handled informally are always handled inconsistently (Carroll and Appleton 2005). Lack of records make it difficult to defend decisions and can leave students free to continue to claim to be naïve. Having no data also makes it harder to justify/evaluate improvements to practice. In order that records can be collated, compared, and analyzed (and to ensure data collection is efficient), it is usually helpful to devise a concise and universally used pro forma. For an example of a one-page record keeping form that supports consistent data collection, see Yeo and Chien (2007).

From Low-Level Misunderstanding to Higher-Level Misuse

Mid-level severity of academic breaches involving plagiarism is commonly deemed to occur where any or all of following are evident:

- Inauthentic work starts to interfere with the ability of the submission to be worthy of credit.
- Application of the rules for citation and acknowledgment are followed inconsistently and are often insufficient.
- There is no evidence of deliberate attempts to increase deception beyond failure to acknowledge sufficiently.

Penalties for mid-level severity vary and generally include one of the following:

- Reduction of the mark, often set at a minimal pass or reduction by a stated percentage;
- Correction and resubmission for a capped pass; and
- Zero/failure grade for the piece of work.

By having a range of penalties within a single level of severity, procedures can offer flexibility and choice rather than trying to force decision-makers into conformity and/or uniformity. Bretag and Green (2009), after investigating this issue, conclude, “. . . a rigid adherence to a rules-based approach in dealing with breaches of academic integrity will not necessarily ensure fairness (p. 1).” However, mid-level breaches usually mean that the work is not a true reflection of the student’s learning and so, “being fair” must come with a detriment for the student. Detriments are there to safeguard the integrity of academic credit. On the other hand, penalties need to be such that the consequences do not compromise natural justice. As an example of how compromise might occur, suppose one student received a zero which had the knock-on effect of invalidating his visa and therefore sending him to his home country, whereas another, given the same zero mark, was able to progress without undue difficulty. In such a situation, it might nevertheless

be justifiable to fail the first student, regardless of the impact, but only after consideration of natural justice constraints.

From Misuse to Misconduct

At some point in this proposed continuum of rising seriousness, plagiarism becomes misconduct. In general, the line between unacceptable use and misconduct is crossed when there is evidence of high levels of deception, in significant parts of the student's work (or of a researcher's output) and/or evidence of repeat offending. Treatment of reoffending varies, with some policies considering a second occurrence of plagiarism, however serious or otherwise in itself, to be an automatic indication of misconduct. Penalties for misconduct involving plagiarism are commonly either a failure for the piece of work or a failure for the learning unit/module within which the misconduct occurred. Both are penalties that fall within the control and authority of the academic managing the learning unit where the plagiarism occurred. Keeping the academic link signals that the offense is against regulations designed to safeguard the value of academic credit.

However, there may be instances where withholding credit is insufficient, and instead, the university as a whole needs to protect and manage the integrity of its academic awards and qualifications.

From Cheating to Serious Deception and Fraud

If investigation of student work or research output identifies any or all of the following, then the case deserves treatment at the highest level of seriousness, usually by a panel authorized by the university as a whole:

- Extensive attempts to deceive. This might be in the amount and placement of inauthentic work and/or by extensive transforming or manipulating the submission to make it appear genuine.
- Attempts to deceive in significant work products. Doctoral dissertations and capstone undergraduate projects are often cited as examples of significant work as are publication outside the university in any form, including conference presentations.

In practice, these severe and usually disturbing cases are rare with referral often triggered by a feeling akin to, "I would not want anyone who behaved like this to leave this [university] with our name on their qualification/work." To justify referral to the highest level of management, deceptive behavior would need to be severe enough to threaten the university's capacity to assure the value and reliability of an academic qualification. Seriousness would be exacerbated by having previous offenses or if there was evidence of fraud, lying, theft, menaces, and so on.

The decision to refer to a university-level panel can be contentious. Reluctance to refer can derive from the feeling that universities are places where students need opportunities to learn, to develop skills, to make their own decisions on whether or not to adopt values and beliefs, and, on occasions, to make mistakes. An argument in favor of referral is often the choice of penalty: moving to central organizational authority allows a judgment on whether serious deception and/or fraud invalidates the student's competence as reflected in the final award or qualification since institutions rather than academic departments validate awards.

As well as the question of what and when to refer cases to a university panel, effective case management also requires clarity as to what penalties can be handed down by university-level academic misconduct panels, especially the decision on whether or not students should be excluded. The author contends that penalties at this level should extend to exclusion and to denial of professional accreditation and, in some cases, could include fines. If penalties up to and including expulsion are not within the capability of the institution (and the author has visited dozens of universities where this is claimed to be the case), then any institution that is considering how and whether to review their policy and procedures probably needs to think carefully about how to change current practice disallowing exclusion. In cases where behaviors breach criminal law as well as civil law statutes policed by universities themselves, cases must be referred to extra-university authorities.

Finally, with higher-level penalties (and their accompanying significant consequences for students) also comes a greater responsibility for ensuring transparency and defensibility of decisions. This is especially true for judgments about plagiarism in connection with overall fitness to practice. Plagiarism can threaten professional skills: for example, a student nurse is expected to use evidence to reflect on and to justify treatment decisions and plagiarism might indicate an inability to do so. However, it would not automatically mean the student was incapable of, for example, making decisions about drug administration plus it would only be justifiable to deem the skill or professional value to be absent if there was evidence of sustained and continuous misuse of others' work. However, honesty is always a professional value. For that reason, referral and punishment options need to focus on whether or not the breaches demonstrate absence of key professional values.

Question 5

When awarding a penalty for cheating involving plagiarism, how can one ensure the decision is fair, defensible, and sustainable?

In the preceding section, a tariff and framework were proposed where penalties and levels of severity are matched, along with the assumption that each university develops their own version. The challenge then becomes using the framework consistently, with consistency in penalty decisions being only one of the many aspects necessary for overall consistent management of breaches involving

plagiarism. To support consistency in penalty decisions in particular, these factors are significant:

- Ensuring the penalty tariff is agreed through discussion and interaction with stakeholders (Carroll 2007).
- Reducing the overall number of penalties and working to eliminate the use of “informal” and undocumented actions by assessors (Tennant and Rowell 2009–2010).
- Organizing regular opportunities for interaction and discussion on how the tariff is used. Where these do not occur regularly, consensus and consistence tend to be lost (Carroll and Seymour 2006).
- Keeping good records with evidence of changes made in the light of findings (Carroll 2014).
- Delegating decisions to a specialist.

This last is perhaps the most widely discussed initiative and is often referred to as an Academic Conduct Officer (ACO) system. In such systems, plagiarism is identified by assessors then referred for investigation and action by a specialist within the department or, sometimes, the academic school or faculty. He or she takes on the role for a designated time as part of their overall timetabled duties and is empowered to award penalties within boundaries. In most systems, ACOs are expected to collect and pass on data to a central office (often the department responsible for quality assurance). For more detailed descriptions of how the ACO system works, see Carroll (2007, 2014). The benefits of an ACO system are many: induction and staff development becomes realistic; selection can search outpost holders with relevant interactive skills (and avoid appointing those without); academic managers can rotate a task which many academics see as not what they came into teaching to pursue; and having a specialist provides a place of expertise for colleagues and students to seek guidance and to untangle conundrums.

Summary

Management of plagiarism involving cheating in fair, transparent, defensible, and sustainable ways can seem an overwhelming task, given the many decisions discussed in this chapter. Alternatives can seem attractive, and two have been referred to being “zero tolerance” and/or encouraging individual markers to make their own judgments. However, post-2000 and, especially, towards the end of the first decade of the twenty-first century, it is possible to point to positive experiences with using criteria-based decisions, often taken by designated specialists, and with systems that deal with large numbers of cases within institutional resources. One such case study, here describing the experience of an Australian university, probably represents the views of many institutions that have recognized the difficulties of not having a clear and explicit set of policies and procedures for case management. Most state the criteria used for decisions, and they documented and evaluated

the outcome. Martin and van Haeringen (2011) sum up their 5-year-long efforts as follows:

. . . policies and processes have allowed the University to respond to breaches of academic integrity in an equitable and timely manner, foster the continued development of a culture of integrity and reduce the administrative burden on academic staff. They benefit students by improving the quality of their learning experiences and providing an opportunity for academic staff to intervene and direct them to educational resources. Martin and van Haeringen (2011, 22).

Anyone embarking on the process of trying to deal with breaches of academic regulations involving plagiarism can expect similarly positive outcomes when systems and procedures are in place (and they usually take several years to agree) and when resources are invested in gaining acceptance (and this usually means significant investment in time and in building expertise and in staff development), and when students and teachers and administrators are supported to regard dealing with cheating using plagiarism as part of their responsibility (and this is an ongoing challenge) and when there is institutional commitment to addressing these issues (and this is far from universal). It is to further the reader and/or the reader's institution in achieving a similar end that the suggestions and comments in this chapter are presented.

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Abstract

Collusion is consistently identified as one of the most common types of academic integrity breaches and indeed is implicated in many of the most serious actions that compromise academic integrity. This chapter limits its consideration of collusion to that between students in non-examination assessment, i.e., inappropriate collaboration or assistance between students in relation to such assessment tasks. Even in this limited context, the line between appropriate collaboration and collusion is difficult to draw, given the variations in

S. McGowan (✉)

School of Commerce, University of South Australia, Adelaide, South Australia, Australia
e-mail: sue.mcgowan@unisa.edu.au

understandings and acceptable practices between students, academics, disciplines, and assessment items, and so is contextually dependent. Further, collusion is by definition a social activity; hence, peer and group norms and loyalties come into play. This chapter considers the nature of collusion, the difficulties inherent with the concept, and the importance of addressing collusion. Suggestions and strategies for mitigating collusion are included.

What Is Collusion?

It is common to find the term “collusion” used in the academic context as an example of a breach of academic integrity. However, determining what is, and is not, collusion is elusive. In general usage collusion is defined as:

Secret agreement or cooperation especially for an illegal or deceitful purpose. (Merriam-Webster Dictionary <http://www.merriam-webster.com>)

This definition denotes that collusion occurs when various components or aspects are present. First, it is a social activity, as it requires people acting in concert. Second, the act is hidden, so the cooperation or agreement is undisclosed. Third, there is usually an intention to do something dishonest, whether unlawful or misleading.

Applying this definition of collusion, a number of actions by students in the academic context would clearly constitute collusion. For example:

- Copying another student’s work with the other student’s permission;
- Paying someone to write an assignment;
- Students sharing information in a test or exam;
- Students writing an assignment together and each submitting exactly the same assignment as their own individual work;
- Allowing a student who has not contributed to an assignment to include their name as a contributor; and
- A student organizing for another student to sit their exam.

These examples are all clearly deliberate actions that involve collusion. However, a number of these actions would also fall within the ambit of plagiarism and/or cheating (e.g., the first action would also be plagiarism). It is apparent that collusion may be associated with a range of different types of breaches of academic integrity. Indeed, collusion is required to facilitate a number of the more serious types of misconduct.

Further, this definition is problematic in the academic context. It is generally accepted that many breaches of academic integrity occur unintentionally, due to misunderstandings of academic conventions (Devlin and Gray 2007). If “dishonest intent” is missing, does this mean that a breach of academic integrity via collusion has not occurred in an academic setting?

How Do Higher Education Institutions Define Collusion?

A review of a number of universities' academic integrity policies or guidelines reveals diverse approaches to both defining collusion and identifying actions that may fall within the ambit of collusion. Recognizing the overlap between various categories of academic misconduct, a number of institutions do not use general definitions (such as collusion or cheating); rather, a list of actions that may be considered academic integrity breaches is provided. A few simply state or list collusion as a form of academic misconduct but do not define it further. By far, the most common definitions specify or include "unauthorized collaboration" or "unauthorized assistance" as academic integrity breaches. Samples of university definitions or descriptions of collusion are included in Table 1. Even this scant review illustrates the diverse range of actions that can be termed collusion, the blurred line between collusion and plagiarism, and the need at times to determine the level and extent of authorized or allowed collaboration to determine if collusion has occurred. In some definitions the judgment as to whether collusion has occurred appears to pivot on the similarity of different students' final assessment items (the end product); in others, it is associated with actions of students in the construction of the assessment submission (the process), such as discussing approaches to assessment pieces, or sharing answers or other work even where these are not copied verbatim.

Other chapters in this handbook consider specific types of academic integrity breaches (including plagiarism, cheating in exams, and commissioning work). Hence, in this chapter the type of actions discussed is limited to those relating to inappropriate collaboration or assistance between students in the preparation and completion of non-examination assessment tasks. This includes direct copying of another student's work with the other student's permission. Although such copying is subsumed within plagiarism definitions, the nature is different as collusion is a social action whereas plagiarism, in the form of lack of referencing, is a private action. This chapter also limits consideration to collusion between students, and so collusion between students and nonuniversity members (such as where work is commissioned via an essay mill site) is not discussed.

How Often Do Students Collude? Incidence and Types

A number of studies indicate that the overall rate of academic integrity breaches has remained steady over the last 20 years but that the types of breaches have changed and those involving collaboration have increased significantly (e.g., McCabe et al. 2001). Various surveys of students indicate that actions that fall within the ambit of collusion are some of the most common forms of academic integrity breaches and that at least half of all students engage in collusion. For example, in both Brimble and Stevenson-Clarke's Australian study (2005a) and De Lambert et al.'s New Zealand study (2006), more than half of students reported working together on an assignment which had been set for individual submission. In US

Table 1 Definitions or descriptions of collusion

University	Definition and/or information/advice provided
King's College London http://graduation.kcl.ac.uk/college/policyzone/assets/files/assessment/Academic_Honesty_Integrity.pdf	<p>Collusion is when two or more students collaborate, without permission from the program of study, to produce individual assessments that when compared significantly overlap in content, order, structure, and format. Collusion is an issue of personal integrity and ethics; students who collude are acting dishonestly</p> <p>Examples of collusion include but are not limited to:</p> <ul style="list-style-type: none"> • Unauthorized collaboration between students to produce the same or substantially similar pieces of work which they then claim as their own • Essay banks – when a student submits an assessment that has been written by a third party or obtained from a professional writing “service” • Allowing another student to submit your work (in part or as a whole) as their own
University of Melbourne https://academichonesty.unimelb.edu.au/plagiarism.html#2	<p>Collusion is the presentation by a student of an assignment as his or her own which is in fact the result in whole or in part of unauthorized collaboration with another person or persons. Collusion involves the cooperation of two or more students in plagiarism or other forms of academic misconduct. Both the student presenting the assignment and the student(s) willingly supplying unauthorized material (colluders) are considered participants in the act of academic misconduct</p> <p>Plagiarism and collusion in group work are forms of academic misconduct and can occur when <i>one or more</i> students:</p> <ul style="list-style-type: none"> • Copy (or allow to be copied) from other members of a group while working in the group • Copy the original work, in whole or in part, of an individual who is <i>not</i> a member of the group, with or without the knowledge of other members of the group, and contribute the plagiarized work to a group assignment • Contribute less, little, or nothing to a group assignment and then claim an equal share of the work or marks • Discuss with other members of the group how to approach a common assessment item that requires individual submissions and relies on the same or very similar approach in the submitted assessment, without any acknowledgment of collaboration with colleagues and without the permission of the assessor
Harvard College http://sites.harvard.edu/icb/icb.do?keyword=k69286&pageid=icb.page355695	<p>The college recognizes that the open exchange of ideas plays a vital role in the academic endeavor, as often it is only through discussion with others that one is fully able to process information or to crystallize an elusive concept. Therefore, students generally are</p>

(continued)

Table 1 (continued)

University	Definition and/or information/advice provided
	<p>encouraged to engage in conversations with their teachers and classmates about their courses, their research, and even their assignments. These kinds of discussions and debates in some ways represent the essence of life in an academic community. And yet, it is important for all scholars to acknowledge clearly when they have relied upon or incorporated the work of others. To ensure the proper use of sources while at the same time recognizing and preserving the importance of the academic dialogue, the Faculty of Arts and Sciences adopted the following policy:</p>
	<p>It is expected that all homework assignments, projects, lab reports, papers, theses, and examinations and any other work submitted for academic credit will be the student's own. Students should always take great care to distinguish their own ideas and knowledge from information derived from sources. The term "sources" includes not only primary and secondary material published in print or online, but also information and opinions gained directly from other people</p> <hr/> <p>Students must also comply with the policy on collaboration established for each course, as set forth in the course syllabus or on the course website. Policies vary among the many fields and disciplines in the college and may even vary for particular assignments within a course. Unless otherwise stated on the syllabus or website, when collaboration is permitted within a course, students must acknowledge any collaboration and its extent in all submitted work; however, students need not acknowledge discussion with others of general approaches to the assignment or assistance with proofreading. If the syllabus or website does not include a policy on collaboration, students may assume that collaboration in the completion of assignments is permitted. Collaboration in the completion of examinations is always prohibited</p>
<p>University of Otago, New Zealand http://www.otago.ac.nz/study/plagiarism/otago006308.html</p>	<p>Unauthorized collaboration is a type of dishonest practice which occurs when students work together on an assessment which is designed as a task for individuals and in which individual answers are required Unauthorized collaboration may involve:</p> <ul style="list-style-type: none"> ○ Working with others (telling or asking others for information) to develop an approach to fulfill the requirements of the assessment ○ Working on and writing up answers to an assessment so that the work submitted is very similar ○ Sharing the answer to an assessment by either making it available to others or receiving it from others

(continued)

Table 1 (continued)

University	Definition and/or information/advice provided
University of Malta http://www.um.edu.mt/__data/assets/pdf_file/0009/95571/University-Guidelines-on-Plagiarism.pdf	<p>Collusion occurs when two or more students collaborate to produce work, where such collaboration is not permitted. The exact limitations on permitted collaboration depend on the nature of the work involved and on its assessment and should be made clear in writing as part of the assignment description by the examiner concerned. Any authorized deviations from the limitations of permitted collaboration as specified in the assignment description must be documented by the study-unit coordinator</p> <p>Examples of collusion include but are not limited to:</p> <ol style="list-style-type: none"> 1. “Borrowing” an assignment written by another student and basing your assignment on the borrowed one 2. Sharing results of experiments/work performed by others and incorporating them into your own work as though you had performed the experiments/work yourself 3. Sharing solutions to problems, or other sections of a report or assignment 4. A number of students colluding on an assignment intended to be performed as an individual assignment, such that each student works on a part of the assignment but submits individual reports covering the work performed by all colluding students
Ohio State University http://fye.osu.edu/PDF/Orientation/policies.pdf	<p>Collusion: When a student submits work in his/her own name that has been written wholly or in part by another person – regardless of whether or not it has been taken from unattributed source materials – he/she is engaged in a kind of plagiarism known as collusion. Collusion should not be confused with the kind of collaboration that arises in writing courses during workshops, peer responses, and student/teacher or student/tutor conferences, all of which are endorsed by writing pedagogy; collusion involves receiving “unauthorized” aid. The university’s Committee on Academic Misconduct expands on this definition of collusion to include any instance where two or more students work together and/or share information in a manner that is unauthorized, deceitful, and/or fraudulent (oaa.osu.edu/coam.html)</p>
City University of Hong Kong http://www.cityu.edu.hk/provost/academic_honesty/doc/rules_on_academic_honesty_1213.pdf	<p>4. Academic dishonesty includes but is not restricted to the following behaviors:</p> <ol style="list-style-type: none"> 4.1 Plagiarism, e.g., the failure to properly acknowledge the use of another person’s work or submission for assessment material that is not the student’s own work 4.2 Misrepresentation of a piece of group work as the student’s own individual work 4.3 Collusion, i.e., allowing another person to gain advantage by copying one’s work

(continued)

Table 1 (continued)

University	Definition and/or information/advice provided
University of South Australia http://resource.unisa.edu.au/mod/book/view.php?id=72184%26chapterid=32563	<p>When you produce an assignment, it is expected that the assignment is your own work. If you submit work that has involved significant assistance from another person, it would be considered misconduct. Assistance for assignments does not only relate to writing, but can include solving problems, doing calculations, writing computer code, and designing creative work and images. Examples of significant assistance can include, but are not limited to:</p> <ul style="list-style-type: none"> • Paying someone to write, rewrite, or produce your assignment • Asking anyone to write, rewrite, or produce your assignment • Receiving assistance to the extent that it no longer resembles your original work • Doing assignments with others when this is not specified as part of the task. This is known as “collusion” <p>However, if your course outline states that the assignment is a group task which requires input from the group members, then collaboration is acceptable</p>

studies, McCabe (2005) found that 42 % of students reported engaging in this action, whereas in Hard et al. (2006), 65 % of students reported engaging in collusion. In Trost’s (2009) study 51 % of Swedish students admitted to working together where this was not permitted.

In addition, collusion in the form of students allowing copying of each other’s assignment work is widespread. The specific incidence of copying between students is however less often identified in the literature, as many studies do not distinguish “copying” activities by source. However, where this is separated, copying from other students is found to be significant. For example, Yardley et al.’s (2009) survey of alumni indicated that the most common forms of breaches of academic integrity were “copying from other students” (46 %) or “allowing others to copy from their own assignment” (57 %). Trost (2009) found a reported rate of 55 % of copying with the other student’s knowledge. In Passow et al.’s (2006) US study, 72 % of students reported copying from other student’s work. Interestingly, in Rettinger and Kramer (2009), 51 % of students reported allowing someone to copy their own work, yet only 42 % admitted to copying another student’s work. This pattern is also reflected in Norton et al.’s (2001) UK study of psychology students where 42 % admitted to allowing students to copy their work but only 22 % admitted to copying another student’s work with the other student’s knowledge.

What is also of interest is the pattern of academic integrity breaches across students, although it should be noted that the patterns identified relate to overall breaches (and not collusion per se). Numerous studies point to a small but significant core (often estimated at around 8 %) of “habitual cheaters” who persistently and deliberately engage in, often more serious, academic integrity breaches (Jordan 2001;

Brimble and Stevenson-Clarke 2005b; Hard et al. 2006). For the remaining students, the literature suggests that breaches, while not uncommon, are mediated by specific contextual, situational, and personal factors (e.g., Bertram Gallant 2011 notes that 42 % of students admit to cheating annually).

Is Collusion Serious? Does It Matter?

When considering how problematic an act such as collusion is, it is useful to reflect on why academic integrity is important. The literature emphasizes the importance of maintaining student academic integrity and outlines the potential undermining of student learning outcomes if academic integrity is compromised (Abdolmohammadi and Baker 2007; Bertram Gallant 2008). In the context of collusion, two issues are pertinent: first and foremost, ensuring individual graduates have attained the requisite knowledge, skills, and abilities that the degree signifies and, second, equity or fairness between students.

Maintaining academic integrity is essential to students achieving the desired learning outcomes. Bertram Gallant (2008) identifies academic integrity as a “teaching and learning imperative” that must be addressed if we are to ensure that students are learning. Failure to observe academic integrity by students – for whatever reason (be this intentional or not) – undermines the learning outcomes of students (Abdolmohammadi and Baker 2007; Bertram Gallant 2008). The importance and benefits of collaboration in learning are widely recognized and reflected in the increased use of group work both in assessment and informative activities. Indeed, the ability to work in a team – to collaborate – is highly sought after by employers. Nevertheless, the grades awarded to individual students and ultimately the degrees conferred are expected by various stakeholders (including potential employers and the public) to reflect levels of specific skills, knowledge, and abilities of *individual* students. Hence, there is commonly a balance between required group and individual assessment tasks, at least across a degree. Where group work is “set” as an assessment task, there are various means (such as peer assessment) that endeavor to reflect in the grade awarded an individual student’s contribution and learning outcomes. However, collusion, by definition, is hidden. If, due to collusion, students are awarded grades for work that is not truly their own, or work that does not reflect their actual ability, the issue of accurate identification of a student’s ability and effort becomes problematic. Additionally from a developmental perspective, collusion may thwart the role of feedback by obscuring deficiencies in the knowledge or skills of individual students, placing such student’s development and future academic performance at risk. This could result in a vicious cycle. If deficiencies are not addressed and requisite skills for more advanced learning are not present, students may need to resort to further academic integrity breaches to complete future assessment tasks.

In relation to fairness between students, where grades are awarded on a scale (or “curve”) in an effort to reflect the *relative* achievements of students, collusion may undermine equitable measurement of learning outcomes between students

(Passow et al. 2006). Where collusion occurs (and remains undetected), the grade awarded results from an evaluation of the submitted assessment item, without any consideration of contributions by individual students. Is it fair to use the same criteria to assess an assignment prepared independently by one student and the same assignment task prepared by a group of students?

As discussed later, there are often difficulties in determining when and if collusion has occurred. It is suggested that the issues noted above – i.e., the potential compromise of learning outcomes and/or student equity – provide an appropriate perspective or framework to determine whether actions by students would constitute collusion on a sufficient scale to be considered as breaches of academic integrity.

Drawing the Line: When Does Collaboration Become Collusion?

Collaboration is defined as:

working jointly with another. (Oxford Dictionary)

This definition is broad. What does “working with another” encompass in the academic context? It is common to find statements such as “students are encouraged to work with others but the work that you submit must be your own” to indicate the line between collaboration and collusion. But how is this operationalized? How can it be completely a student’s own work if they have worked with others to *any* extent? Do we ever expect students’ work to contain only their own ideas or their own understandings? What type or extent of working together crosses over from collaboration to collusion? As Carroll and Appleton (2001) state:

Almost everyone has difficulty identifying where collaboration stops and collusion begins. (p.15)

Why Is Collusion So Problematic?

There are a number of reasons why collusion is problematic. First, a number of factors impede a common understanding of collusion. The difficulties in arriving at a common view result from both the contextual and social nature of collusion. Unlike plagiarism where there is *in general* a shared understanding, there is no similar consensus about collusion. If you do not acknowledge sources used, you have plagiarized. This is a relatively black-and-white judgment (albeit debate continues about when plagiarism constitutes misconduct). A student collaborating (working with others), however, would not necessarily have colluded.

Research has repeatedly revealed that in comparison to other types of academic integrity breaches, there is significant variation between understandings as to what constitutes collusion. This variation exists both between students and academics

and among academics (see, e.g., Barrett and Cox 2005; Yeo 2007; Braun and Stallworth 2009; Sutton and Taylor 2011; Louder and Schmidt 2013). In examining students' understandings, Simon et al. (2014) concluded that:

the level of uncertainty . . . indicates that many students are not clear about how and where they should be seeking assistance outside the classroom. (p. 108)

Significant variations exist between discipline areas (see, e.g., Borg 2009; Sutherland-Smith 2013). Hence, what is judged as collusion in one context will be acceptable, or even expected, collaboration in another. For example, in Borg's study (2009) extensive collaboration between students was both expected and anticipated in the engineering discipline, reflecting the team-based project nature of professional work practices (p. 420). In contrast, in the law discipline the emphasis was on individual work reflecting "an attempt to instil a mindset, rather than a workplace practice" (p. 421) with no collaboration (even in the form of discussion) considered acceptable.

Some commentators have suggested that with the Internet age of increased information access, sharing, and online social interactions, "learning is becoming more and more of a social process embedded in a larger network" (Conlin 2007) and that perhaps the boundaries between what is and is not acceptable collaboration and information sharing need to be rethought. There is certainly a greater emphasis on collaborative learning (and assessment) in higher education. However, as degrees are ultimately awarded to individual graduates, there is still the need for students to demonstrate their individual achievements and competencies. There is also no doubt that the digital age has changed the landscape of academia and the interactions of its stakeholders. The traditional picture of collusion is of students interacting face-to-face (e.g., working together on an assignment in the library or sharing printed copies of assignments). Student interactions are now increasingly likely to be in cyberspace: by email, in various social media, or via study-sharing sites. This environment broadens access to other students and also lessens constraints; students do not need to meet in person or even know each other personally to collaborate, or collude. Just a simple click and a student can distribute their own work to, or ask for help from, multiple others. This chapter does not examine specifically the medium through which collusion occurs. This is not to say that the expansion from face-to-face to online interactions has not had a significant impact. The ease with which work can be shared and interactions occur – frequently in real time – facilitates, reduces previous obstacles to, and encourages student interactions. Various Internet sites (e.g., some study sites and certain music sites) implicitly or explicitly condone dubious and even illegal sharing, further blurring the line between acceptable and non-acceptable collaboration and increasing confusion. However, in this chapter the key focus is on the nature of collusion. To address collusion the focus should not be on controlling the use of a specific medium. Any medium could facilitate either collusion or authentic and legitimate collaboration. Rather, the emphasis here is on the substance of the interaction and on developing understandings of the appropriateness of interactions in the context of promoting

academic integrity, regardless of the medium or mode of the interaction. Another section of this handbook considers more explicitly the impact of the digital age on academic integrity.

The switch between encouraging and requiring group work, and then requiring individual work, can legitimately cause confusion, particularly where the rationales for these variations in requirements are not made explicit. Why is group work acceptable in some contexts but not in others? Why are there different “rules” between lecturers, courses, and assessment items? In Wideman’s (2011) study students reported that inconsistent responses to these questions by faculty contributed to student misunderstandings of academic misconduct.

Collaboration is also part of the accepted social norms and customs of students. Common reasons student proffer for engaging in collusion include “to help a friend; we always work together.” Students will often establish study groups or partners that are working well and simply continue these arrangements for all assignments and tasks. Increasingly, social media is being utilized by students to facilitate collaboration and support. This social milieu of learning is important. The establishment of peer groups and the forming and facilitations of relationships and group study routines may explain, at least in part, the increasing incidence of academic misconduct (including collusion) as students progress through their degree (see, e.g., Perry 2010). Not only does the formation of such groups provide the opportunity for collusion, but also group norms for collaboration, assisting group members, and loyalty to peers are likely to override ethical considerations. As Ashworth and Bannister (1997) found, “the student ethic is one of fellow-feeling and peer loyalty, and it is in this context that cheating is mainly evaluated” (p. 198). Maintaining relationships with other students (Perry 2010; Wideman 2011) is preferred over academic rules.

A consistent observation in research is that more serious and deliberate acts of academic misconduct are less common. A possible reason for the prevalence of collusion is that both academics and students alike consider collusion as relatively *less* serious than many other forms of academic misconduct (Barrett and Cox 2005; Yeo 2007; Louder and Schmidt 2013). These conclusions are primarily based on the premise that where collusion occurs in the form of genuine collaboration, albeit unauthorized, the students are in fact contributing (doing some work) and learning (Colnerud and Rosander 2009), or that the rationale (e.g., to help others) is virtuous (Wideman 2011). However, the seriousness of collusion should be viewed on a continuum, from “cooperation through collaboration to copying” (Culwin and Naylor 1995 cited in Barrett and Cox 2005, p. 110).

Read the scenarios in Fig. 1 and consider the following:

In which of these scenarios would you consider collusion that results in academic misconduct has occurred? How would you decide?

How would you know whether there was equal contribution where students have worked together? Is equal contribution important?

As any discussions are hidden how would you determine which of the students have achieved the desired learning outcomes?

In all scenarios the assignment task is required to be completed on an individual basis.

Scenario 1:

Three students undertake research for the assignment task. They share the articles/sources they have found but analyse these and write their papers separately.

Scenario 2:

Three students undertake research independently. They meet and analyse the articles, identify and discuss and evaluate the key arguments, decide which are most relevant to the assignment. They then independently write their papers.

Scenario 3:

Three students independently undertake research, analyse the articles found and write a draft of the assignment. They then meet and compare (via discussion) the specific arguments they have included and their analysis. Following these discussions, each student revises their own assignment, some incorporating arguments and analysis that they had not previously considered.

Scenario 4:

Three students independently undertake research, analyse the articles found and write a draft of the assignment. They then share with each other (via email) copies of their own drafts. Following this, each student revises their own assignment, incorporating arguments and analysis that they had not previously considered. None of the students directly copy any of the words from the other students' assignments.

Scenario 5:

Three students work on the assignment together: sharing research, identifying and analysing arguments and writing a draft. Each student uses this draft as the basis for their own assignment, although each writes in their own words.

Scenario 6:

A student (A) prepares the assignment independently. Student A's housemate is struggling with the assignment. Student A helps the housemate by working through how to approach the assignment, including details of what articles to look at, and what arguments should be considered but does not show the housemate their own assignment. During the discussions the housemate takes extensive notes. The housemate does read the articles suggested by Student A and uses only Student A's arguments and ideas in their assignment, although this is written by the housemate.

Scenario 7:

Student A is behind in their study due to needing to work long hours to support himself/herself. Student A's friend (Student B) is aware of these circumstances. Student B has completed the assignment and provides Student A with a copy, but asks Student A to make sure that they change the assignment enough so that it is not matched via the text comparison software that the university uses. Student A uses the thesaurus function to change most of the words (so that there is not a significant word match) and submits the assignment as their own work.

Fig. 1 Possible collusion scenarios

Is there a difference between discussing assignment details in person and sharing actual assignment files/copies?

In each of these scenarios none of the students has directly copied the words/writing of the other students. Is this a consideration in deciding if collusion has occurred?

Do the circumstances of Student A in Scenario 7 mitigate the seriousness of the action taken by Student A or Student B?

Would your decisions about which scenarios are collusion change if the assignment were technical in nature (such as preparing financial statements, writing computer code, or applying mathematical formulas)? What if there was only one correct answer for such an assignment?

If a key learning outcome being assessed (and awarded say 40% of the marks) was the research component (e.g. the ability to locate, retrieve and evaluate relevant information i.e. information literacy) would this change your decision in relation to Scenario 1?

Would your decisions be different if you were aware that students had been advised that they could work together on the assignment but needed to ensure that each student wrote their final paper themselves?

Would your decisions be different if the scenarios involved 10 students, instead of two or three?

Do you think decisions would change across different disciplines?

Arriving at a decision is often difficult, and there are likely to be alternative interpretations of each scenario, yet these scenarios are not unusual and reflect what many students are actually doing, with alternative combinations possible. How, from comparison of the end product alone (i.e., the work submitted by individual students), can an academic unravel which, if any, of these situations has occurred and which of the students has demonstrated the desired learning outcomes? Remember also that as previously noted, research suggests that just as many students will simply copy other students' work as those who will truly collaborate.

How to Decide if a Breach of Academic Integrity Has Occurred Due to Collusion: A Proposed Framework

The preceding discussion suggests that a universal definition of collusion is problematic. Despite this, using an approach influenced by Fishman's (2009) work on plagiarism, a definition is proffered that attempts to unpack the elements of collusion that would lead to a breach of academic integrity.

Collusion between students, constituting a breach of academic integrity, occurs where:

1. One or more students interact in the completion of an assessment item;
2. The nature and/or extent of the interaction is *not* authorized (either implicitly or explicitly) for that specific assessment item;

3. The situation is where there is a legitimate expectation that such interaction would *not* be acceptable; and
4. The nature and/or extent of the interaction means that the assessment item submitted results *in any one* of the following:
 - (a) A misrepresentation of the competencies (in the assessed learning outcomes) of any of the students involved in the interaction;
 - (b) The inability to legitimately determine or judge the competencies (in the assessed learning outcomes) of any of the students involved in the interaction; and
 - (c) An unfair advantage to any of the students involved in the interaction, relative to other students completing that assessment item.

This proposed definition is deliberately framed in terms of interaction, rather than cooperation or collaboration. These latter terms imply a degree of reciprocity. However, reciprocity is not a necessary requirement for collusion to occur. Likewise, a term such as “working together” implies some mutuality of effort, which may or may not occur when students collude. A student may assist another, perhaps struggling, student (e.g., by allowing the other student to copy their own assignment) for purely altruist reasons, with minimal effort and for no expected benefit. The element of interaction (i.e., acting together) also signifies the social nature of collusion.

Intent is purposefully absent from this definition. This omission acknowledges that collusion may occur unintentionally, due to misunderstandings or even inadvertently. This contrasts with Fishman’s (2009) work on plagiarism in which she proposes that plagiarism only occurs where the act is undertaken “in order to obtain some benefit, credit or gain” (p. 5). However, as stated earlier, collusion is a social activity. Many students engage in collusion not to help themselves, but to help others. Yet the fact that such students had no intention to receive a personal benefit from the interaction does not abrogate their responsibility to uphold academic integrity.

While in common parlance, collusion is associated with an element of secrecy whereby the interaction is not disclosed, this secrecy, nondisclosure, element has been omitted from the proposed definition of academic collusion. This is because disclosure alone would not negate unauthorized or inappropriate interaction compromising academic integrity. For example, the disclosure by students that they worked together on a take-home exam where no assistance or collaboration was permitted should still be considered collusion. Disclosure per se does not make something “right.” However, if the interaction is not hidden and is honestly disclosed, then any impact on learning outcomes and student equity should be able to be determined and judged and taken into consideration (in both grading and feedback). Further, as disclosure of the interaction has been made, appropriate action could be readily taken against the breach of academic integrity. It is recognized that the omission of secrecy from the definition may be contentious.

The second and third elements are included to guarantee justice. It would be unfair to call students to account where it is reasonable for students to believe that the interactions undertaken are appropriate. These second and third elements also

recognize the contextual nature of collusion, i.e., its dependence on the specific setting, including the particular assessment piece. Assessments set as group work explicitly authorize student interaction. Unequal contribution to group assessment may result in the inability to determine with any confidence the competencies of individual group members (hence the common requirement for peer assessment), but as student interaction is authorized, this would not be collusion. Implicit authorization could occur due to the academic's actions or inactions. For example, the academic's responses to, or monitoring of, students' interactions on discussion forums, or even ignoring inappropriate exchanges, could signify implicit consent for particular interactions. As noted previously, disciplines have embedded and diverse norms for what is and what is not acceptable collaboration. The third element is an attempt to capture and allow for discipline-specific conventions and expectations, although arguably this could be seen as subsumed within the second element of this definition via the inclusion of implicit authorization. This third element is included separately because conventions for student interactions may arise from tacit understandings occurring within the general milieu of the discipline, rather than from perceived authorization, which is normally bestowed or granted by a particular person or for specific tasks.

The final element in the framework is included to capture the question of why addressing collusion matters, which is when it compromises student learning outcomes or equity, where it "is an offense against the academy" (Fishman 2009, p. 5). The first sub-point of this element encapsulates situations where the work submitted is not the student's (e.g., where a student has used or copied the work of another student, with their cooperation). This would also be a form of plagiarism. As discussed earlier, there is no clear delineation between different categories of academic integrity breaches, and collusion is a necessary condition for many breaches. Point (b) recognizes the importance of considering whether the level or nature of interactions would obfuscate authentic evaluation. Judgment here pivots on the nature of the assessment and the specific learning objectives being evaluated. This can be illustrated using an example. Assume that an assessment task aims to determine if students can undertake a particular calculation. In one scenario, one student assists another by working through similar examples and then the second student applies this knowledge and makes their own calculation for the assessment task. In this scenario the calculation in the assessment submitted by the second student reflects his or her own competency, albeit this was developed only after assistance. In a second scenario, one student assists another student by explaining and calculating the specific computation required in the assessment task. In this scenario, it is difficult to determine if the work submitted reflects the second student's competency. Does the assessment submitted establish that the second student could derive this calculation by himself or herself? It may indeed be that the second student now understands how to do the calculation, or they may not. It is impossible for the marker to determine.

The focus of the third sub-point (point c) is on student equity. This does not imply that any student interactions providing an advantage to those students involved would be collusion. Students could form a study group, where authentic

collaboration occurs, albeit this arguably advantages such students over those who are unable, for various reasons, to participate in such groups. Providing that the nature of the interactions is acceptable in the context of the assessment item, this would not be considered collusion. However, an example of where student equity may be compromised follows. Assume that students are required to complete a test online. The test is open for several hours to provide flexibility to students. Students have been advised that they are not permitted to discuss the test with any other students prior to the test closing. A student who has already completed the test provides another student with copies of their test questions (e.g., via screen capture) prior to the second student taking the test. Although the second student is still required to demonstrate their individual competencies in completing the assessment (i.e., answering the test questions), the prior knowledge of the detail of the other student's test is likely to have provided an advantage. Hence, as the interactions were not allowed, and have potentially advantaged a student over other students, this particular act of collusion compromises student fairness and equity.

Why Do Students Collude?

To promote academic integrity and counter academic integrity failures, academics need to understand the factors associated with breaches of academic integrity. The four most common reasons indicated by students for engaging in breaches of academic integrity are the following:

- Related to assessment items, e.g., assessment is seen to be too difficult or too easy or too time consuming, or the due date competes with other tasks;
- To help a friend or fellow student;
- Misunderstanding of what is and is not a breach (the previous discussion highlights this as a particular concern in relation to collusion); and
- Perception that they are not likely to be caught: that the risks and negative consequences of their actions are low.

(see, e.g., Bennett 2005; Brimble and Stevenson Clarke 2005a; Abdolmohammadi and Baker 2007; Guo 2011; West et al. 2004).

Factors associated with breaches are varied, but the following are consistently identified in the literature: poor integration (including negative attitudes, lack of confidence, pressures, extrinsic motivation), learning orientation, poor study or writing skills (this is particularly problematic for international students), low GPA, undertaking prior breaches, peer behavior and norms, and assessment nature and design (see, e.g., McCabe et al. 2001; Smith et al. 2002; Collier et al. 2004; Marsden et al. 2005; Goldwater and Fogarty 2007; Kremmer et al. 2007).

The ethical stance of students does not explain the actual incidence of academic integrity breaches. A number of studies have found that despite students believing certain acts are morally "wrong," the students then admit to undertaking such acts

(e.g., Bennett 2005; Brent and Atkinson 2011). A number of researchers (see, e.g., West et al. 2004; Guffey and McCartney 2008) note that for many students, contextual factors compete with, and can override, ethical intent, suggesting that “cheating may not be an ethical statement but may merely reflect a reaction to the situation or opportunity” (Goldwater and Fogarty 2007, p. 131).

How to Address Collusion

Recognizing that promoting and ensuring academic integrity requires complex and multifaceted strategies, a more holistic whole-of-institution approach reflecting shared responsibility among all members of the academy is now widely advocated (see, e.g., Park 2004; Devlin 2006; Macdonald and Carroll 2006; Bertram Gallant 2008, 2011). The emphasis in this approach is that academic integrity is in essence a teaching and learning issue, and thus, strategies should primarily (although not exclusively) be educative (Bretag et al. 2011). Addressing academic integrity holistically recognizes that this can only be enabled if all dimensions are embraced: that is, the individual, organizational, and system levels need to be addressed to develop a culture of academic integrity (Bertram Gallant 2008, 2011). In the teaching and learning context, a strategy is required that includes the following:

1. A collaborative effort to both *promote* academic integrity and *counter* breaches of academic integrity, at every level of the university. This would include policy, procedures at institutional, faculty, and school level, and individual staff practices.
2. The explicit education of students, not only about what is not appropriate but also about what is required to uphold academic integrity, including appropriate study and literacy practices and skills to ensure that students can attain desired learning outcomes.
3. Designing approaches to assessment that maintain the quality and rigor necessary to ensure learning outcomes but that minimize both the possibility and probability of breaches of academic integrity.
4. “Installing highly visible procedures for monitoring” and identifying breaches and applying appropriate associated consequences, such as educative measures to address students study skills or punishments (adapted from Devlin 2006, p. 47).

The literature recommends various actions that can facilitate the promotion of academic integrity in each of these areas. A number of these are nonspecific, aimed at addressing or promoting academic integrity in general, rather than targeted at particular types of academic integrity breaches. As the focus in this chapter is on collusion, this section considers strategies that more specifically address collusion, although a number of these practices will also assist in addressing other types of academic integrity breaches.

Promoting Academic Integrity and Countering Inappropriate Collaboration and Assistance Between Students at Policy and Faculty Level

Given the fuzzy nature of collusion, the range of actions within its ambit, and the variations in interpretations and practices, defining collusion at a policy level has proven to be problematic. Particular types of collusion, such as direct copying between students, can be specified in policy as academic integrity breaches. However, for other types, such as “working with others,” this is more difficult. As Barrett and Cox (2005) state:

the boundary between students legitimately helping each other and colluding with each other cannot be realistically defined in a way that covers all assignments. (p.117)

Thus, it is preferable to frame policy in relation to collusion in terms of principles and the realities of the educational environment, recognizing that learning often occurs within a collective space and that what is and what is not acceptable will vary depending on context. Policy should be positively framed, emphasizing the benefits of collaboration but recognizing that legitimate limits on collaboration will be imposed in particular circumstances. The extract from Harvard in Table 1 provides an example. Given this, assessment policies should then be aligned and require academics to articulate acceptable (and non-acceptable) practice in terms of collaboration in relation to particular assessment pieces. Indeed, a number of institutions require that specific information be included at course or assessment task level to clarify expectations in relation to academic integrity. For example, requirements include:

- A Collaboration Policy Statement in relation to the specific course assessment that details the extent of collaboration permitted and/or prohibited (Harvard 2015) and
- Guidance about academic integrity..., including .. examples of what would constitute academic misconduct in the course and/or an assessment task (UNISA 2015, p. 11).

This should not be interpreted as advocating an “authorization” schema, i.e., defining collusion in terms “unauthorized” collaboration so that a checklist approach is utilized. Policy needs to embed the principles of academic integrity so that it is viewed as a set of core values within a culture – not as particular actions per se. It is unrealistic to expect academics to be able to identify every type of action students may take that could compromise academic integrity, nor to identify every type of interaction that would be acceptable collaboration. Actions need to be judged by both academics and students against the core values, and policy needs to reflect a shared responsibility among all members of the academy (including academics, other university staff, and students). As noted earlier, collusion can result in learning outcomes being compromised for individual students and in

inequity between students. Breaches of academic integrity in relation to inappropriate collaboration are therefore best defined and judged in terms of these consequences, for example, by asking, does the collaboration that has occurred mean that the capabilities required to be demonstrated by the individual student cannot be determined or that fairness between students has been compromised?

In terms of faculty and staff practices, given that understandings of collusion and allowed (and desired) collaboration are contextual and vary between academics, disciplines, and assessment items, no consensus is either feasible or appropriate. As Bretag et al. (2014) note:

Communicating academic integrity requirements can be impeded if the different stakeholders assume that they share understandings of what is entailed in the concept of academic integrity. (p. 1150)

Hence, what is required is an awareness of the divergence in practices across the courses that students are studying. Academics aware of these differences are better able to identify where genuine confusion can occur and can therefore alert and explain to students the variations in appropriate and inappropriate collaborative behaviors in relation to specific assessment items.

The Explicit Education of Students

A recurrent theme in the academic integrity literature is that students need to be educated so they have the requisite skills, knowledge, and understanding to promote academic integrity and avoid breaches. Indeed, there are numerous papers suggesting effective and innovative ways to educate students about using and acknowledging sources (including values, writing skills, and referencing techniques) in order to reduce related academic integrity breaches. Given its nebulous nature, techniques for educating students specifically about collusion are far less common.

Education on collusion should be positively focussed and incorporate adequate explanations and examples to ensure understanding. This education needs to be framed within a learning orientation, ensuring “students understand how the assessments are linked to learning outcomes and how each assessment supports another to build knowledge and skills” (Bertram Gallant 2008, p. 94). It is very important to not simply state that the assessment is required to be completed on an individual basis, but explain *why* that caveat has been placed. Given the propensity for students to collaborate and assist each other, these norms of behavior are unlikely to change unless there is a reason to question them. Students need to know:

- Why it is important that this particular assessment item is completed individually and
- How this is different from other assignments where group work is allowed.

The following example is an extract from information provided by an accounting academic in relation to a technical assignment reproduced with their permission.

The practice set is an assignment that students must complete **on an individual basis**. While you may have worked on assignments in this and other courses in groups, to secure an accounting degree in your own name, there are particular skills and knowledge that you must have. The nature of the skills and knowledge that we are aiming to develop and to assess in this assignment is part of those that each *individual* student needs to be able to demonstrate.

Each individual student needs to develop the skills and knowledge assessed in this assignment to be able to successfully do the following:

- Complete the exam in this course. The skills and knowledge in this assignment will be reassessed in the exam.
- Progress in more advanced accounting courses. The skills and knowledge in this assignment are assumed in later accounting courses. If you fail to develop these skills now, you will struggle in future courses.

Thus, it is important that this is your own work, that your assignment shows what areas you understand, and that you make your own mistakes. Mistakes are an important part of learning. This will allow you to identify what areas you need to improve so that you can take appropriate action (with the help of teaching staff) to address these so that you can successfully complete these, and future, accounting courses.

This provides a context to identify more explicitly the types of collaboration that are, and are not, acceptable in completing the particular assessment item. Although it is important that academics provide this guidance to reduce confusion and misunderstandings (what Christensen Hughes and McCabe (2006, p. 250) call “clear boundary specifications”), the aim is not to distill academic integrity into a set of specific rules (Bertram Gallant 2008, p. 85). The nature of the specific assessment task (and associated learning outcomes) will drive the specific guidance provided. Commonly, this is expressed as a series of generic dos and don’ts (such as “do work together, but make sure the work is your own”; “do have general discussions”; “don’t share files”; and “don’t discuss the assignment with other students”). However, such prescriptions are often unrealistic, assume a common understanding, and are open to (mis)interpretation. Better examples often use common scenarios, specific to the assessment task or discipline area, linked to learning outcomes and framed by the values inherent in academic integrity. Figure 2 provides an example in relation to computing from Durham University.

Education also needs to focus on how and where students can seek assistance. A common reason students provide for engaging in breaches of academic integrity is that they are struggling with their study or finding the assessment difficult and need help (Perry 2010). In a number of studies, students cite the lack of availability of help from teaching staff (whether perceived or actual) as a reason for breaching academic integrity (see, e.g., Luke 2014). If students are unable (or reluctant) to ask for guidance from teaching staff, it is likely they will ask their fellow students, which provides an environment (opportunity) in which collusion can occur.

Here are six situations where Rook ([Rook 2003](#)) had identified where plagiarism or collusion may arise for computing students:

"Situation 1:

Student B has trouble with a part of the code and asks student A for help. Student A shows his/her own code to student B to demonstrate how it has been done. This is collusion and both students will lose their marks for this section.

Situation 2:

Student B has trouble with a part of the code and asks student A for help. Student A types in some code for student B. This is collusion and both students will lose their marks for this section.

Situation 3:

Student B looks at student A's code without student A knowing, in order to see some code that may help them with their assignment. This is plagiarism, and student B will lose marks for this section. But if both students have produced similar code and both deny copying, then both students could be penalised.

Situation 4:

Student B has trouble with the code and finds some suitable code on the Internet or in a book. Student B copies it, make a few adjustments, and gets it to work in this situation. This is plagiarism and student B will lose marks for the section. (Unless student B indicated in the assignment that this code has been used, in which case marks will be awarded for the parts the student has written.)

Situation 5:

Student B has trouble with the code and consults a book or the Internet for similar code. On finding some, the student studies it to understand how the author has solved the problem. Using an improved understanding of programming, student B writes his/her own code to solve the assignment and acknowledges the assistance of the source by referencing it. This is perfectly fine and a useful way to study programming.

Situation 6:

Student B has trouble with the code and asks student A for help. Student A explains some of the programming principles that student B is having trouble with, possibly giving bits of code that would work in general situations. This is perfectly fine and a useful process for both students.

- You should have written every line of code yourself and should be able to explain each line fully if asked to do so.
- Do not let other people see your code. In the real world it is good to share code, but for an assignment it could lead to you being accused of collusion, which will certainly waste your time and could lead to you losing marks or retaking the assignment.
- If other students ask for help, and you wish to help, do so by improving their understanding, not by giving them the answer. If anyone copies code you have shown them, you may both be accused of collusion. Also bear in mind that if other students get qualifications they do not deserve, you may one day fly in an aircraft with flight control software written by one of them.
- If you do not have time to help them, or if they are asking questions you feel you should not answer, tell them to ask the seminar tutor who is getting paid to teach you all.
- When you have problems with your own work, ask the seminar tutor. Do not worry about asking questions that are too closely related to the assignment -if we are not able to answer, we will simply tell you. If we are giving you evasive answers, we are probably trying to help you without giving away too much about possible assignment solutions. (Or it may be that we don't know the answer!)"

Fig. 2 Advice re-collusion. Accessed from https://community.dur.ac.uk/CompSci/ug/Plagiarism_tutorial/collusion_examples.htm#collusion_top

This situation can be countered by providing facilities which enable students to obtain assistance, such as through help desks, consultation times, or online discussion forums. Further, students should be advised and encouraged to use these facilities. This also provides those students who may be asked to provide inappropriate

assistance a means of deflecting such requests, by directing the student in need to alternative sources for assistance. Online discussion forums can also provide the opportunity to facilitate appropriate collaboration and to instruct and model what is and is not appropriate assistance. For example:

- If sharing research is acceptable for a particular assessment item, then students can be encouraged to alert other students via the discussion forum to particular articles/resources found. This also enhances equity between students.
- If a student asks for help with a particular part of the assignment on the forum, teaching staff can indicate that it is not appropriate to answer the specific question/issue (as this would be “giving” the answer), but direct the student to sections of readings or texts, examples in teaching materials, tutorial work, etc. where the student could find guidance. This models appropriate assistance while indicating clearly what is unacceptable.

Allowing some in-class time (either in the usual scheduled class or in a separate workshop) for students to work on assessment tasks can also provide the opportunity to ask for help from staff and provide staff with the opportunity to monitor, and advise on, appropriate and inappropriate collaboration. In addition, this counters some other factors (such as delaying starting work on assignments) that can lead to students engaging in academic misconduct.

Helping a friend is associated with many forms of breaches of academic integrity and is often a strong motivator for crossing the line from appropriate assistance to collusion. The potential consequences of collusion for all parties (i.e., those students receiving assistance and those providing assistance) should be articulated, both in terms of the impact on learning outcomes and of potential punitive outcomes. As the research confirms, many students collude (e.g., copying between students) knowing this is wrong but believing that any negative consequences will be minimal. Although focussing on the negative outcomes is a less positive or constructive strategy than other suggested strategies, students do need to be educated about the potential consequences of their actions/decisions. Knowledge of such potential consequences may cause students to reexamine their responses to requests for inappropriate assistance.

Assessment Design

The literature consistently points to the influence of assessment design in the incidence of academic integrity breaches (see, e.g., Carroll 2002; Bertram Gallant 2008; Yorke et al. 2009). In the current context, assessment design should ideally not only minimize opportunities for inappropriate collaboration or assistance but also provide motivation for students to not collude. Prescriptions often cited as useful to counter academic misconduct in general such as requiring drafts, not making assessment too difficult, setting authentic and interesting tasks, and requiring reflection on or assessing process (see, e.g., Carroll 2002) are also useful in reducing collusion.

Linking assessment items, so that earlier assessment develops the knowledge and skills required to successfully complete later assessment items (and making these links explicit – see the previous example from an accounting academic), can motivate students to ensure that any collaboration does not compromise their own learning.

A key design feature that can be used to more directly target collusion is to customize or individualize assessment tasks. This can be achieved in a number of ways, for example:

- Allowing students to choose an aspect or element to examine in the context of the assignment – such as a specific advertisement, business, website, and newspaper article.
- Allocating artifacts or elements of assignments so that these differ between students – these can be different sources, texts, articles, companies, products, or examples.
- In technical assignments (e.g., those requiring calculations, application of formula), algorithms have been used to generate individual data sets for an assessment task and to generate answers (see, e.g., Blayney and Freeman 2008). However, if the same computations need to be made in all assignments, this may simply change the nature of collusion. For example, in relation to accounting case studies, Goldwater and Fogarty (2007) argued that:

To the extent that many accounting case solutions require numerical solutions derived in a predictable manner, students will often deploy spreadsheets, thus allowing copying to be accomplished with negligible effort. (p. 131)

Such suggestions will need to be accommodated within the course context and resources available. Individualizing assignments in such ways negates simply copying another student's assignment and increases the opportunity costs of students assisting other students: as their friend's assignment is not identical to their own, more time and effort are required to provide "too" detailed assistance. In such cases students may be more likely to give general advice that does not constitute collusion.

Monitoring and Detection

It is acknowledged that prevention is better than detection, yet any breach of academic integrity needs to be challenged when it occurs (McCabe and Pavela 1997). While an educative approach should be foremost, monitoring, detecting, and acting on any integrity breaches are essential components of any strategy to promote academic integrity (Brent and Atkinson 2011). This is critical given that research confirms that many students knowingly engage in academic integrity breaches but perceive that the consequential risks are minimal and the risk of detection is low (de Lambert et al. 2006). It is important to recognize that the educative objective cannot be realized for students who unknowingly collude

(or unintentionally undertake other academic integrity breaches) but are not identified. Such students are placed in jeopardy both by the risk of continuing to engage in collusion in future assessment items and by failing to develop requisite knowledge and skills.

Yet there is general recognition in the academic integrity literature that most breaches are not routinely identified and even fewer are actually reported or acted upon (Brimble and Stevenson-Clarke 2005b; Bermingham et al. 2010). Further, Bjorklund and Wenestam (1999) estimated that less than 1.5 % of breaches were detected, while Yardley et al. (2009) found that over 80 % of alumni admitted cheating yet none reported being “caught.” Studies also confirm that a significant number of staff ignore breaches (Barrett and Cox 2005) and cite a number of reasons for doing so (Simon et al. 2003; Parameswaran 2007). Lindsay (2010) noted the disparity between students’ self-reported rates of misconduct compared with formal actions taken against them. If staff are unable or unwilling to act on even obvious breaches of academic integrity, this becomes even more problematic when addressing collusion with its ill-defined nature and the general perception that it constitutes a less serious violation of academic integrity than other types of breaches.

Detecting collusion is problematic. In obvious cases, where there seem to be extensive similarities in wording between students’ assessments, it is a relatively easy task to employ text comparison software to reveal the extent of the overlap (Lyon et al. 2006; McKeever 2006). In cases where word-for-word similarities are not as extensive (e.g., where students may have used a common draft but rewritten or edited comprehensively), text-matching software will be less effective and manual methods must be employed. Detection then relies on individual markers both identifying similarities (perhaps being alerted by unique or strange wording, grammar, or content) *and* being willing to take action. If there are multiple markers for one assignment, the probability of detection is greatly reduced.

Identifying possible collusion in non-text assessments (e.g., technical, mathematical, computer coding) is even more problematic, especially where there is a single correct answer. The difficulty in detecting collusion in such types of assessments means that “collusion is often detected [only] when several students submit work which is incorrect, odd or unusual,” while detection is unlikely for students who collude but arrive at the correct answer (Barrett and Cox 2005, p. 111). For computer coding, where collusion is often perceived as common and staff are highly computer literate, purpose-built programs are widely used to identify collusion (see, e.g., Lancaster and Culwin 2004).

Even if detected, the difficulty remains then in “unpacking” what may have occurred: Has one student copied another? Is the work the result of an authentic collaboration between students or one student assisting a poorer student? Has the nature or extent of collaboration crossed the line into collusion? Are the extensive text matches the result of plagiarism from common sources, rather

than a result of collusion? Sutherland-Smith (2013) found the ill-defined nature of collusion led to decreased confidence among academics wishing to confront suspected cases. Further, given the hidden nature of collusion, it “may be impossible to find out who the originators are and whether most of the work is plagiarised [copied] rather than the result of too much peer help” (Barrett and Cox 2005, p. 111).

Appropriate responses to collusion, be these educative and/or punitive, will vary, and a detailed consideration of this issue is beyond the scope of this chapter.

Summary

Collusion is one of the most context-dependent types of academic integrity issues which results in problems both in defining and understanding what collusion is and the circumstances under which it occurs. The social nature of collusion adds further complexity and another dimension to be considered. The wide-ranging gamut of student actions that potentially fall under the umbrella of the term collusion brings further challenges to attempts to arrive at any common understanding.

Collusion is implicated in many academic integrity breaches, and appropriate responses, be these educative and/or punitive, will vary. Nonetheless, any response needs to be designed so as not to undermine or discourage appropriate collaboration, which is a cornerstone of learning. Given the prevalence of collusion and its potential to seriously undermine learning outcomes and student equity, the problem must be addressed by a holistic approach that recognizes these inherent difficulties and tensions.

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P.M. Newton (✉)
College of Medicine, Swansea University, Swansea, UK
e-mail: p.newton@swansea.ac.uk

C. Lang
Office of Appeals, Discipline and Faculty Grievances, University of Toronto, Toronto,
ON, Canada
e-mail: christopher.lang@utoronto.ca

Abstract

Almost any sort of higher education assignment can now be purchased from a third party, from traditional essays all the way through to paying someone else to sit an exam. The use of custom essay-writing companies, freelancers, exam stand-ins, and other paid third parties represents a potentially significant problem for the provision of education around the world. This chapter provides a summary of this fast-evolving issue in education. We focus on written assignments, which are cheap and easy to access. Prewritten assignments are available instantly, while bespoke custom-written assignments can be purchased with a few hours' notice. The extent of their use is difficult to ascertain, but the limited evidence available indicates that it is widespread. The detection of their use is, at best, difficult and time-consuming. Preventative and deterrent strategies may be more effective. One author (PN) proposes preventative strategies based upon assessment design. The other (CL) proposes deterrent strategies based upon a legal approach. There is a legislative basis for the use of legal approaches to prevent misuse of paid services in higher education, and a summary of existing legislation is given, alongside examples of cases where it has been used.

Introduction

It is currently extremely easy for students, in any area of education, to pay a third party to do their work for them. Bespoke "custom essays" are available from hundreds of companies, and many online contract employment sites have sections for "academic writing." "Essay mills" may contain many thousands of prewritten assignments, available for some form of fee. It is even possible for students to pay for someone else to do examinations on their behalf. The fee for an assignment is determined by the topic, deadline, and standard required. The main legal cases addressing the use of paid third parties first emerged in the 1970s (McCormick and Whaley 2014), and it seems reasonable to assume that the notion of a student paying someone else to do their academic work for them has existed for a lot longer. However, in the last generation, the Internet has made this transaction much easier, and assignment preparation services are offered in many forms by many companies (Table 1). Many essay-writing companies are well-established businesses with professional marketing campaigns that advertise directly to students. These companies are occasionally the subject of stories in the mainstream media, which normally portray them in a negative light as "pay-to-cheat" services ("Overseas students 'buying essays'" 2008; "Parents 'buy essays' for students" 2008; "'Cheating' in essays up for sale" 2012). In such stories, and in their promotional materials, many companies defend their actions by stating that they do not seek to help students commit academic misconduct but that they provide study aids and model answers. The use of paid third parties also features in articles in the higher

education press, often provoking intense debate and soul-searching among academics (Bartlett 2009; Dante 2010; Anonymous 2013; Matthews 2013). Despite this attention from journalists, there has been very little peer-reviewed research into the (mis)use of paid third parties in higher education, a fact noted in a recent review (Walker and Townley 2012).

What Can Paid Third Parties Do?

The types of services offered can be broadly classified into a few distinct groups according to the type of provider (see Table 1 for examples). In many cases, either public or private auctions are used to manage the relationship between the student and the person who actually completes the assignment.

Although traditionally portrayed as “custom essay-writing companies,” it is possible for almost any sort of academic assignment to be contracted out to a paid third party, including oral presentations, data collection and analysis, and the sitting of exams. A range of examples is shown in Table 2.

Table 1 Types of paid third party service available, classified according to the nature of the service provider. The example companies listed were active at the time of writing (October 2014), and the list of examples chosen is intended to be representative rather than exhaustive

Type	Description	Current examples	Notes
Academic custom writing	Student contacts company with assignment details, which are passed on to custom writer via an internal auction	UnemployedProfessors.com UKEssays.com	
Online labor markets	Student posts details of assignments, which writers then bid to complete	Freelancer.com Transtutors.com	Online labor markets do not exist solely to provide academic writing and offer many other services
Prewritten essay banks	Searchable repositories of prewritten essays. Students either pay a subscription or submit essays of their own to gain access	Studymode.com 123helpme.com OPPapers.com	
File-sharing sites	Similar to essay banks but not specifically for essays	Baidoo.com	Sites like these do not exist solely to provide academic writing services
Paid exam takers	Students pay someone to sit exams on their behalf, either online or in person	Boostmygrades.com Allhomework.net	These sites offer additional services besides exam taking

Table 2 Examples of written and other assignments available from (anonymized) paid third parties. The list is intended to be representative rather than exhaustive and includes comparisons of similar assignments from different types of paid third party, to allow crude comparisons of the sorts of fees charged (online labor markets are generally cheaper). All assignment/quotes were from 29–30 October 2014. For online labor markets, the “cost” was calculated from the average bid and converted into UK currency (GBP) (from US or Canadian dollars) using www.xe.com. For all online labor market assignments, there were at least 17 bids. *ns* not stated. For further examples, see Clarke and Lancaster (2013)

Site	Discipline	Level	No. of words	Assignment	Required in days	Cost in GBP
Online labor market	Sociology	Undergrad	3000	Lit review	ns	48.11
Academic Custom Writing Co. #1	Sociology	Undergrad	3000	Essay	7	390
Academic Custom Writing Co. #1	Sociology	Undergrad	3000	Lit review	7	390
Online labor market	Law	Masters	3000	Dissertation proposal	ns	15
Academic Custom Writing Co. #1	Law	Masters	3000	Dissertation proposal	7	540
Academic Custom Writing Co. #2	Law	Masters	3000	Dissertation proposal	5	270.01
Online labor market	IT	Undergrad		Employment portfolio including website, resume, and PowerPoint presentation	3	44.36
Academic Custom Writing Co. #3	History	Undergrad	4 pages	Research paper	7	39.95
Academic Custom Writing Co. #1	English literature	PhD	100,000	PhD dissertation	POA	67,500
Online labor market	Computing	Undergrad	Short answers	“Perfectly balanced binary search trees”	3	51.37

Characteristics of the Use of Paid Third Parties for Written Assignments

A simple route to paying for an assignment is to contact an academic custom essay-writing company of the type described in Table 1. Companies may use an in-house auction to allocate authors to assignments (Tomar 2012). An alternative and seemingly cheaper route (Table 2) is for students (or persons acting on their behalf) to put the work out to tender through online labor markets which use a public auction system. The use of this type of service to engage in academic misconduct has been described as “contract cheating” (see ► Chap. 44, “Contract Cheating: The Outsourcing of Assessed Student Work”). Whether operating through internal or public auctions, custom essay-writing services generally operate along similar lines. The student gives a detailed set of instructions regarding the assignment, which may include details such as the institution where it is to be submitted, the module/course code, and the referencing guidelines to be used. With custom essay-writing companies, the price charged is then apparently dependent on certain key characteristics such as assignment length (e.g., number of words), level (e.g., undergraduate essay, PhD thesis), and the date by which the student would like the work prepared. The student may then be offered the opportunity to purchase additional “extras” such as a set of notes detailing the preparation of the assignment, copies of “drafts,” and an opportunity to send the work back to the writer for reediting after it has been marked. When using public auction/online labor markets, the student, or someone operating on their behalf, posts these details on the auction site, and writers bid for the opportunity to complete the work. The poster then selects a “winning” bid and the transaction occurs “offline.” Much like traditional auction sites such as eBay™, bidders and posters using online labor markets have detailed profiles which include user reviews, their work history, and their qualifications.

Custom-written assignments are also available very quickly with academic custom writing companies generally offering turnaround times measured in days. A recent research study, conducted in part by one of the authors, analyzed the turnaround time requested in posts requesting academic writing on online labor markets such as *Freelancer* and *Transtutors*. Sixty-eight percent of the posts analyzed stated a desired turnaround time in the initial posting, with a mean of 5.14 days (SEM = 0.56, range 0–24 days). Twenty-four percent of these requests were for a turnaround time of 1 day or less. Eighty percent of requests appeared to have been completed within the stated time, although it was not possible to verify the accuracy of stated completion times, the number of stated bidders, or the quality of the work returned. Most significantly, for every fulfilled request, there were ten (average) freelancers bidding to complete the work within the requested time (Wallace and Newton 2014). In addition to demonstrating the speed with which custom-written assignments appear to be available, these data demonstrate that, on the basis of this study, there is significant spare capacity in the market for the types of assignment generated through these routes.

How Widespread Is the Use of Paid Third Parties?

It is extremely difficult to obtain, or even generate, accurate data on the use of paid third parties in higher education. It seems reasonable to assume that there will also be a difference in usage frequency between the different types of paid third party, as it is considerably easier to access a free prewritten paper than to arrange for a stand-in to sit a face-to-face exam. The custom-written work generated by freelancers and custom essay-writing companies is supposedly original and thus likely to evade originality detection software, while the materials available on websites offering prewritten essays may be behind paywalls or other systems which make it difficult to detect. Some of the available evidence comes from self-report by students. There are well-established concerns regarding the reliability of self-reported behavior, particularly concerning reports of issues related to academic integrity (Juni et al. 2006). These difficulties are compounded by the borderless and rapidly evolving nature of the issue – it exists largely online and with writers and students often on different continents (Dante 2010).

Despite these caveats, triangulation of the limited data that are available indicates that the use of paid third parties is likely to be widespread. A recent study of female university students at one institution in Saudi Arabia revealed that 22 % of students self-report having paid someone to complete an assignment for them (Hosny and Fatima 2014). A “white paper” published by the originality detection company Turnitin on their website analyzed the most common sources of unoriginal text in the 28 million higher education assignments submitted through their system between July 2011 and June 2012. Prewritten essay mills accounted for 19 % of the unoriginal text in student submissions, with one site alone (OPPapers.com; this site is now part of “Studymode.com”) accounting for 4.5 million individual matches. The actual amount of unoriginal text taken from these sources is almost certainly higher than that reported by Turnitin, given the aforementioned paywalls and other systems which make it hard for detection to occur. Unpublished (i.e., not peer-reviewed) survey data, also collected by Turnitin, from university students in the USA showed that 7 % of students’ self-report having purchased an assignment at least once, with 23 % of students reporting that their peers have purchased an assignment (Turnitin 2013). These percentages potentially represent an enormous number of students if replicated across the international higher education sector.

Ethical Issues

Many essay-writing companies are well-established businesses with professional marketing campaigns that advertise directly to students. As mentioned in the introduction, these companies are occasionally the subject of stories in the mainstream media, which often use dramatic headlines to portray them as pay-to-cheat services. In such articles, many companies defend their actions, stating that they do not seek to help students commit academic misconduct but that they provide study

aids and model answers. One recent news story used an undercover journalist posing as a student to demonstrate that, in the story's words, a custom essay-writing company was "willing to pose as a student to submit [the essay]" (Henry et al. 2014). Some companies are overt about their intentions – one company (UnemployedProfessors.com) has a Frequently Asked Questions Page which includes the question "Isn't it really unethical for you to be writing these essays for cash?," to which the first line of the response is "Incredibly so, and because the academic system is already so corrupt, we're totally cool with that" ("Unemployed Professors – Frequently Asked Questions" 2014). Whether or not companies intend students to pass off purchased work as if it was their own, there is little doubt that many students do so (Dante 2010).

The use of a paid third party is, arguably, a distinct form of academic misconduct, and many institutions treat it as such on the basis that it represents a deliberate attempt to commit very serious academic misconduct (Tennant and Duggan 2008). Two studies have examined ethical issues surrounding the use of paid homework or exam assistance. The first examined the views of writers working to produce student assignments. Christopher Harris and Padmini Srinivasan at the University of Iowa (USA) recruited participants to a website called "Homework Assist," which the authors had created for the purpose of the study. Participants were told that the site was "a broker for academic assistance." Workers were recruited to the site through the Amazon Mechanical Turk™ (MTurk) system, an "online labor market" where "jobs" are advertised and anonymous workers are paid to complete them. Using an experimental design, one group of workers were told that their answers were to be used for "unethical" purposes (e.g., as a homework assignment or exam answer). Seventy-nine percent of workers who completed a piece of work gave permission for it to be used in this way, although only 61 % of those who first visited the site went on to complete a piece of work. Nevertheless, these findings suggest that a high proportion of those who complete paid academic work on behalf of others are happy for it to be used by those wishing to commit academic misconduct (Harris and Srinivasan 2012).

The second study, again conducted by one of the authors (Newton 2015), investigated the attitudes of 469 new undergraduate students, across disciplines, toward various academic misconduct scenarios. Answer options represented the full range of outcomes possible from a plagiarism investigation at the host institution. It was found that most students consider the purchase and submission of an essay, for which a student has done no work whatsoever, to be an act which should be modestly penalized through failure of that assignment alone – a penalty equivalent to copying from a friend without their permission. As mentioned above, in reality, they would be expelled from the university, as is the case at many institutions (Tennant and Duggan 2008). These data highlight a significant mismatch between student perceptions of paying for assignments and the reality of how many universities penalize it.

Much of what we know about the current custom essay-writing industry comes from the work of Dave Tomar, who has written about his 10-year experience as a full-time custom essay writer (Dante 2010; Tomar 2012). One of the main themes

of his writing is that, in his view, students are let down by their academic institutions, particularly students who are not studying in their native language or who are not suited academically to the subject they are studying. If Tomar is correct, and students are paying essay writers because they are struggling with the language in which the assessment is required, or they have been accepted to an expensive program of study for which they are not well suited beyond their ability to pay, or the support provided by academic institutions is significantly lacking, then it seems logical that some will resort to academic misconduct in order to complete their assignments. These pressures contribute toward the motivation of students to commit “traditional” plagiarism, and it seems reasonable to assume that they will also motivate students to use paid third parties. Although these pressures do not make it acceptable for students to pay someone else to complete their assignments, they do perhaps make it sadly inevitable. Although it is somewhat beyond the scope of this chapter, a failure to address the underlying motivation of students who use paid third parties (or, indeed, who commit any form of academic misconduct) will fundamentally undermine any attempts to deal with it, especially given the rapidly evolving nature of the issue, powered by advances in technology and access to services provided online.

Can We Prevent the Use of Paid Third Parties to Complete Written Assignments Using Assessment Design (PN)?

As stated above, there has been very little research into the use of paid third parties in education. In the absence of a broad, high-quality evidence base, strategies aimed to combat the misuse of custom writing services are based largely on personal experience and speculation. Suggested methods to detect custom-written assignments include encoding of bespoke search terms within assessment details, payment/encouragement of other students to identify peers who are using these services, and electronic watermarking or other means of securing assessment details (Mahmood 2009; O’Malley and Roberts 2012; Walker and Townley 2012; Clarke and Lancaster 2013). Students who are found to have used paid third parties would then presumably be penalized by their institutions. The effectiveness of these strategies has not been investigated in detail, and attempts to do so are likely to be undermined by the fundamental problems associated with detecting the work of paid third parties in the first place. Even if effective, the methods described seem likely to require significant resources to implement.

One suggested strategy to prevent, rather than detect, the use of paid third parties is “just-in-time” release of assessment details, so that students have a limited time to complete the assignment. This strategy is based on the principle that a short turnaround time will give students less time to arrange for a paid third party to do the work (Mahmood 2009; O’Malley and Roberts 2012). The suggestion was directly tested in a recent research study as described above, which concluded

that it is extremely unlikely to be effective as work is already turned around quickly and there is significant spare capacity in the market (Wallace and Newton 2014).

Another suggested, though untested, strategy to prevent the use of paid third parties in education is to design assessments that are harder to contract out. This strategy has been the subject of numerous workshops run by one of the authors, and several common themes have emerged. The first is an increased use of assignments which require the student to be visually present, either in person or remotely, for example, face-to-face oral presentations or other “viva”-type assessments, online narrated video presentations, or even “traditional” written exams. The use of these approaches is potentially compromised by their validity as assessments of certain types of learning. For example, the ability of a student to search, critically review, and synthesize the literature on a specific topic may not be best assessed through an oral exam, and the validity of the assessment may even be undermined if the student struggles with oral presentation, for example, through “stage fright” or language difficulties. A second theme is the personalization of assignments – making the context of an assignment specific to the individual or some other aspect which is less generic. Again, this may not be suitable for all types of assignments, and it is fairly straightforward for a custom writer to personalize an assignment with only minor input from their client. A third theme, often suggested to run alongside the others, is to “think positive” – create a positive climate of academic integrity, make it easier for students to do the “right thing,” support them properly in the academic endeavors, and accept that there will always be some students who deliberately set out to commit academic misconduct.

Finally, one of the main themes of the aforementioned work of the former custom essay writer Dave Tomar is that prevention of paid third party use can be achieved, in part, through educators developing and maintaining a close academic relationship with their students. “Get to know your students,” he writes. The effectiveness of this strategy is obviously going to be limited under circumstances where anonymous marking is used to *prevent* prior knowledge of a student from influencing the assessment process, for example, through the creation of “halo effects” or related forms of cognitive bias wherein previous experiences with a student unduly influence the grading of subsequent assessments (e.g., see Malouff et al. 2013). In addition, the ability of individual instructors to “get to know” their students is extremely limited where there are large class sizes, although this may be relevant to the points made by Dave Tomar about academic institutions failing to support their students (see above).

Given that it is possible to purchase almost any type of assignment online, it seems unlikely that any single assessment design principle is going to completely prevent the use of paid third parties, and each has limitations and consequences of its own. However, it seems reasonable to assume that the use of a diverse range of assessment methods, including some which focus on having the student physically present to present their work, will make it harder for students to contract out all of their work and will also make it easier to triangulate between assessment types.

Legal Issues Surrounding the Use of Essay-Writing Companies and the Possible Development of a Deterrent Legal Approach (CL)

Educational institutions generally deal with purchased work by monitoring and attempting to “catch” students who use these services, which can be extremely difficult. In addition, this approach only addresses issues of “demand,” which begs the question, “can the supply side of the equation, which would entail targeting the companies directly, be tackled?” This section will cover the current status of using paid third parties for the purchase of assignments, from a legal perspective. There has been little research into legal approaches to the use of paid third parties in higher education, largely due to the fact that legislation is sparse and what little there is largely concerns term paper companies. This in turn means that legal cases are few and far between. The synopsis of legislation and cases is mainly from the USA, as this is where most legal action has occurred. By examining prior legal actions, one may be able to provide guidance in terms of addressing the use of paid third parties directly, through a potential future legal or legislative action, by identifying what might be pertinent legal issues. Examples are given from both the USA and New Zealand; however, the principles are likely to be important across jurisdictions. Many of these issues are also being examined in a project that is being developed simultaneously with the International Center for Academic Integrity with the generous assistance of Pro Bono Students Canada. As such, there is some overlap between that non-released research paper and the part of this chapter dealing with legal issues. Acknowledgment should go to Ms. Maya Kanani, Ms. Megan Jamieson, Dr. Tricia Bertram Gallant and Ms. Giselle Basanta.

Legislation

In the USA, at October 2014, seventeen states have some type of law specifically addressing the preparation of assignments by third parties. The states with such laws are California, Colorado, Connecticut, Florida, Illinois, Maine, Maryland, Massachusetts, Nevada, New Jersey, New York, North Carolina, Oregon, Pennsylvania, Texas, Vermont, and Washington. We will not provide a detailed analysis and reference to all the legislation, but will highlight samples and similarities to demonstrate how issues may be addressed differently in various legislations. Appendix 1 shows examples of current state legislation in the USA. These pieces of legislation generally define the third party companies, academic assignments, offenses, and educational institutions quite broadly, so as to capture a wide range of situations, but the definitions can be quite different. For example, most prohibit the preparation or distribution of papers, while others prohibit assisting with the sale of papers or advertising these services, while yet another prohibits conducting research for students (Dickerson 2007).

For a comprehensive summary of current US legislation and some cases pertaining to legalities of term paper mills, please see the research conducted for

the International Center for Academic Integrity by Mary McCormick assisted by Hunter Whaley at <http://law-fsu.beta.libguides.com/termpapermills>. At this site, the statutes are listed in their entirety, as well as being organized into sections with a fuller cross-comparison (only a summary of this work is shown in Appendix 1).

In New Zealand, it is illegal to advertise or provide third party assistance to cheat. These changes to the law were added in August 2011, when the New Zealand Qualifications Authority (“NZQA”) was given the power to prosecute anyone providing or advertising such services (Heather and Fensome 2013). As stated on their own website, the NZQA’s “role in the education sector is to ensure that New Zealand qualifications are regarded as credible and robust, nationally and internationally, in order to help learners succeed in their chosen endeavours and to contribute to New Zealand society” (<http://www.nzqa.govt.nz/about-us/our-role/>).

The principles set out in Section 292E of the New Zealand Education Act are similar to those included in various US state legislations, including making the advertising of such services an offense. There are, however, differences (New Zealand Qualification Authority). The New Zealand law is broader in terms of what is considered improper, as it speaks to services, and not just assignments. For example, it covers sitting an examination for someone (Section 292E(4) (d)). Yet, at the same time, the law appears to be somewhat narrower than in the USA in that there is no section regarding “should reasonably have known” (see below). Finally, under the New Zealand Act, those who commit offenses are liable to a fine up to \$10,000 (see Appendix 2 for the relevant language from the New Zealand legislation).

Intent of the Paid Third Party

In legislation, *intent* usually refers to the “knowledge” of the seller vis-à-vis the purpose for which they were producing the academic work. This is an important legal consideration, given the defenses employed by paid third parties who have prepared assignments for student clients. Some US legislation such as that in Virginia or California, for example, defines intent broadly to include not only what the seller knew was the purpose or use for which they produced the academic work, but, further, what they *reasonably should have known* was the purpose for which the work was produced (Virginia Code § 18.2-505(a) and California Education Code § 66400, as cited in McCormick 2014, emphasis added). In other words, if a third party has a disclaimer, yet a student provides information (either direct or indirect), regarding their intention to hand in the work that is produced, the implication could be that the disclaimer is irrelevant – that is, the provider *should have known* the work was going to be handed in as is. The known versus reasonably should have known is an important distinction and would likely turn on the circumstances under which the “contract” was made. As stated by Capano, “[c]lose examination of the business activities of term-paper mills indicate their knowledge of students’ intent to use these papers to obtain fraudulent credit” (Capano 1991, p. 286).

Defenses and Exemptions

Most legislation also includes defenses and exemptions – apart from any disclaimers used by the actual paid third parties – which permit certain paid academic work to be allowed and therefore not be considered a breach of the statute. These exemptions range from owning a copyright to providing tutoring services or research material and to assisting someone where you did not intend for that person to submit the academic work as their own. This, of course, is related to the previous discussion on intent (Dickerson 2007).

Penalties and Remedies/Sanctions

So what happens if an individual is found to have breached legislation? What is the penalty? These can vary greatly across the different jurisdictions and can range from injunctive relief (i.e., legally preventing the provider from doing something, e.g., selling academic work, while a case makes its way through the courts) to a civil penalty, which could involve a financial penalty of between 1000 and 10,000 dollars (USA), and to being found guilty of a misdemeanor and facing imprisonment (Dickerson 2007).

Legal Cases: The USA

There have been few legal cases over the past 30 or 40 years, and what little legal action has been taken has largely either been many years in the past, not brought under state legislation, has settled, or the final disposition was not published. We will therefore cover the relevant principles and facts that were important in a few cases that might assist in identifying legal issues that could be at play in a current action.

The first case is from New York and is that of *State v. Saksniit* 1972. The attorney general sought to dissolve the defendant business, arguing that their activities were contrary to public policy. The argument was that the defendant encouraged cheating, and it was against the public policy of the state to maintain the integrity of the educational process. The New York legislature, as per Section 224 of the Education Law, enacted laws to prevent fraud in obtaining degrees or diplomas.

The attorney general won this case, although it only involved an injunction. The defendant was found to operate a business in direct contravention of public policy and the education code because they aided and abetted students to obtain degrees or diplomas by fraudulent means (Capano 1991). The court examined the order forms filled out by the customers of the defendant, as well as the advertising campaign to clarify the intent of the seller, and determined the company provided custom-made papers to be submitted, as written, for credit (Capano 1991). Justice Gellinoff

wrote, “[t]hese instructions show that the student is plainly telling defendants that he intends to palm off the term paper he receives from the defendants as his own” (*State v. Saksniit* 1972).

The end result – the injunction – was that the defendants were prevented from carrying, conducting, or transacting business as sellers of essays, theses, term papers, or other school assignments during the legal action. They were also prevented from “advertising, soliciting, accepting, delivering, and contacting for the production and sale of term papers or other research materials to students” (*State v. Saksniit* 1972).

In another New York decision (*State v. Magee* 1979), the attorney general also brought an action against the defendant, who ran a term paper company, Collegiate Research Systems, arguing that the company breached Section 213-b of the New York Education Law. Previous to this, the court granted a preliminary injunction against Magee, preventing the company from selling academic work to students. The defendant argued that his products were not “assistance” as defined under the law in question but rather were publications entitled to First Amendment Protection (which deals with, among other things, freedom of speech and freedom of the press), that the papers were no different than an encyclopedia or bibliography, and that he had purchasers sign a form stating that their intent was not to use the work for improper purposes (*State v. Magee* 1979).

The defendant’s argument was rejected by the court. The court found that the papers did not fall within the exception of the law for materials that were copyrighted, and neither were they protected by the form signed by the purchasers. Justice Wallach, in rejecting the defendant’s arguments, stated, “[t]he papers purchased by the Attorney General’s agents and annexed to the motion are plainly designed to deceive and would have no other utility in the world of scholarship. Carefully tailored for submission as undergraduate work and keyed to the assignments in specific undergraduate and graduate courses, they were sold for that express purpose by defendant and do not fall within the copyright exception” (*State v. Magee* 1979). Justice Wallach went on to say “These typewritten papers, in a format designed for direct submission, and taken together with defendant’s seductive sales literature, are full proof of unlawful intended use. . . . Nor is the defendant saved by the pious disavowals of plagiaristic intent which the paper buyer ritualistically signs. This procedure is patently tongue-in-cheek.”

These two cases are important because they were successful in using their respective state legislation to address the problem of the third party provider directly. The various defenses employed pertaining to disclaimers, copyright, and intent were not persuasive and are thus useful in terms of identifying arguments and facts that could address these defenses in future cases.

Finally, in *Macellari v. Carroll* (2005), Blue Macellari was a student at Mount Holyoke in Massachusetts. During a study abroad program in South Africa, she wrote a paper for academic credit, which she then posted on her website as a writing sample. While attending graduate school, a friend found some of Macellari’s papers located in their database of essay websites such as “doingmyhomework.com.”

In order to access full papers, students must subscribe to the site, and if someone purchases a paper from the site, they have to provide the site with another paper, which then becomes the company's property. Macellari denied that she had provided her papers to the sites and alleged the companies' actions made it appear she condoned plagiarism and placed her in possible breach of her institution's honor code. Macellari also alleged she had copyright ownership to the material. The case settled in 2006 and the settlement was confidential (Dickerson 2007).

In the USA, some paid third parties have made arguments using First Amendment Rights to free speech as a defense, as demonstrated in the *Magee* case. We will not discuss this here, but for a detailed review, see either Capano (1991) or a comment from the Duke Law Journal (1973).

New Zealand

At the time of writing, there is a case making its way through the courts in New Zealand. The case involves companies (including Assignment4U) which "reportedly used a network of tutors to write assignments for Chinese-speaking students at New Zealand tertiary institutions" (Elder 2013). As reported by the New Zealand Herald in March 2014, the couple who owned the companies were allegedly paid \$1.1 million over 7 years by hundreds of clients (Savage 2014). Although no criminal charges have been filed, restraining orders were granted under the Criminal Proceeds (Recovery) Act 2009, basically freezing eight properties owned by the couple. According to the New Zealand Qualifications Authority ("NZQA"), "[the judge] was satisfied the Court had reasonable grounds for believing that significant criminal activity had occurred and that [the couple] had benefited from it" (NZQA website). The New Zealand legislation mentioned earlier has not been at play to date but the case is still active at the time of writing.

Considerations for a Legal Challenge

As described above, there are very few pieces of legislation in place, and even fewer cases, and thus the potential for legal difficulties or complications to exist is quite high. These legal difficulties could occur in terms of both legal principles and logistics around a potential legal challenge and would likely be even more pronounced in jurisdictions that do not have legislation in place. Legislation, as outlined above, can directly alleviate some of these potential difficulties by outlining a public policy rationale, but also by creating the conditions for a court to create a new action or principle under the law, which they might otherwise be reluctant to do.

As discussed earlier in this chapter, since paid third parties can produce unique one-of-a-kind products that are virtually impossible to detect, the ability to prove a case can be very difficult. Additionally, if evidence cannot be obtained from the

person/company providing the service, a case can be particularly problematic. This issue of evidence existed in the New Zealand case involving *Assignment4U* and highlights one of these legal difficulties. In this case, restraining orders were needed to freeze the properties of the owners, as some data had been destroyed, computers and servers had been moved, and numerous documents had been deleted (Savage 2014).

Another legal complication relates to jurisdiction. It is important to note that the legislation in place in one jurisdiction may not apply outside that jurisdiction. In terms of US state legislation, currently “eight states restrict the reach of the statutes to educational institutions within their own borders, . . . [the] Massachusetts statute specifically refers to out-of-state institutions, . . . an amendment to the Washington statute indicates that its reach does not stop at the state’s borders, [while] the other statutes are silent about geographic reach” (Dickerson 2007, p. 21).

When factoring in the international aspect of modern education, the jurisdictional complexity becomes even more pronounced. Many parties are involved in the transactions that produce a custom-written assignment: the company providing the service, its workers and owners, the person who writes the assignment, the student client who purchases the paper, and, finally, the institution to which the assignment is submitted. In the case of a “distance learning” student, these entities could all be located in different countries bound by different legal regimes. Bartlett (2009) alerts us to the increasingly international nature of writers for essay mills, while Walker and Townley reference many sources when reviewing this issue and write that “offers to complete work posted on auction sites not infrequently came from India, the Philippines, and other places where currency exchange rates allow work to be offered cheaply [relative to assignments written by individuals located in the same country as the student client]” (Lancaster and Clarke 2006; Shepherd 2008; Daily Mail 2006, as cited in Walker and Townley 2012, p. 31).

This leads to many questions. Which legal forum applies? How do you, in effect, obtain an injunction or remedy from someone in another legal jurisdiction? How do you find the relevant person(s)? How do you force any of those involved to participate in the legal proceeding? Further, pursuing a custom essay-writing company through legal means may only cause the company to shut down and relocate, which is analogous to events which unfolded with “diploma mills” (sites offering fake degree certificates), as “state lawsuits against diploma mills have often been ineffective, doing little more than causing a diploma mill to relocate to a different jurisdiction from which it continues to sell its product unimpeded” (Gollin et al. 2010 as cited in Osipian 2012, pp. 157–158).

A third potential legal issue pertains to *standing*, or put differently, who has the right to bring a legal action against a person/company that produces an assignment on behalf of another. Where legislation exists, it can be much easier to determine. As analyzed by Dickerson (2007, pp. 49–50), “in most states, no private right of enforcement exists under the term paper-mill statutes; instead, enforcement is by the state attorney general or the local district attorney. In Illinois and New Jersey, higher education institutions can request that the State seek an injunction; in a few

states, a college or university also may seek an injunction.” This might explain why there have been so few actions in the USA, even though there is legislation in seventeen states. The attorney general has not deemed this to be a public policy issue of importance.

The issue of standing is more difficult to determine where there is no legislation in place and would vary among jurisdictions. For example, there is clearly a relationship between a student and an educational institution, but what is the relationship involving the paid third party? Another way to look at it is to ask “who has been “wronged”? Is it the student who is caught? Is it the student who pays for an “A” grade paper but only gets a “B” grade? Is it the educational institution? Is it other students who do not use these services and argue that their degrees are devalued by those who do, or even a prospective employer who feels they cannot rely on the qualifications behind a degree? Or is it all or a combination of all of these?”

As mentioned above, many of the companies described in Table 1 operate under disclaimers, to the effect that they argue their products are merely study aids and not intended to be handed in by students or used as a “cheating” aid. From a legal perspective, what might be relevant is not what they knew but, rather, as discussed earlier, what they ought *reasonably* to have known was the purpose for which they produced the work. Another way to look at this would be to ask whether the company/writer turned a “blind eye” to the situation.

There are many important facts that could lead to a determination that a person preparing an assignment for someone else ought to have known the purpose for which they were producing the work. Such facts, as stated above, worked against the (paid third party) defendants in *Magee* and *Saksniit*. Specific facts that could be relevant might revolve around what these companies ask their clients to provide that might reasonably then be used as evidence to support the theory that they are providing assignments for students who would submit the work as their own. These facts include requests for the number of words required, the font type and word size, the required grade/standard, the course name, formatting instructions such as where to insert the page numbers, and even a blank space for a student to fill in their name once they receive the product. These are all facts that arguably work against any disclaimer or argument that the provider was not cheating, or aiding cheating, or knowing that they were doing so.

As a final consideration, even if one wins a case, how would damages be assessed? Legislation would often address this, but in the absence of such statutes, it could prove difficult. How would the courts measure harm, and to whom? How would they put a value on a degree or an individual assignment? How would one prove a nexus or causal connection between the actions of a third party provider and the alleged devaluation of a degree? These questions have yet to be addressed in current cases where there is no legislation, but must be kept in mind if there is to be legal action, to ensure that any proposed legislation is effective.

While little research currently exists regarding legal ways of dealing with these providers, it is hoped that this discussion serves as a model in terms of advocating for legislative change and education regarding these companies. Although we

cannot generalize in terms of situations, legislation, or jurisdictions, we have attempted to identify the pertinent issues and facts that would be at play to facilitate legislative action. Even though legislation and legal cases are currently infrequent, the issue is certainly gaining both more attention and legal traction. The more legislation that is introduced, the more public policy reasons will exist to legally address the supply problem directly, which can be an important tool to supplement important educational initiatives and delegitimize these third party providers.

Summary

The practice of paying someone else to complete an assignment is not new to higher education, but setting up such a transaction is currently extremely easy, perhaps facilitated by the use of “traditional” assessment designs, easy access to providers, and a lack of clarity over the legal picture. Although legal avenues exist, very few cases are pursued, perhaps due to the numerous legal complexities surrounding the issue.

Solutions which include an updated and enhanced legal framework surrounding these companies, the use of assessment designs which make it harder to contract out assessments, and a focus on the positive issues of academic integrity may prevent and/or deter students from using these paid third parties.

Appendix 1: Sample Legislation from the USA (for comprehensive comparison chart, see McCormick and Whaley 2014)

State	Citation	
CA	Cal. Educ. Code § 66400	<p>66400. No person shall prepare, offer to prepare, cause to be prepared, sell, or otherwise distribute any term paper, thesis, dissertation, or other written material for another person, for a fee or other compensation, with the knowledge, or under circumstances in which he should reasonably have known, that such term paper, thesis, dissertation, or other written material is to be submitted by any other person for academic credit at any public or private college, university, or other institution of higher learning in this state (<i>Enacted by Stats. 1976, Ch. 1010</i>)</p> <p>66401. No person shall make or disseminate, with the intent to induce any other person to enter into any obligation</p>

(continued)

State	Citation	
		<p>relating thereto, any statement, written or oral, that he will prepare, cause to be prepared, sell, or otherwise distribute any term paper, thesis, dissertation, or other written material, for a fee or other compensation, for or on behalf of any person who has been assigned the written preparation of such term paper, thesis, dissertation, or other written material for academic credit at any public or private college, university, or other institution of higher learning in this state (<i>Enacted by Stats. 1976, Ch. 1010</i>)</p> <p>66402. Any court of competent jurisdiction is hereby authorized to grant such relief as is necessary to enforce the provisions of this chapter, including the issuance of an injunction (<i>Enacted by Stats. 1976, Ch. 1010</i>)</p> <p>66403. Actions for injunction under the provisions of this chapter may be brought in the name of the people of the State of California upon their own complaint or upon the complaint of any person, or in the name of any public or private college, university, or other institution of higher learning, acting for the interest of itself, its students, or the general public (<i>Enacted by Stats. 1976, Ch. 1010</i>)</p>
NY	N.Y. Educ. Law § 213-b (Note: there is a recent proposed amendment that is not included)	<p>213-b. Unlawful sale of dissertations, theses and term papers</p> <p>1. No person shall, for financial consideration, or the promise of financial consideration, prepare, offer to prepare, cause to be prepared, sell or offer for sale to any person any written material which the seller knows, is informed or has reason to believe is intended for submission as a dissertation, thesis, term paper, essay, report or other written assignment by a student in a university, college, academy, school or other educational institution to such institution or to a course, seminar or degree program held by such institution</p> <p>2. Nothing herein contained shall prevent such educational institution or any member of its faculty or staff, from offering courses, instruction, counseling or tutoring for research or writing as part of a curriculum or other program conducted by</p>

(continued)

State	Citation
	<p>such educational institution. Nor shall this section prevent any educational institution or any member of its faculty or staff from authorizing students to use statistical, computer, or any other services which may be required or permitted by such educational institution in the preparation, research or writing of a dissertation, thesis, term paper, essay, report or other written assignment. Nor shall this section prevent tutorial assistance rendered by other persons which does not include the preparation, research or writing of a dissertation, thesis, term paper, essay, report or other written assignment intended for submission to such educational institution in fulfillment of the requirements for a degree, diploma, certificate or course of study. Nor shall any person be prevented by the provisions of this section from rendering services for a fee which shall be limited to the typing, transcription or reproduction of a manuscript</p> <p>3. Nothing contained within this section shall prevent any person from selling or offering for sale a publication or other written material which shall have been registered under the United States laws of copyright, provided, however, that the owner of such copyright shall have given his authorization or approval for such sale and provided further that such publication or other written material shall not be intended for submission as a dissertation, thesis, term paper, essay, report or other written assignment to such educational institution within the state of New York in fulfillment of the requirements for a degree, diploma, certificate or course of study</p>
	<p>4. No person shall sell, assign or otherwise transfer for business or for any other purpose to any person any information and material of a personal or private nature acquired from a purchaser of a dissertation, thesis, term paper, essay, report or other written assignment without the prior consent of such purchaser. The term "information and material of a personal or</p>

(continued)

State	Citation	
		<p>private nature” as used in this subdivision shall include, but not be limited to the name of such purchaser, his address and telephone number, the name of such educational institution, the name or number of the course, the name of the faculty member or members for whom such written assignment has been prepared and any description of the research involved or the nature of such written assignment</p> <p>5. A violation of the provisions of this section shall constitute a class B misdemeanor</p> <p>6. The attorney general and district attorney of the county wherein a violation of this section occurs shall have concurrent authority to investigate and prosecute any violation of this section and any related violations discovered during the course of such investigation</p> <p>7. Whenever there shall be a violation of this section, an application also may be made by the attorney general in the name of the people of the state of New York to a court or justice having jurisdiction to issue an injunction, and upon notice to the defendant of not less than 5 days, to enjoin and restrain the continuance of such violation; and if it shall appear to the satisfaction of the court or justice that the defendant has, in fact, violated this section, an injunction may be issued by such court or justice, enjoining and restraining any further violation, without requiring proof that any person has, in fact, been injured or damaged thereby. In any such proceeding the court may make allowances to the attorney general as provided in section eighty-three hundred three, subdivision six of the civil practice law and rules. In connection with any such proposed application, the attorney general is authorized to take proof and make a determination of the relevant facts and to issue subpoenas in accordance with the civil practice law and rules. Additionally, the attorney general may apply in any such proceeding for a monetary penalty of not more than one thousand dollars per violation</p>

Appendix 2: New Zealand Legislation

292E Offence to provide or advertise cheating services

1. A person commits an offence if the person provides any service specified in subsection (4) with the intention of giving a student an unfair advantage over other students.
2. A person commits an offence if the person advertises any service described in subsection (4) knowing that the service has or would have the effect of giving a student an unfair advantage over other students.
3. A person commits an offence who, without reasonable excuse, publishes an advertisement for any service described in subsection (4).
4. The services referred to in subsections (1) to (3) are as follows:
 - (a) completing an assignment or any other work that a student is required to complete as part of a programme or training scheme;
 - (b) providing or arranging the provision of an assignment that a student is required to complete as part of a programme or training scheme;
 - (c) providing or arranging the provision of answers for an examination that a student is required to sit as part of a programme or training scheme; and
 - (d) sitting an examination that a student is required to sit as part of a programme or training scheme or providing another person to sit the exam in place of the student.
5. A person who commits an offence against this section is liable on summary conviction to a fine not exceeding \$10,000.
6. In this section,

Programme has the meaning given to it in section 159(1);

Student means a student of a programme or training scheme; and

Training scheme has the meaning given to it in section 159(1).

Section 292E: inserted, on 30 August 2011, by section 42 of the Education Amendment Act 2011 (2011 No 66)

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Abstract

The rise of fee-for-service assignment preparation services has led to the proliferation of file sharing sites where graded work, academic and institutional materials are shared, swapped, and traded over the Internet for no payment, or at greatly reduced costs compared to essay mills. File sharing sites operate under the guise of information repositories, student support communities and assistance centers tempting contributors and users to recycle and repurpose materials through exchange arrangements. The popularity of file sharing sites is growing in student communities. This is due to sites being fee-free or low cost, the ease of access, time saving opportunities and grade improvement potential related to assessment tasks and exams, all complemented by the seemingly low risk of

A.M. Rogerson (✉)
Faculty of Business, University of Wollongong, Wollongong, NSW, Australia
e-mail: annr@uow.edu.au

G. Basanta
Academic Integrity Office, Ryerson University, Toronto, ON, Canada
e-mail: gbasanta@ryerson.ca

detection of use. The information housed and shared may be “free” in terms of cost, but it does not mean that it is free from obligation, including the acknowledgement of the original authors, assessing the credibility of information and compliance with legal frameworks and institutional policies. This section reviews the blurred lines that exist between what is and is not appropriate to share, the motivation behind the use of fee-free materials, and the legal implications of sharing, swapping, and trading materials such as breaches in copyright, intellectual property, and institutional policies. Considerations for limiting or circumventing the ability of file sharing sites to facilitate academic dishonesty are also discussed.

Introduction

The proliferation of essay mills or for-profit enterprises focused on generating revenue through selling and delivering contracted assessment material has unintentionally created a less visible industry in the bartering, trading or sharing of content related to learning and assessment. The term file sharing is associated with peer-to-peer (P2P) networks where individuals interact in a community-type relationship sharing content and materials (Yao and Vassileva 2004). File sharing is more well-known for an alternative, usually free but not necessarily legal, means for distributing entertainment content such as movies, television programs, and videos (Cenite et al. 2009). Student-based educational file sharing occurs when academic lecture materials, notes, assessment tasks, answers, and responses are shared, swapped, and traded over Internet-based sites in fee, free, or barter (credit/exchange) arrangements (Rogerson 2014). These sites encourage students to share and use information as members of an online community, but absolve themselves of the legal implications of sharing intellectual property that may not be owned or created by the person uploading or downloading content. The sites neither assess the content for quality or accuracy nor govern how the information is used or shared after being accessed by other online community members. The use of shared information may be “free” in terms of cost, but that does not guarantee that it is free of obligations. Students uploading proprietary materials to earn credits or downloading with credits and then using materials sourced, repurposed or directly copied from P2P file-sharing sites, may find that they may be knowingly or unknowingly breaching institutional academic integrity policies in addition to laws that protect areas such as intellectual property and copyright. The ease of access to information available via Internet-based resources is shown to enhance learning (Nicolae et al. 2012; Yamagata-Lynch et al. 2013) but is also linked to an increase in academic integrity issues in educational institutions (Park 2003; Sutherland-Smith 2008).

The International Center for Academic Integrity defines academic integrity as “a commitment, even in the face of adversity, to six fundamental values: honesty, trust, fairness, respect, responsibility, and courage” (International Center for Academic Integrity 2014). Academic integrity itself is a core value of education and

research requiring individuals to act responsibly and ethically within the boundaries of laws, codes, and policies (Bertram Gallant 2008). From a teaching and learning perspective, academic integrity assumes that students will do their own work and be awarded with a grade that will reflect their individual performance and level of achievement while using academic conventions such as the appropriate acknowledgement of sources. The grade which is recorded on the student's official transcript reflects the assessment of a student's achievements relative to subject and course learning outcomes (Wood et al. 2011) while contributing to an individual's employment prospects and eligibility for further study (Boud 2010). The use and nondetection of unoriginal or repurposed materials distorts the achievement of learning outcomes and assurance of learning (Attaway et al. 2011). Where P2P material is used or re-used to complete course requirements, the validity of that student's achievements and qualifications can be called into question by groups such as employers recruiting individuals based on qualifications (Walker and Townley 2012). As individuals share more of their lives on computer-mediated social networks (Boyd and Ellison 2007; Ellison et al. 2009), the lines are blurring between what is and is not appropriate to share, inform, re-use, trade, swap, or sell in an academic context.

Online Education Communities, File Sharing and Academic Integrity

The act of sharing written material is an accepted academic practice in research communities (Nistor et al. 2014); however, acknowledgements and citations are designed to ensure that ideas, thoughts, and results are attributed to the person or persons responsible. Open knowledge transfer has been referred to as a traditional approach to higher education which is based on cooperation and mutual trust (Teichler 2009). P2P networks share information in a form of social exchange based on cooperation, mutual benefit, and support (Pagallo and Durante 2009). There is a big difference between sharing knowledge based on the principles of academic integrity versus information uploading and downloading under the guise of supporting others, which ultimately conceals or obscures original authorship and potentially distorts content and meaning. Legitimate sharing of academic work requires the appropriate acknowledgement of sources and in most cases a level of peer review or rigor. By comparison file-sharing and swapping sites have no self-correcting mechanism or level of quality control. Despite the community-based mutual benefit approach promoted by file-sharing sites, illegal uploading, sharing, and downloading of documents does not guarantee that governance, moral, and ethical obligations will be observed or fulfilled, nor does the practice of file sharing ensure the integrity or accuracy of the information.

Academic collaboration and the sharing of educational resources are promoted both by institutions, and to students through assessment design in areas of group assignments, and through technological tools such as e-portfolios and learning management systems (LMS) which facilitate student collaboration (Bolliger and

Shepherd 2010). While group work, e-portfolios, wikis, and blogs are collaborative activities sanctioned by the institution, students may extend this explicit approval to other educational activities that appear to be equally legitimate. Some educational online communities promote best practice of open sharing with author acknowledgement under the auspices of Creative Commons licensing (<https://creativecommons.org/education>), specific citation requirements (e.g., George Lucas's Education Foundation <http://www.edutopia.org/>), or a specific license restricted to use in a home or classroom (e.g., <http://teacherfeatures.com.au/info/copyright/>). In contrast, P2P file-sharing sites operate as closed systems hiding or masking the nonlegitimacy of their activities by promoting themselves as communities of students seeking to help improve educational outcomes, encouraging uploading and downloading of material but sidestepping the issue of appropriate use and acknowledgement of sources.

What Are Student Peer-to-Peer File Sharing Sites?

Student P2P file-sharing sites are Internet-based student communities focused on the exchange of educational related materials and content. The public face of student file-sharing sites promoting these sites is not limited to any particularly country, and can be found in many regions, and in a variety of languages. In other words, these sites serve global online communities of uploaders and downloaders of academic material. Some sites masquerade under commercial entities (e.g., <http://www.pro.uploadpa.com/>) and others under an image of respectability using titles such as library (e.g., Baidu library <http://wenku.baidu.com/>), yet all appear to have a similar purpose. They exist to provide a portal for students to barter or trade academic materials as an alternative to sites that are fee-based essay mills and contracted plagiarism sites. Some serve a dual role in providing some content free of charge, with the option to "upgrade" to a custom essay product or purchase content if the member has no content to exchange. In reality, these sites are aiding and abetting plagiarism, a form of academic dishonesty where content not belonging to the member is uploaded and downloaded. When work is downloaded for reference purposes only, it could be deemed sharing to support collegiate efforts. Once a person decides to download and re-use or repurpose uploaded materials and submit that information as individual academic product without appropriate referencing or citation, the use shifts from support to close paraphrasing or even plagiarism.

What Files or Materials Are Being Shared?

Student focused file-sharing sites provide an electronic means to distribute materials not confined solely to self-authored papers, notes, or other material such as essays, reports, and annotated bibliographies authored or claimed to be authored by the student. It is accepted that students share notes for legitimate purposes – to assist another person who has missed a lecture or tutorial or operate in study clusters, or complete group work tasks with the permission of the instructor. However, there is

a fine line between help or genuine assistance and sharing materials where there can be a strong temptation for students to re-use or repurpose downloaded content for personal gain and academic advantage.

Some online P2P student communities also share academic material, including already published works such as journal articles or other reference materials to provide a central access source of information. Other nonstudent-authored material found on P2P sites includes book chapters and examination papers (in some cases with answers), in addition to lecture and tutorial materials (including presentation slides, solutions, and responses to discussion questions). These materials clearly do not belong to the person offering the materials for trade and moves beyond plagiarism to potential wrongs under aspects of law such as copyright and intellectual property. Whether it is the uploading of nonself-authored materials or the use (in part or total) of downloaded work created by someone else, in terms of university policies, these actions could be framed as academic misconduct.

The Motivation to Use a File-Sharing Site

Education operates from a foundation of trusting relationships – where students are motivated to learn, teachers are motivated to teach, guide, instruct, and develop individuals. However, these premises are founded on the students' intrinsic motivation to learn and demonstrate that learning by producing honest work. There are some students whose enrolment in an institution is focused on an extrinsic goal such as a degree or qualification (Stolk and Harari 2014) or the opportunity for immigration or permanent residency (Chan and Ryan 2013). Consequently the motivation to achieve a degree is significantly different from a motivation to learn. If students are motivated to achieve a degree for reasons other than educational value, the focus is on how to achieve the degree rather than being interested in the learning itself.

There are a variety of reasons that students may be motivated to use P2P sites. Some students join online file-sharing communities as a survival mechanism where the downloading and use of material is an attempt to cover the lack of host country language competency (Costigan et al. 2010) and poor understanding of academic requirements resulting in substandard oral and written communication abilities (Ma et al. 2013). For others it can be related to ineffective time management and planning (Pittam et al. 2009), real-life issues such as work and family responsibilities (Miquela 2008; Winn 2002), or a general lack of interest in the course of study. In the worst case scenario, they are used because their “friend” did it and got away with it or they have used them before and the use was not detected.

Encouraging and engaging students to invest the time to maximize their learning by developing their academic writing and researching skills where varying levels of motivation exist can prove both challenging and frustrating for faculty and students alike (Biggs and Tang 2011). Technology has placed greater demands on students due to the ease of access to online research to augment their critical analysis of subject matter. This has raised the level of expectation of teachers and lecturers that students will provide a deeper demonstration of research and investigation capabilities using credible and reliable sources (Yan 2013). Even when using a simple

Google search, students find information difficult to locate, trading the quality of results for the time and effort required to find relevant resources (Griffiths and Brophy 2005) and consequently seek easier and quicker means of sourcing material for assessable tasks.

How Students Find the Sites

It is difficult to identify P2P sites through simple searches using terms such as “essays to download” as the first “hits” relate to academic and institutional processes. Searches for “free essays” usually locate sites offering paid essay writing services or free content with the upgrade to paid content option. File-sharing sites do not appear on regular Google searches for academic content, file sharing, and note taking. Topic specific searches for essays and reports are populated by essay mills and commercial writing ventures, so information about the existence and functionality of P2P communities is spread through other means including introductions to students by their student peers through word-of-mouth referrals. Word-of-mouth referrals occur as personal and informal exchanges about products and services and are shown to influence product adoption (De Bruyn and Lilien 2008) based on experiences and demographic similarity. McCabe et al. (2006) found that peer behavior had the greatest influence on the behavior of other students including in the area of dishonest academic behavior. Steffes and Burgee (2009) reported that students relied heavily on electronic word of mouth to make decisions related to study preferring to trust the opinions of fellow students compared to other sources.

The Public Face of a P2P File-Sharing Site

To examine some aspects of student file-sharing and associated academic integrity issues, information is drawn from an Australian student community: www.Thinkswap.com.au. The Thinkswap home page promotes the principles of P2P file sharing in the following statement from their Web site.

Thinkswap is a student community where comprehensive study notes and study guides can be downloaded and shared with other students. We have a simple exchange system that allows you to benefit from the work of past students, whilst contributing to the success of future students. (Home page www.thinkswap.com.au)

The Thinkswap Web site invites users, a subset of which may be students and pre-university students (years 11 and 12 – the last 2 years of high school in Australia), to join its “student community.” At Thinkswap, according to its Web site, “sharing never felt so good.”

Past assignments, study guides, and comprehensive study notes available on Thinkswap have to come from somewhere. They are indeed uploaded by users of the site and the academic content that brings this online “community” together, according to Thinkswap, consists of the work of past students comprising a database of over 10,000 documents “uploaded everyday by students just like yourself.”

According to Thinkswap, this is a “simple exchange system” which allows a student to benefit from the past work of past students, while, at the same time, contribute to the success of future students who “learn from Australia’s largest student driven library.” Students are encouraged to swap a document of their own or purchase exchange credits while benefiting from the knowledge of over 30,000 student members. The site claims content is checked by moderators, but does not indicate how uploads are checked or what content is checked for. In the help center Thinkswap describes itself as “the best online resource for Australian University and Year 11–12 students looking for help in their studies,” perhaps trying to add an air of legitimacy to their operation. Simple searches on the home page bring up examination answers, assignments, overviews, and outlines with varying costs in terms of exchange credits highlighted by university names (used without approval). Thinkswap demonstrates that P2P sharing of material is no simple exchange system. Indeed, from their inception, P2P student-sharing sites may well be breaching the values of academic integrity particularly when sites like Thinkswap boast that “students see a marked improvement in their grades when supplementing their studies with our documents.”

When Does File Sharing Breach the Principles of Academic Integrity?

Most universities have policies and procedures (at some US universities known as honor codes) that stipulate the frameworks governing academic integrity principles, processes for investigating allegations of academic misconduct, and the consequences that result in students being penalized when they are found beyond reasonable doubt to have breached governance frameworks. Such conduct is, more often than not, considered egregious and antithetical to the academic endeavor. Within the academic governance frameworks, there is the proviso that for an academic breach determination, the following conditions were present: that the student knew, or reasonably ought to have known, that they were engaging in conduct meant to deceive the institution as to their academic conduct and that the deception was for academic advantage. Codes can include limitations on students-sharing material with others such as listed under student responsibilities in University of Wollongong’s Academic Integrity and Plagiarism Policy: “Avoid lending or otherwise providing original work to others for any reason other than where work is provided to another student in the course of collaboration in connection with group work assessment, and subject to any requirements imposed on students in connection with such collaboration.” Using the Thinkswap example, a student providing assignment material to Thinkswap would be in breach of the policy as uploading an assignment is providing original work to others. They state in their terms of use “It is also legal to buy academic content from other students; the key is how you use it,” recommending that downloaded material is used as a study aid and should not be submitted as original work. So while students using P2P sites are likely to be in breach of academic integrity policies, the challenge for institutions is identifying what has been uploaded and who uploaded and downloaded it, all while institutions do not have access to the sites, severely limiting what can be investigated.

How Institutions and Educators Can Respond to the Impact of Student File Sharing on Academic Integrity

Without access to the closed communities, institutions and educators are reliant on a four-pronged approach to respond to file sharing as an academic integrity issue, which are the same principles behind preventing other areas of academic misconduct such as plagiarism. These approaches are governance and policies, educating students about the principles of academic integrity, detection of materials shared and used, and prevention through assessment design.

Governance and Policies

Policies and honor codes usually include lists of the types of academic misconduct that would lead to penalties and consequences for students. Institutional policies usually outline plagiarism as claiming the words, ideas, artistry, drawings, images, or data of another person as if they were your own. This includes copying another person's work, including information found on the Internet and unpublished materials without appropriate referencing; presenting someone else's work, opinions or theories as if they are your own; presenting another's substantial compositional changes to an assignment as your own; working collaboratively without permission of the instructor on an assignment; and then submitting it as if it were created solely by the student (Ryerson University 2014).

Ryerson University's Student Code of Academic Conduct also includes the concept of "contributing" (Ryerson University 2014). Specifically, the contributing provision states, in part, that knowingly assisting someone to commit any form of academic misconduct is also academic misconduct. This may include, but is not limited to offering, giving, or selling essays or other assignments with the knowledge that these works will likely be subsequently submitted for assessment, offering, giving, or selling answers to tests or exams or unauthorized sharing of examination questions and/or answers. The concept of contributing, aiding, or abetting a breach of academic integrity is linked to the notion that the individual doing the contributing knew or reasonably ought to have known that the action would facilitate academic misconduct. The text of the Thinkswap's tagline leaves no question of this awareness by stating that the foundation of its "simple exchange" system is that the uploading student/user contributes to the success of future students, while at the same time benefitting from the efforts of past students.

Given the nature of online file sharing, the evidence required to prove the act of contributing and then link the uploaded content to an individual over which the institutional policies have jurisdiction is problematic. There is no confirmation of the identity of the uploaders or the integrity or ownership of the academic material, nor access to the source for verification purposes. The issue of downloading and subsequent use of materials for academic advantage is more commonly detected and proven using text matching software which highlights attempts at plagiarism.

In addition to contributing and plagiarism, there are other policy provisions and specific departmental or course requirements that could be violated if a student chose to download and use the academic material advertised by P2P sites for academic advantage. For example, cheating, which can be described as including: copying another person's answers to an examination or test question; copying another person's answers to individually assigned projects; resubmitting altered test or examination work after it has already been evaluated; and/or improperly obtaining access to examination paper(s) or set of questions, or other confidential information.

Educating Students About the Principles of Academic Integrity

One key preventative measure is educating students about academic integrity practices (Bretag 2013) which is discussed in more detail elsewhere in this handbook. Many students remain ill-informed either due to a lack of understanding of what academic integrity is (Park 2003) or where cultural differences exist in perceptions about what is common knowledge and attitudes towards cheating (Ma et al. 2013). Beyond promoting access to policies, institutions have reported greater success when academic integrity principles are embedded within content delivery (McCarthy and Rogerson 2009) and where it forms part of the assessment in core subjects rather than separate workshops or sessions (McGowan and Lightbody 2008). This is a holistic approach to academic integrity by developing academic skills including referencing and citing (Devlin 2006). It may also be timely to confront the implications of file sharing by openly discussing the issue when addressing academic integrity principles with students during class, lecture, or tutorial time, rather than turning a blind eye to their existence.

Detecting Materials Shared and Used

The evidence required to prove and deter this sort academic misconduct will depend on diligence in terms of detection (Bretag and Mahmud 2009). Students submitting material which they have not authored is an attempt to deceive the grader into thinking that the students have completed the task themselves and is therefore a breach of the principles of academic integrity. However, the burden of finding proof that a breach has occurred lies with the person assessing the work submitted by the student. Online originality detection tools such as TurnItIn[®] are usually prevented from checking materials residing within the technological walls of closed student P2P communities just as they are for essay mills and contract cheating sites. This makes detection difficult. There are some clues that can point to file-sharing material being used. Some examples include "bibliographic mash-ups" where part of book titles, journal names, odd dates, and author names are strung together in a crude attempt to evade detection by originality checking tools and avoid locating authentic references, and where students have cross matches in

systems like TurnItIn[®] as they have downloaded and used material from the same file sharing site (Rogerson 2014). However, this is a time-consuming process both in terms of detection which is heavily reliant on the assessor's experience in observing patterns and trends and follow through when interviewing students to determine whether the work can be genuinely attributed to the student.

Another type of detection involves academics and institutions locating their own material on the file occurred in the case where a Ryerson professor found his lecture material on the site OneClass (Nemers 2014) and some Australian universities have taken action to have logos and other copyright materials removed from Thinkswap. This places the onus of detection on academic staff and other institutional members in another time-consuming process to demonstrate that the principles of academic integrity are being monitored and upheld. The ability to identify material is compounded by the fact most academic staff are not aware of the existence of sharing sites, how many sites exist, and that many of the uploads are made to sites in other languages, making detection more difficult.

Prevention Through the Use of Assessment Design

Governance, informing, detecting, and penalizing are part of the process. The most critical means of managing the threat to academic integrity posed by P2P student sites is the critical role of assessment design. Educators need to demonstrate their continued commitment to protect their educational content and promote academic integrity through assessment design, redesign, and refresh (Belasen and Huppertz 2009).

Faculty members must adjust assignments from session to session and year to year, assessing critical analysis skills and openly discussing assignment value and purpose with student to deter them from cheating. This type of approach minimizes the value of sharing content from previous sessions for personal or economic gain. Transition from infrequent, high-stakes testing to more frequent and varied assignments emphasizes content understanding and application over rote learning examination performance (Norton et al. 2013). Subjects or courses designed with continuous formative assessment tasks have been shown to increase students' motivation to learn particularly when supported with detailed feedback (Espasa and Meneses 2010; Hernández 2012) and assist in combating file-sharing sites' facilitation of academic misconduct.

Summary

P2P file-sharing sites continue to proliferate in a new higher education reality where the process of learning is not as important as the end game; the award of the qualification needed to compete in a global human resources marketplace. The benign promise of a "simple exchange" for mutual benefit of the online student community is misleading. There is significant risk to students who are uploading,

downloading, and using shared academic material for personal gain, be it for profit or academic advantage without the appropriate acknowledgement of original sources. Others may take the information provided by the online community as a valid and reliable source and instead of directly copying the materials, paraphrase information that another student has already paraphrased – diluting the quality of the information submitted and potentially distorting the facts from the original citation.

Academic institutions cannot prevent the spread and use of P2P sites sharing free content or control student use of the sites. Introduction of laws and policies to try and limit the growth and accessibility of sites and what content can be uploaded to them will only drive the process further underground. If students are motivated by means other than a desire to acquire knowledge, they will still try to circumvent the process and learning associated with preparing their own assessment submissions, particularly where alternative content is free or low cost and the ability to detect the use of non-original or repurposed materials is low. Institutions and educators have to promote and model the principles of academic integrity and enlighten students about what is and is not appropriate to share, making connections to personal integrity, ethical practices, and compliance with policies and laws. This approach can be supported by careful assessment design to assure learning is achieved and reinforced through consistent application of policies and procedures around academic integrity. It is the best approach currently available given technical and resource limitations which could otherwise minimize the opportunity for students using file-sharing sites to gain an advantage over other students. It all comes down to fostering personal as well as academic integrity and developing skills in acknowledgement practice and judgment on what is or is not appropriate to share.

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Abstract

The growing diversity of the doctoral research student population is placing increasing pressure, both material and pedagogical, on institutional resources to support student writing. At the same time, expectations for doctoral students to produce numerous written outputs that demonstrate advanced competence in academic English throughout candidature place them under increasing pressure. This confluence of factors has been paralleled by a growth in the provision of noninstitutionally based writing support services specifically aimed at doctoral students to help them with their writing. Many of these services are offered online; operating transnationally they are largely unmonitored – influencing and

C. Aitchison (✉)

School of Education, Western Sydney University, Penrith, NSW, Australia
e-mail: c.aitchison@westernsydney.edu.au

S. Mowbray

Learning and Teaching Unit, Western Sydney University, Penrith, NSW, Australia
e-mail: s.mowbray@westernsydney.edu.au

impacting doctoral writing practices in unknown and often unacknowledged ways. This chapter reports on an analysis of 158 online writing support provider sites and data from follow-up interviews and surveys. The study shows the existence of numerous “quasi markets” with suppliers ranging from reputable editing and writer development services to a large number of suspect “doctoral writing support services” offering more questionable services. It confirms that little is known about the individuals offering and taking up these services. It also confirms that there is considerable fuzziness in regard to the ethical and educational legitimacy of accessing external help for writing the doctoral thesis.

Introduction: Online Markets and Doctoral Writing

In the contemporary world almost every aspect of life is mediated by the market (Meagher and Goodwin 2015), and, increasingly, these markets operate via the Internet. The production and consumption of goods and services – from business, childcare, and education to relationships and leisure – is often facilitated online. The pervasiveness of online markets and the ease and fluidity of exchange also impact traditional modes of learning, knowing, and doing scholarship in higher education in ways that are barely beginning to be understood (Johnson et al. 2014).

For many doctoral scholars this experience of modernity is so normal as to be unremarkable. Reading, writing, and learning online for contemporary higher education students is inescapable and habitual. Students consume and share vast amounts of information in ways that are “thought to have muted [their] concept of what constitutes textual ownership” (Hannabuss 2001; Gabriel 2010; Kutz et al. 2011 cited in Newton et al. 2014, p. 2). Researchers especially are increasingly required to generate prodigious volumes online through publications, blogs, and wikis (Johnson et al. 2014; Tenopir et al. 2013). In this chapter we argue that the ubiquity of the online educational environment and the marketization of academic writing, in combination with increasing demands on research writing for credentialing scholars in a competitive market, disrupt traditional notions of textual authorship and ownership.

Writing is a critical component of the doctoral undertaking (Aitchison and Paré 2012; Kamler and Thomson 2014); it is the primary mechanism for credentializing the scholar and for demonstrating their knowledge and suitability to join the academy. The “push to publish” and shortened candidature times also contribute significantly to the pressure on doctoral scholars to hone their writing abilities and output during their studies (McGrail et al. 2006; Aitchison et al. 2010; MacLeod et al. 2011). Increasingly, institutions also depend on written doctoral outputs to attract government funding and industry grants and to build their reputation (Boud and Lee 2009; Lee and Danby 2012). Learning the advanced skills and discourses of disciplinary and methodologically appropriate writing takes time and effort rarely achieved without intense effort and support (Crossling 2012). At the same time, there is a growing awareness of the inadequacy of formal, institutionally

based support to nurture and develop candidates' academic writing abilities within doctoral programs (Thomson and Kamler 2013; Aitchison and Guerin 2014).

We propose a number of conceptual and structural factors have helped drive the apparent shift toward using external writing help in doctoral scholarship. Firstly, at an institutional level, research writing is mostly perceived in its narrowest sense – as an output with revenue-raising potential and as a reputation-building value. This restricted understanding of doctoral writing perpetuates a concept of writing as simply a countable output and denies its epistemic value (Starke-Meyerring et al. 2014). This view thus justifies a limited and very particular kind of provision for developing writing expertise; that is, it prescribes a product-focused curriculum favoring the teaching of textual structure and form. This approach cares less about the nuances of learning how to write, of writerly identity and meaning-making practices, and of negotiated relationships of power, ownership, and intertextuality that are the hallmark of doctoral writing scholarship. This limited perspective is echoed in many of the institutional discourses around plagiarism that focus on policing errant behaviors.

Secondly, the student experience of undertaking doctoral research has changed markedly with greater numbers undertaking their studies at a distance and/or online, with more studying in a foreign language and in unfamiliar educational and researcher contexts (Boud and Lee 2009). Further, many higher educational institutions are struggling in the face of diminishing public funding which is impacting on academic workloads and quality, including service delivery of support programs for writing. At the same time scholars are graduating in an increasingly competitive job market where English language publications are high-value currency. The stakes are raised further as universities increasingly seek external funding which is mostly allocated according to publication track records. Again, this trend further implicates doctoral scholars in the production of research outputs and contributes to stress around the production of textual output, making “writing” a pressure point and a site of problem and anxiety (Aitchison and Lee 2006; Cotterall 2011; Aitchison and Mowbray 2013; Barnacle and Dall’Alba 2013).

Allied to this, and aligned with the push to publish during the doctorate, there appears to be a greater expectation for doctoral scholars, and academic authors more generally, to present copy-ready manuscripts. Most high-ranking scholarly journal publication platforms encourage, if not require, authors to submit publication-ready, highly edited manuscripts in the English language. Thus, the use of commercial editing services becomes *de rigueur* practice for trainee researchers, arguably further normalizing the use of outside help and potentially undermining institutionally based developmental approaches to learning the discursive and textual norms of a scholar's disciplinary communities.

And finally, adding to this mix is the ubiquitous presence and variety of online markets offering writing “help” of all kinds. Such help includes reputable editing and writer development services, a small but growing number of student-friendly online community forums, and, increasingly, a large number of online “doctoral writing support services” offering more questionable services, from writing a section or chapter to producing an entire thesis.

This chapter examines the grey area, the “quasi markets” of doctoral writing where the services of a third party are engaged. We use the term “writing help” to signal the broad range of services from legitimate editing and coaching to ghost writing and contract cheating. Our chapter incorporates an examination of writing support providers identified via Internet searches and reviews key themes that arose from surveys and interviews with some of these providers who help students get their doctorate done. We identify a range of activities including some that could reasonably be regarded as outright intent to cheat, that is, as “severe infringement” to use Walker’s taxonomy of plagiarism (1998, cited in Newton et al. 2014). But we also found – and are mostly interested in – the more problematic, shadowy spaces, the grey areas that trouble our understandings of plagiarism and writing in the doctoral space.

What the Literature Has to Say on Outsourcing Doctoral Writing

Under the umbrella of “academic integrity,” this volume provides a comprehensive review of the literature on plagiarism and cheating which we do not intend to rehearse here. While most of this work is concerned with undergraduate experiences, there are many interconnected issues relevant to postgraduate and academic scholarship. In this section we explore some of these connections and expand the discussion to include a diverse subset of literature that is concerned with broader practices taken up by postgraduate student writers, not all of which may be easily categorized as cheating or plagiarism.

Sensationalized media reports on academic cheating and dishonesty at the undergraduate level are not infrequent (Newton et al. 2014). Such accounts commonly take simplistic approaches, vilifying students as wrongdoers, at worst garnishing moral outrage and at best positioning student practices unreflectively as ethically corrupt. “Exposés” of “essay mills” and businesses where ghostwriters supply made-to-order assignments to students who may pass them off as their own have attracted a lot of attention (see, e.g., Shepherd and Tobin 2007; Tomar 2012). An analogous example at the postgraduate level is media attention to high-level PhD cheating. Media outlets have reported illegitimate practices associated with doctoral dissertations, including, for example, the accusation that the German Minister of Defence, Gaddafi’s son, and Vladimir Putin plagiarized parts of their PhDs (*Plagiarism: The Ctrl + V, Ctrl + C boom*, BBC News Magazine Online, 2 March 2011). These kinds of media reports propose that such incidences of cheating and supply businesses are growing, albeit with the admission that verification is hard to come by (Matthews 2013).

More serious research in the field is hampered by difficulties associated with investigating practices that may be considered unethical or fraudulent (Chapman and Lindner 2014; Macfarlane et al. 2014). These may include, for example, definitional, cultural, and legal aspects; concerns about reputation and competing stakeholder interests; and differing disciplinary, educational, and ethical traditions. Nevertheless, a number of studies are beginning to emerge that indicates the global

breadth of concern about inappropriate activities associated with the production of the doctoral thesis or dissertation (see, e.g., Australia (Page 2004), Canada (Moore 2014) France (Forster 2005), Russia (Osipian 2012), Germany (Wolf 2013), and the United Kingdom (Clarke and Lancaster 2006)).

Reflecting on the particular role of doctoral studies and research for institutional reputation, and more broadly, the integrity of the sector, some researchers have highlighted the injurious nature of academic misconduct (Chapman and Lindner 2014). In an ethnographic study in Russia, Osipian (2012) examines the illegitimate acquisition of doctoral qualifications by high-ranking individuals and the potential harm that could result. In a paper on academic perceptions of plagiarism, Clegg and Flint (2006) speak of the concerns of academics “whose life care revolves around the valuing of ideas and particular understandings of originality” (376).

One strand of the literature has concerned itself with exploring possible causes for breaches of academic integrity among academic and student researchers. We have already noted the impact of structural changes that have contributed to the increasing pressures on doctoral candidates. Closely related to these increased pressures are perceptions of attitudinal shifts in regard to what may be considered acceptable/unacceptable practice. Osipian (2012) proposes that spiraling credentialism may foster an “ends justifies means” attitude. Other attitudinal responses may be associated with disincentives arising from disproportionately high rewards for publications (Fang and Casadevall 2011) and a correlation of perceptions of workplace injustice with self-reported misbehaviors (Martinson et al. 2006).

Others point to the influence of the Internet, proposing that the evolving capabilities of Internet search engines and the easy access to information and services are significant factors influencing student behavior (Carroll 2007). Research scholars are among the highest users of the Internet for the construction, consumption, and dissemination of research output. The Internet enables free and instant opportunities for international and cross-disciplinary collaboration. One study showed that 99.7 % of research participants used search engines in their research (Ponte and Simon 2011), and Nicholas and Rowlands (2011) identified the popularity of online collaborative authoring and conferencing in research. Of course, simply using the Internet does not necessitate misuse, but the gap that used to separate the acts of writing and individual authorship, from reading, research, and dissemination, are dissolved in this medium.

The speed of information dissemination through alternative user-generated avenues, such as social media, is challenging slow-moving traditional academic publication avenues (Howard 2011). Nevertheless, academics have voiced concerns about newer forms including fears about quality, trustworthiness, unresolved copyright issues (Gruzd et al. 2012; Tenopir et al. 2013), and the lack of institutional support for such endeavors (Gruzd et al. 2012).

Arguably then, advancements in information and communication technologies, the ease of access, assurance of anonymity, and inability of plagiarism software to identify contract cheating have contributed to normalizing a swathe of research and writing-related practices that can alter perceptions about acceptable and

unacceptable practices (Kutz et al. 2011). In addition to such structural elements, we wish to foreground how conceptualizations of research writing interface with academic integrity issues. When writing is valued for its epistemic and subject formation properties, then deep engagement in the *processes of writing* become central to doctoral scholarship.

More so than undergraduate writing, research writing and scholarship is a long-term project in which, over years, the scholar slowly “writes themselves into becoming” (James 2013, p. 111). Like others, we argue that this key difference – the extended and deep engagement in textual work – is central to research scholarship (Green 2005; James 2013; Kamler and Thomson 2014; Paré 2014). The iterative practices of drafting, reviewing, and rewriting dominate the doctoral experience (Aitchison 2014) and are the vehicle of subject formation and knowledge creation. As drafts come and go between scholars and readers, knowledge is tested, constructed, reviewed, and reconstructed – and so the scholarly subject is formed/transformed. Moreover, this engagement in writing’s complex networks of intertextuality connects scholars to their discursal communities (Paré 2014). Thus, the capacity of doctoral scholars to come to know their field, and their place in it, depends on this expanded duration of engagement and experimentation in writing.

So, we argue, this transformative view of research writing as a heuristic for knowledge and subject formation poses particular questions about behaviors which circumvent the long and sometimes arduous “journey of becoming” via writing. Thus, contracting out writing work is not simply a question of legality or ethics; it goes to the heart of what counts in doctoral scholarship; marketized writing transactions disturb relationships between student and supervisor, make for a significantly poorer experience of doctoral scholarship, and undermine the very processes of learning. Relegated simply to a function for transmitting information rather than for learning and becoming, doctoral writing is thus commodified and marketable.

The Study

Initially motivated by workplace requirements to find additional sources of help for doctoral candidates struggling with writing, in late 2013 we undertook a small study to identify providers available for this kind of external-to-university writing help. We did not set out to investigate plagiarism, cheating, or misconduct; however, we soon found that issues of academic integrity infused our enquiry. Our research was guided by two questions: what is the scope and nature of online writing service providers available to doctoral scholars? and who are the providers offering these services? Accordingly, the study had two phases; Phase 1 was a search for providers who advertised on the Internet and Phase 2 was an invitation for providers to provide more detailed information on their service via questionnaire and/or interview.

Phase 1

We conducted Internet searches using various search terms with results as demonstrated in Table 1.

We only included sites that explicitly offered writing services and/or writing support to doctoral scholars. Each search term produced up to ten pages with 25 results per page, before sites were repeated. Additionally, many sites reappeared multiple times under different search terms; however, after completing the six search rounds tabled above, saturation was reached and no new services appeared. This process identified 158 sites, which we categorized into four groups as shown in Table 2.

We conceptualized these category types as existing along a continuum to show how different providers operate in a context of markets and in relation to a “developmental” or educational function. Shades of legitimacy and legality were evident across the whole spectrum.

In Fig. 1, services situated in the *market economy* mostly focused on textual products and included enterprises providing contractual writing and editing. Moving along the continuum, we identified providers who aimed to support and develop scholarly doctoral writing and researching skills. Finally, we noted collaborative, socially networked writing support opportunities, including blogs and writing groups, for example, that operated in a *gift economy*.

Services and providers ranged from those that appeared more reputable with transparently identified personnel and qualifications, company structures, and costs to a large number who offered more questionable services, such as complete theses or “model” papers. In our study approximately 50 % lacked appropriate levels of transparency and/or detail. Our attempts to try to verify the authenticity of companies through the *Companies House Web Check* and the *Australian Securities and*

Table 1 Number of sites identified from keyword Internet searches

Search terms	Results/hits
Doctoral writing help	12 900 000
Doctoral writing support	8 820 000
PhD writing help	111 000 000
Helping PhD students write	87 600 000
Dissertation writing help	20 500 000
Doctoral dissertation writing service	17 700 000

Table 2 Categories of services

- | |
|---|
| 1. “Fee for goods” enterprises: services that sell academic papers as contracted by clients (104) |
| 2. Editing services: services that provide editing on text, usually within the parameters of professional editors (16) |
| 3. Developmental writing/writer services: services that support individuals to develop their writing skills and practices (29) |
| 4. Open access peer support/sharing/exchange: free Internet services with open access for sharing experiences, ideas, resources, useful links, etc. within the participant community (9) |

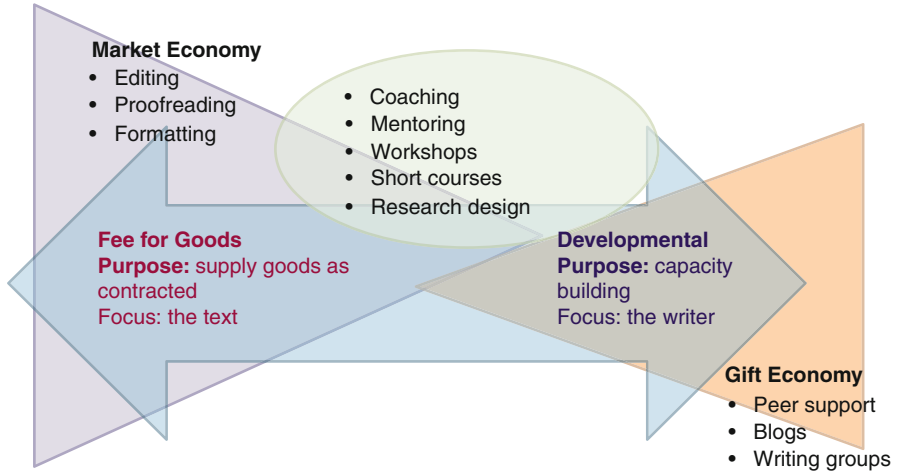


Fig. 1 Continuum of providers in a market and educational context

Investments Commission (ASIC) were frustrated by the complexity of transnational business arrangements and numerous trading names. Further adding to the spurious tenor is the existence of what appears to be a robust interconnected web war of accusation and counter-accusation by competing providers. This dubious group of suppliers typically indulged in unsupported claims of expertise and quality, advertised various financial incentives, and provided disclaimers to distance themselves from accusations of illegitimate practice. For example, one site provided testimonials from customers named “Washington,” “London,” and “Michigan.” Approximately 20 of these sites exhibited worrying levels of language for advanced research writing providers; “Our scribblers . . . provide part wise solutions such as data collection” “making your thesis well-sounded” from a “bunch of talented and ruthless writers and helpers from around the world to provide ingenious services.”

The second phase of our research affirmed the growth of the industry with nine of the 13 participants claiming demand for their services had increased, or increased significantly, during the time they had been operating.

Phase 2

In the second phase of the study, we used the web contact details to invite providers identified in Phase 1 to participate in a 12-question survey, which they could either simply complete and return by e-mail or indicate their willingness to participate in an extended interview via Skype or other means. Unsurprisingly, we received a very small (genuine) response rate of 13 which we attributed to concerns about sharing confidential business information which may advantage competitors; a lack of provider interest and/or capacity to engage in research; and a wish to avoid close scrutiny. Of the 13 responders, we received nine completed e-mail surveys (four

North American and five Australian) and undertook four interviews (three Australian and one European). These providers self-reported as appropriately qualified either as certified editors, having doctoral qualifications, or many years of industry and/or academic experience. In the main, businesses participating in this phase appeared to be legitimate and operating professionally and transparently with appropriately experienced and qualified service deliverers.

Types of Businesses and Services on Offer

Of the 13 respondents, nine described themselves as sole traders (of which one employed three subcontractors). The others varied from relatively small (e.g., at least five service delivery staff members and additional administrative staff) to relatively large; one service employed 85 service delivery staff (PhD graduates) editing hundreds of documents monthly, and another had over 200 remote editors and 20 in-house staff. One claimed to be the largest online editing and proofing company in the world. Another described themselves as a micro-business with a CEO, two administrative staff, and 8–10 editors and formatters.

As indicated in Fig. 1, these suppliers offered a range of fee-for-service goods.

Most respondents provided some kind of editing, usually in combination with proofreading and formatting (although there was considerable slippage in terms, as detailed later). In addition some offered extra “writing support” such as coaching, mentoring, workshops, short courses, research design, and so on.

Interestingly, three respondents clearly stated they did no editing whatsoever – these providers, although still charging for their services, were further along the learning continuum represented in Fig. 1. They had a more holistic approach to doctoral writing and research, including in their repertoire more intensive mentoring or 1:1 help, writing coaching, writing groups, peer support, wellness support, blogs, and online conferences/training. Some also serviced institutions – from helping individual doctoral students to the provision of fee-for-service training workshops and short courses for groups of students and/or supervisors.

Typical Users

Respondents said they worked with “all sorts” of clients: doctoral students, academics, good writers, bad writers, native speakers of English, and non-native speakers of English. Some businesses were also contracted by universities to work with individual students and groups, delivering workshops, for example. The typical client was self-referring and from anywhere in the world, writing in the English language and most likely studying in an English-speaking country. Service providers at the developmental end of the spectrum reported that typical student clients included the “very discouraged,” those with absent or poor supervision, “we do what their supervisor is not doing,” those trying to finish their doctorate while working full-time, and those with disrupted/nonacademic pathways.

An analysis of the interviews and extended survey responses identified two related themes: (1) discrepancies and disquiet about roles and responsibilities and (2) concerns about quality – vis-a-vis individual enterprise, the industry, and academic research scholarship.

Roles and Responsibilities

Those businesses advertised as “editorial services” were mostly transparent about their role, and in their communications with us, were strident, even defensive about their services. These providers often stated what they did not do – “we edit; we don’t write anything”; “I can fix up any thesis, but that’s not what I do”; and regarding suspected plagiarism we were told, “it’s not for me, I’m not the gate-keeper here.” One interviewee elaborated:

I’m not a teacher okay, so I don’t do this. But I explain in context. . . “here is a phrase”, “here is a sentence”, “that contradicts what you said there. . .” etcetera – because, at the end of the day . . . every piece of research written up, is essentially argumentation, it is an argument and it’s got to work at that level. Now people don’t always understand that.

These editing services frequently referred to professional codes or standards of practice such as editor’s associations, university guidelines on the use of editors, and business-related accountability mechanisms and standards. Most offered proofreading (basic punctuation, grammar); content editing (flow, logical progression of arguments, consistency, etc.); and basic and detailed formatting (according to university requirements for final submission), albeit describing these services differently.

Not all providers, however, were so clear about the parameters of their work. The extended interviews revealed uncertainty and discomfort on the part of many providers as they spoke of the more subtle facets of their work. Even those who claimed adherence to professional guidelines revealed ambivalence and inconsistencies in the details of their practices: “The borderline between editing and rewriting is actually quite difficult sometimes. . . Sometimes I feel like it’s too borderline.” In a heartfelt description of this grey area where the line between legitimate editing and unacceptable help is blurred, another elaborated, “It’s very challenging, yeah. It’s murkier than murky.”

This lack of clarity about roles was further evidenced by the variety of self-descriptors that interviewees gave, including, for example, mediator, collaborator, professional editor, counselor, and conflict resolution counselor, “What I offer is in addition to what they get at the University . . . often the supervisor doesn’t know how to help them with writing,” “I see myself as a collaborator with the student to assist them to get their thesis ready for examination and publication.” Several providers indicated a conflicted sense of their role in relation to the expectations of the conferring institution, the student and the candidate’s advisors/supervisors, saying this was “tricky.”

One interviewee expressed solidarity with those who struggled with English and a desire to help them gain a qualification which would better their lives querying the

need for non-native speakers to submit a dissertation in perfect English. Echoing this sentiment another provider said:

Let's get real and deal with the world as it is . . . isn't a candidate's time best spent focusing on the area of . . . specialization and not sitting around for innumerable hours going over a lengthy document word by word with a native speaker at the university's writing center . . . And then the busy, pressed, and stressed student has to go home and fix it?!

Such factors accord with our proposition that the marketization and the commodification of doctoral writing is contributing to undermining the processes of writing as intrinsic to knowledge acquisition and identity construction. They also signal wider concerns about quality, as identified above in the industry and within academic research scholarship. This disquiet was the second theme arising from Phase 2 of the study.

Quality and Academic Research Scholarship

Closely related to the theme of roles and responsibilities, the qualitative data also threw up frequent reference to the idea of quality. Some providers suggested that their doctoral student clients were seeking external help because of a failure or inadequacy on the part of the institution and/or the doctoral supervisor. One said, "I think quite a few people have had very little supervision," and another wrote of the less developed writing he saw: "these clients sometimes report extremely poor or near non-existent supervision."

The providers in this study felt they offered something that was not forthcoming from the university, be that straightforward editing or more extensive help. For example, one respondent who offered a broad range of developmental services said: "Supervisors often don't support the process. I'm supporting the whole process, not only writing . . ." Views were expressed about the expertise of the supervisors, "often their supervisor doesn't know how to help them with writing"; another deduced supervisor neglect:

I think they [students] are often in situations where they have either got no feedback from their supervisors or what could only be untrue feedback because when they come to me . . . you can't really fix it.

In general, these respondents seemed to care deeply about the professionalism of their work and about academic scholarship, and from this perspective, a number expressed concern about institutional and individual competence and quality. These respondents expressed unease about the quality of student writing, on some occasions querying the student's general competence, honesty, and integrity: "I basically had to rewrite it completely . . . and now that person is [in a high level position] and I've felt kind of really guilty about that ever since. . ." When asked about suspicions of plagiarism one said: "That is a really, really, really, really big issue." Another described the difficulties of working with students who had poor

academic writing and critical thinking skills, and of the extraordinary amounts of money, such students are willing to pay for assistance. But we also heard praise for students and recognition of their hard-earned efforts. Some worked with students to develop their writing and critical thinking skills, meeting with them regularly over weeks and months. As one of our respondents observed, these students were hard-working and actively engaged in developing their writing abilities: "I've never had to push them to get text out of them. . .they've always been very keen to work."

Summary

This chapter has explored a particular aspect of academic integrity by presenting a glimpse into the world of marketized help for doctoral writers. Although the market for writing services to doctoral students appears to be growing rapidly, there are few empirical studies that detail the scope and nature of the industry, and, as far as we know, none reported on provider perspectives. There is much more to be done in regard to theorizing emerging practices of knowledge production especially where these developments interface with markets in ways that challenge existing notions of ownership and authorship.

From the earliest stages of the project, we noticed that some providers openly described their services, qualifications, and business structures, compared to others who supplied only limited information. Our analysis led us to conceptualize these activities along a continuum, from those services focused on providing a product for payment in a market economy to those sharing their knowledge and expertise freely in a gift economy.

While the Internet search raised serious questions about the integrity and quality of many operators, in contrast, the qualitative phase of the research illustrated more reputable and professional approaches. Further, by capturing the views of these service providers, this study was able to present a unique perspective on how such enterprises navigate the grey zone that separates what is regarded as acceptable and unacceptable support for doctoral candidates. The study showed providers held different, often conflicted, views on roles and responsibilities vis-a-vis doctoral writing and scholarship. In addition, many expressed concern about quality issues in the industry and the academy as they tried to meet the needs of their paying clients and work ethically.

We began this chapter suggesting that various structural and conceptual factors have contributed toward the apparent growth in the use of external writing help in doctoral scholarship. The ubiquity of the online environment and the marketization of education infuse research practices. Changes in the landscape of higher education and doctoral education in particular have combined to make research writing a high-stakes activity for institutions and individual scholars alike. As written output has become increasingly important for institutional and individual reputation and monetary reward, there is greater pressure on researchers to produce multiple, high-quality, publication-ready outputs during their research candidature.

As we noted, in direct contrast to this pressure, the scholarship on doctoral pedagogy reiterates how the slow, iterative writing practices of drafting, receiving feedback, and rewriting are central to scholarly knowledge creation and identity formation. When scholars bypass “slow writing” – whether due to poor supervisory practices or under pressure to produce – these preeminent components of doctoral learning are dissolved.

As we have shown, some of the services sold to doctoral writers are likely to diminish the advantages of the slow writing process, cheating the author of the epistemic value of writing. There are other market-based service providers however, that seem to be legitimately providing assistance with the processes of doctoral writing, research scholarship, and professional editing.

We never set out to seek out plagiarism or even cheating, but what we found troubles understandings of doctoral student writing and its production. The inherent challenges of doctoral writing are often further compounded by factors internal and external to the university and the student. The academic writing market and the seemingly increasing demand for such services is one response to what could be regarded as inadequate institutional provision.

In many ways, this small study raises more questions than it answers. As services once regarded as the purview of supervisors and/or institutions are outsourced, how should institutions assess quality and delineate responsibilities? How does the intrusion of the market unsettle the balance of authority, ownership, responsibility, and equity in doctoral candidature? How is pedagogy and curriculum being reframed? How are the boundaries of “acceptable” writing help defined, monitored, and enforced, and by whom?

By promoting the benefits for students of writing-rich research candidature, we highlight the potential loss from outsourcing doctoral writing. On the other hand, as one participant reminded us: “Let’s get real and deal with the world as it is. . .” Not all doctoral candidates have the luxury of time, nor do they necessarily have supervisors who are willing or able to provide this kind of scholarship; for some the efficient dissemination of the research findings far outweighs their need for mastery of high-level English, and yet others may have no desire for an academic future and no need to master its language.

What is clear, however, is that we do not know enough about how writing really is done in the contemporary, marketized online world of academic research scholarship. As we come to understand this better, we urgently need new ways of thinking about the relationship between the practices of authorship, markets, and research scholarship in the doctoral space.

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Section III

Contextual Factors Which Impact on Academic Integrity

Tracey Bretag

Tracey Bretag

Abstract

This section aims to address some of the significant contextual factors which have influenced the perception that breaches of academic integrity have increased in recent years.

There has been an explosion of interest in academic integrity and the influence this has on academic “standards” over the last two decades. New technologies that have made it easier than ever for students to “cut and paste,” coupled with global media scandals of high-profile researchers behaving badly, have resulted in the perception that breaches of academic integrity and particularly plagiarism are “on the rise.” This, in combination with the massification and commercialization of higher education, has resulted in a burgeoning interest in the importance of academic integrity, how to safeguard it, and how to address breaches appropriately. This section aims to address some of the significant contextual factors which have influenced the perception (and arguably the reality) that breaches of academic integrity have increased in recent years.

Gigi Foster addresses heightened concerns about diluted grading standards in higher education by surveying the existing evidence about the phenomenon of grade inflation in Western universities. She discusses the underlying socioeconomic and political factors that potentially lead to grade inflation and the reasons that it might be considered a problem. Foster employs a macro-behavioral view of the motivations and interactions of the parties involved (governments, universities, students, and academics) to analyze the issue and suggest responses.

Following Foster’s analysis, Adrianna Kezar and Samantha Bernstein critique the commercialization of higher education. They argue that as US colleges and universities exhibit increasingly market-like behavior, the public good mission takes a backseat to revenues and market share. Kezar and Bernstein maintain that alongside these capitalist trends, cheating behaviors among college students have

T. Bretag (✉)

School of Management, University of South Australia, Adelaide, SA, Australia
e-mail: tracey.bretag@unisa.edu.au

increased. The authors demonstrate that academic capitalism on college campuses is creating a macro and meso environment in which students' micro decisions are shaped. The chapter describes in detail the micro-level trends and behaviors that provide evidence of a growing culture of unethically on college campuses, directly impacting on students' adherence to the practices of academic integrity.

Brian Heuser, Allie Martindale, and David J. Lazo, make the case that national and institutional priorities for internationalization in higher education often frame the context for academic integrity. While the authors do not argue that internationalization itself causes academic corruption, they suggest that it does significantly expand the possibilities for how corruption and fraud can be enacted within and between institutions and systems. Heuser et al. state that internationalization also expands the range of options for individuals to engage in unscrupulous behavior, particularly because of the lack of regulatory and compliance mechanisms at the institutional or systemic levels. Furthermore, as demonstrated in Section 1 of this *Handbook*, *Defining Academic Integrity: International Perspectives*, significant differences in social and academic norms pose challenges in terms of how to interpret and practice academic integrity.

Mark Brimble argues that a "perfect storm" of commercialization, massification, disengagement, resource constraints, short termism, and increased opportunity for fraudulent behavior has developed, and this has influenced both student and faculty behavior in Australia. Within this context, Brimble's chapter identifies seven groups of influences that represent a range of contextual, situational, and awareness/knowledge-based motivators of students' academic dishonesty.

Susan D. Blum expands the discussion in her chapter to convincingly argue that it is ineffective to address the topic of academic integrity "without understanding the lives, hopes, values, and challenges of those who are expected to enact it: college students." This chapter argues that students and faculty are unlikely to share views of the meaning and importance of academic integrity, and this disparate understanding has an impact on the way that academic integrity is practised by both groups. Blum demonstrates that students' complex lives distract them from fully embracing the academic integrity message, despite the abundance of information available via seminars, trainings, classes, pledges, and policies.

This section aims to explore some of the key contextual factors influencing academic integrity in higher education. From the broad socioeconomic and political factors analyzed by Foster to investigate grade inflation to Blum's discussion of students' increasingly complicated lives, this section reminds readers that academic integrity is much more than "a student problem." Breaches of academic integrity cannot be easily remedied by moralizing about right vs wrong, reminding writers to cite their sources or telling staff and students to "follow the rules."

Gigi Foster

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Abstract

Concerns about diluted grading standards in higher education have been an easy conversation starter over the past 30 years in developed Western nations. Why have these concerns arisen? Are they well founded? If real, does grade inflation present a threat to the higher education sector or to scientific progress – and if so, why? What is the prognosis for grading standards in the future? This chapter surveys the existing evidence about the phenomenon of grade inflation in Western universities and then discusses the underlying socioeconomic and political factors that lead to it, for what reasons it might be considered a problem,

G. Foster (✉)

School of Economics, UNSW Business School, Sydney, NSW, Australia

e-mail: gigi.foster@unsw.edu.au

and what might be done about it if one does consider it a problem. A macro-behavioral view of the motivations and interactions of the parties involved (governments, universities, students, and academics) is employed to analyze the issue and suggest responses.

Introduction

As early as 40 years ago, documented upward trends in grades over time within institutions were being used to raise the specter of widespread grade inflation in Western higher education (e.g., Etzioni, 1975; Kolevzon, 1981). These concerns blossomed over the ensuing decades, giving rise to a veritable cottage industry in the education literature that continued to document and loudly condemn observed increases in average grades within and across higher education institutions. This chapter will review the evidence of undergraduate grade inflation in Western countries worldwide, discuss their source in terms of broad social and economic changes, and offer recommendations about how one might respond to these trends going forward. To begin the discussion, the objectives and uses of grading in higher education are reviewed.

Why Do We Grade?

The convention of grading a student's work on a universally understood scale of quality has been adopted by academics mainly as a gatekeeping device. Only those students with high enough grades relative to their peers are judged to be part of the group of "students with academic potential," some of whom will eventually go on to further study and become the next generation of academics. The intensive training of new researchers then enables the propagation of academic ideals through time. Undergraduate grades are hence used by academics in decisions about whom to admit into postgraduate programs, whom to send on exchange programs, whose study to fund via merit scholarships, whom to hire as research and teaching assistants, and so on. From the perspective of academics, this is the main purpose of grading.

The grades that result from this academic gatekeeping process are also used by government and industry as a selection device, under the assumption that those capabilities that lead a student to be able to produce high grades in his or her tertiary study are at least correlated with, if not identical to, the capabilities that predict success in the nonacademic labor market. These capabilities may include raw intelligence, motivation, self-discipline, work ethic, detail orientation, and so on. Students themselves, and their friends and family, also use grades as a source of third-party feedback on whether they are "cut out" for particular sorts of work: a student obtaining higher grades in undergraduate English than in undergraduate mathematics, for example, may decide to pursue further study in anthropology rather than in engineering.

Grades hence have a fundamental professional gatekeeping purpose from the perspective of the academics who do the actual grading, and they are also used as a by-product by two other groups: those outside of academia who wish to judge students and students judging themselves. In all cases, grading serves its purpose because it differentiates students from one another. This differentiation enables the allocation of young people into positions that suit them, based on their talents, and through this supports long-run productivity and social welfare. Furthermore, by creating a hierarchy, the practice of grading arguably stimulates competition among students, motivating them to work harder so they can get ahead of others.

Definitions and Recent Trends

Notwithstanding the fact that the ultimate purpose of grading is to provide relative rather than absolute information, as detailed above, there is a distinction between trends in earned grades and bona fide grade inflation. Bona fide grade inflation is involved when grading standards decline, i.e., when work of a given objective quality standard is awarded a higher grade today than it was awarded in the past. Therefore, grade inflation does not occur when grades rise commensurately with the quality of student work. However, there is no perfect measure of the objective quality of academic work, meaning that there is no foolproof way to determine empirically whether changes in grade distributions are indicative of grade inflation or whether they are instead simply reflective of changes in the underlying distribution of academic quality in the student population. Grade inflation is more likely to be signaled by rising grades than by flat or falling grades, but grade increases by themselves do not necessarily imply the existence of reductions in grading standards (i.e., grade inflation).

Has overall academic quality increased over the past 40 years? Previous research has found increases in measured intelligence scores since intelligence testing began in the early to mid-1900s (the “Flynn effect”; see Neisser et al., 1996 for a review), although previously steady score increases appear to have slowed or even reversed in some Western countries in recent decades (Dutton & Lynn, 2013; Sundet, Barlaug, & Torjussen, 2004). It is unclear whether increases in intelligence test scores, even if the timing of those increases matched the timing of observed grade increases – which is not clearly the case – would translate into increases in the ability of the student population in Western countries to deliver high-quality academic work. A recent series of white papers by the Educational Testing Service (Dwyer, Millett, & Payne, 2006; Millett, Stickler, Payne, & Dwyer, 2007; Millett, Payne, Dwyer, Stickler, & Alexiou, 2008) in response to calls by the US Department of Education for greater accountability in higher education is littered with lamentations about the dearth of consistent measurement of what students really achieve in higher education programs today. Generating convincing evidence about trends in student achievement over time is even more challenging, due not only to inconsistent measurement but to the aforementioned lack of a perfect measure of academic quality. Suggestive evidence could be derived from a careful comparison

of the quality of undergraduate essays or other academic work across two or three generations, although the influence of changing social, academic, economic, political, and institutional norms on judgments about quality would pose a significant challenge for even a well-executed such exercise. Nonetheless, this is a potentially fruitful area of future educational research.

While changes in the distribution of quality are relevant to how we interpret grading trends, the absence of good evidence on the former does not imply that we should ignore the latter. To that end, I examine below what has happened to grade distributions in Western higher education in the past half century and, in particular, over the past decade.

The most comprehensive publicly available data across the American university sector is available at gradeinflation.com. This website presents data from over 230 four-year colleges and universities, covering more than two million undergraduate students, collected by Stuart Rojstaczer, an independent writer and musician who was formerly a member of the academy at Duke University. The data show, beyond any doubt, that average grades in the sampled schools have risen. In 1940, the average grade point average in the American colleges and universities covered by the data was around 2.4; by 1980 that figure was about 2.8; and by the year 2000 it was about 3.0. In Rojstaczer's own analysis of these data, also available at gradeinflation.com and in Rojstaczer and Healy (2010), he confirms that grades have risen in both private and public 4-year colleges and universities (although grades are higher at private schools than at public schools) and both outside and inside the Ivy League: it is hence a sector-wide phenomenon. However, there is evidence that grade increases have not been observed at lesser-status institutions, such as US community colleges (gradeinflation.com). An independent analysis of the patterns in the Rojstaczer data going back to 1960 is presented in Popov and Bernhardt (2013), who develop a model based on the link between universities and the labor market – in which employers are trying to discern true graduate quality based on the noisy signals of “institution the graduate attended” and “average grades the graduate earned” – that could explain the more extreme rise in grades that has been seen at higher-status institutions. The implication is that as the link between universities and the labor market has strengthened, the pressure towards grade inflation will have increased.

Although the Rojstaczer data are the most comprehensive yet collected, many other studies document similar trends over time and provide additional context. Rosovsky and Hartley (2002) review an array of evidence drawn from across the US higher education sector documenting increases in undergraduate grades starting in the mid-1960s. These authors suggest, among other interpretations, that faculty began inflating grades around the time of the Vietnam War in order to help students avoid the draft. A number of detailed institutional case studies include Kezim, Pariseau, and Quinn (2005), who suggest that grade inflation exhibited a linear trend within a given institution in the American Northeast over a 20-year period in the late 1900s and also that adjunct (by comparison with tenured) faculty awarded higher grades. If this is true, then the casualization of the academic workforce, also

noted elsewhere (e.g., Dobbie & Robinson, 2008), may be a contributing factor in recent upward trends in grades.

Similar trends have been observed in other countries and have often been accompanied by the concern that grades today convey less information about student quality than they once did. In Germany, the head of the German Council of Science and Humanities was quoted (The Local, 2012) as saying, “the grades which students currently receive say almost nothing meaningful about their real achievement” (although the report giving rise to this interpretation, which apparently documented the prevalence of top grades in courses offered at the country’s universities, is no longer available on the Council’s website). In Britain, the prevalence of first-class degrees has been increasing according to data published by the Higher Education Statistics Agency (<https://www.hesa.ac.uk/>); as reported by Graeme Paton in the UK Telegraph (Paton, 2012), the CEO of the Association of Graduate Recruiters in the United Kingdom has commented in reference to these data that “[o]ver the past decade, employers have become less confident that the degree class in itself tells them what they need to know.”

In Australia, the convention is to use a far larger range of numbers in judging student performance than is used in other countries. Academics in Australia use the full range of numbers from 50 to 100 to denote passage of a course, with successive ranges of “marks” associated with different “grades” (e.g., a mark between 50 and 65 is considered a “pass,” whereas one between 85 and 100 is considered a “high distinction”); and it is quite rare for a student to be awarded a mark above 90. Average course marks are typically in the 60s or 70s, depending on the course. This by itself means that undergraduate students from Australia seeking postgraduate positions in the United States are vulnerable to inaccurate judgments by admissions officers who assume that scores in the exceptional range by Australian conventions in fact denote average performance. One might think that this difference in grading conventions is indicative of a resistance in Australia to global grading trends, but we are missing recent representative data about grade distributions in Australia over time using which this hypothesis could be evaluated.

The best evidence yet produced in regard to grade distributions in Australian universities has used variation not over time, but in the concentrations of international and non-English language speaking students in different courses. These students often struggle with English and with the need to adapt to Western academic conventions. Focusing on this source of variation and using data from two Australian universities’ business faculties over 3 years, Foster (2012) finds that the presence of more international and non-English language speaking students in a course, controlling for available measures of student ability, is associated with higher grades in that course. She conjectures that this is at least partly due to pressure on teachers to preserve grade distributions across courses and time, a phenomenon which – if the quality of the student cohort does not decline – would work against the emergence of grade inflation in Australia over time. Further research is needed to document whether in fact there has been any sector-wide grade inflation in Australia, and if so, the extent to which the increase in

enrollments by international full-fee paying students in Australian universities over the past generation has contributed to it.

Is Grade Inflation a Threat?

Many authors who document grade increases write in strongly normative tones, expressing distress at the phenomenon of falling standards. Only infrequently are these concerns explicitly justified; instead it is often taken for granted that the reader agrees that falling grading standards, if they are indicated by rising grades, would represent a serious problem. What scares us about the specter of grade inflation? Are our fears justified?

Why We Might Not Worry

Like monetary inflation, grade inflation is arguably only a problem when it occurs very fast over a short space of time or at different rates for different parts of the distribution of students. If the same rate of inflation is afflicting the grades of all students gradually over time, meaning that this inflation causes no changes in the rank of certain students relative to other students and that everyone affected has plenty of time to adjust to the increasing grades, then the effect of this is arguably equivalent to what would happen if we issued a new currency. In a stable state, with impunity, we could decree that what was \$2 is now \$1 and what was \$10 is now \$5, and so with grades in a stable university sector, where what was once an F is now a D and what was once a B is now an A. Indeed, the universities of countries with strongly differing grading conventions regularly perform these types of “currency exchanges” when transferring grades across borders for students studying abroad. As discussed above, in Australia, for example, it is extremely rare to see grades above 90 % in undergraduate courses, and the average grade is typically between 60 % and 70 %, whereas in the United States, the average grade is typically between 80 % and 90 %. Such cross-country differences in where grades customarily lie across the range of possible numbers are simply treated by academic program directors worldwide as differences in the value of the currency being used. Why then should gradual shifting of the entire distribution worldwide, or even in a particular country – even if underlying student quality has not changed commensurately – be seen as a problem?

Why We Might Worry

If grade inflation is in fact not uniform across students, then the main problem from a social perspective is that those who use grades as a signaling device may be

unable to adjust their expectations appropriately in every case in which a judgment is required, leading to worse decisions about how to allocate students to work. This is simply another version of the problem that occurs when grades are used differently in different contexts (e.g., in the United States versus in Australia) or by different professions (e.g., by anthropology versus engineering): if a given person sitting in judgment of a student does not know the accepted grading conventions applied to that student's work, then the judge risks making a poor judgment. There is a secondary problem of perceived unfairness to individual students who are marked differently for work of the same standard, and this has been the main implicit motivation of much work in the education literature surrounding the calibration or benchmarking of academic standards across graders (e.g., Sadler, 2013). However, from a holistic social perspective, the much greater problem of unequal grade inflation is an increased inaccuracy of judgments, caused by unanticipated and unrecognized changes in the grading conventions applied to certain groups of students (e.g., defined by country, discipline, level, or institution) over time. This problem can be remedied to some extent via changes to universities' reporting practices, such as the reporting of a student's class rank in addition to his grade. However, limits to the level of precision at which graders' evaluations of student work is captured – for example, when no differentiation is captured among the work of a large number of students receiving an “A” – constrain the ability of such changes to assist judgment in all settings.

Another potential problem of rising grades, even if such a rise is uniform and regardless of whether it reflects underlying quality increases, is the ceiling effect. As emphasized in the Introduction, the primary purpose of grading is differentiation, and if grades rise to the point that every student receives the topmost grade on the scale used, then the system becomes unable to deliver this differentiation. Such a problem can be fixed by a redefinition of acceptable grading conventions that is adopted simultaneously by all graders, akin to the adoption of a new currency in a particular country. However, unlike that case, in which a central bank and the power of the country as a whole are brought to bear on the organization and coordination of the change, in the case of grading standards, there is no one person or leadership group in charge. A fitting analogy would be the inefficient QWERTY keyboard: the next generation might be better off if we changed it, since doing so would enable everyone to eventually attain higher typing speeds and hence higher productivity, but no one person or group has an incentive to change it given that all others are still using it. In the same way, a planned, universal redefinition of grading conventions benevolently designed to escape the ceiling effect is simply not going to be forthcoming.

For these reasons, rising grades are ultimately a threat to academia mainly to the extent that they hamper the ability of academics to make good judgments about whom to select for postgraduate positions and scholarships, since it is postgraduate students who will ultimately carry the banner of academia forward into the future. However, there are many ways that academics can compensate for the possibility that an undergraduate transcript may carry less information than it once did.

Academics can use other selection devices such as information about class ranks, face-to-face interviews, or standardized test scores (as suggested in Wongsurawat, 2008) or put more stringent postentry requirements into their postgraduate programs (such as requiring challenging exams after the first year of postgraduate study). As long as such selection tools are still available to them, academics can in principle continue to self-replicate, performing their primary social function of upholding the ideals of intellectual inquiry down the generations. In a similar way, employers can use other selection tools, including interviews, additional job-entry requirements (such as more advanced degrees), probationary periods in employment contracts, and high-stakes performance reviews. While glancing at a transcript is easier than implementing these measures, employers too in principle can continue to follow stricter screening processes than they did a generation ago.

Students themselves have the least ability among affected groups to find a substitute for the signal provided by grades. Their most potent substitute is to carry on in education, entering master's or other postgraduate programs, and then use the grades achieved at those higher levels to inform the self-diagnosis function that previously was supported by their undergraduate grades. Indeed, the need of all parties involved for further differentiation mechanisms is arguably the main reason for the proliferation in the past 30 years of postgraduate enrollments and for the refrain that master's degrees are "the new bachelor's" (New York Times, 2011). A further, psychosocial problem afflicting students who receive high grades that are more prevalent is that due to the lower competition for those high grades, they may feel less motivated to work hard and thereby to achieve the best academic outcomes that they are capable of.

Ultimately thus, the main long-run consequences of increases in grades are higher workloads for everyone affected – academics, employers, and students – who must collect other sources of information to substitute for the information that can no longer be confidently gleaned from a student's transcript. In the short run, one might also expect some poorer matches of students to positions, as decision-makers at all levels make less accurate judgments, and also some reductions in student motivation.

Core Supporting Elements

In order to provide specific recommendations about how to respond to the phenomenon of rising grades, one needs to understand the broader economic, political, and social environment in which upwardly trending grades have arisen. This section first provides a brief sketch of the dynamics of our modern world which underpin the actions of the major players in the tertiary education sector and, in turn, give rise to pressure on grades quite independently of any changes in the quality of student work. Then, a macro-behavioral view is taken of the relevant actors, including governments, universities and other education providers, students, and academics themselves, to shed light on how and why the phenomenon of rising grades has come about.

Social and Economic Factors

At the base of recent changes lie several fundamental realities of modern Western society that have emerged over the past 70 years or so. First and most importantly, beginning in the latter decades of the twentieth century (1970–2000), the productivity of skilled workers began to climb disproportionately compared to that of unskilled workers, leading to an increasing wage gap between these two groups. This change, itself driven largely by technological innovation (often termed “skill-biased technological change”; see Berman, John, & Machin, 1998), meant that becoming skilled was increasingly a requirement in order for an individual to become and be seen as relatively successful in society. These changed social expectations then led to an increase in the demand for education beyond secondary school on the part of members of all social classes. The factors tempering this increased demand have been and continue to be mainly in relation to information and social power: less advantaged children generally have access neither to the information nor to the opportunities – including the cultural support and confidence, based on what they see around them, to believe that they can truly “make it” in life through higher education – of richer children. However, even this dampening force is losing strength over time, as better worldwide communication and transportation infrastructure, as well as trends towards cross-country cultural convergence, make people all around the world searching for a better life hit upon the possibility of obtaining Western higher education as a path to that life.

Within many Western countries, the second half of the twentieth century also saw a great expansion of national ideals of equality and opportunity for people with diverse characteristics. Segregation and discrimination were attacked more viciously than in prior decades, including via formal legislation and in the arena of university admissions policies. It became, if not likely, then at least not effectively impossible that a poor black woman born in the American South could eventually earn a terminal degree. Not only could higher education open the door to economic success more powerfully than in prior generations, due to skill-biased technological change, but it came to be seen as a large part of the way to advance in society for people from all walks of life. More subtly, providing higher education opportunities to people of all backgrounds increasingly became part of the very ideals pursued by Western nation states.

Against the background of these phenomena, which have dramatically pushed up the sheer per capita demand for higher education over the past two generations, is another social force that is crucial in shaping the tertiary education environment. This force is the extreme pressure placed by the academy upon individuals training for an academic position in a particular discipline. This pressure, felt through the long years of slaving to earn a terminal degree and the long years after that slaving to earn tenure, pushes the individual aspiring academic to subjugate his personal whims and morals to the ideals promulgated by the profession to which he aspires. While this process of socialization happens to some extent in other professions, it is particularly strong in the academic professions, as witnessed by their stringent entry requirements and extended periods of training: PhD programs often last for

4–5 years, and tenure is then granted only after another 5–6 years of junior professorship. Many people simply are not willing to endure this process, meaning that the pool of those pursuing academic careers is already limited to those who are at least somewhat inclined to promote academic ideals anyway. Once inducted into academia via this lengthy process, a professor typically retains at least some of this conditioning. The ideals typically promulgated by the academic professions, and to which we should therefore expect some personal commitment on the part of academics who have gone through this training process, include such things as hard work, the pursuit of intellectual and scientific progress, service to the broader society, and objectivity in analysis.

A final relevant trend in the socioeconomic landscape is that economic inequality has been on the rise for the past few decades in most Western countries. This trend is due partly to continued general skill-biased technological change and partly to a particular brand of it: the increasing opportunities for individuals to become extremely rich through work in multinational corporations that enjoy unprecedented access to resources in multiple countries, which thanks to diplomatic and scientific technology they can exploit more rapidly and more effectively than in previous decades. This increased scope and potency of private-sector companies has delivered a rise in overall economic productivity and aggregate wealth but, at the same time, has brought a regressive change in the distribution of that wealth. This regressive change, remarked upon recently by Thomas Piketty (2014), is at base an outgrowth of the lack of perfect monitoring by the people of a Western country of the activities of the companies that their country has incorporated. Those in charge of these large companies can take advantage of their favorable economic and political positions in order to ensure that a disproportionate share of the wealth generated by their companies' activities flows directly to themselves and their friends. While it may seem removed from changes in grades, this type of "rent-seeking" – the funneling of the resources and economic value of a large group to that group's leaders – is crucially important to the extent that universities and those working within them to influence grading practices are either vulnerable to or themselves engage in this type of behavior.

Political Factors

The changes described above in the social and economic environment over the past two generations have given rise to changes in the political environment as well. First, as already noted, the ideals of equality and equal opportunity have become more and more strongly woven into the fabric of the modern Western nation state. This has given rise to initiatives directly promoting the idea that people are all of equal worth, such as the teaching in public schools of revisionist histories that highlight the accomplishments of native peoples, and the creation in universities of whole departments devoted to the study of such peoples. In this way, just as academicians are inculcated with academic ideals during their long years of training, the rising generation in modern nation states is inculcated with the ideal of

human equality during their many years in school. The rise of equality ideals has also meant that the government administrators who run the state have increasingly used rhetoric about equality and equal access, even when pursuing programs or initiatives that in reality have little to do with either. This pattern is not unique to the modern age; it is rather the particulars of the rhetoric that are distinctive to our modern society. Moreover, this pattern is not restricted to public sector workers. When any large organization becomes associated with a particular set of ideals, the opportunity is opened for individuals who do not actually share those ideals to advocate the allocation of the organization's resources towards particular activities in the name of those ideals, even when in reality the connection between the activities and the ideals is tenuous at best. This dynamic is at play even within universities.

A second point to mention in regard to political factors is that the Great Recession and its aftermath have created a great deal of economic suffering in many Western nations, with which many governments (the main financiers of education at all levels) are now grappling. In Europe, reduced government expenditure has exacerbated the suffering; and in the United States, where the percentage of GDP collected as taxes was already lower than in any other OECD country, there is accordingly a relatively low amount of governmental redistribution of income towards infrastructure, healthcare, education, and other services. Australia has been seen as the world's success story in regard to the Great Recession, where this success has mainly come on the back of well-timed income redistribution via stimulus checks and subsidies made available to all citizens (Greenglass et al., 2014). However, even in Australia, government funding for higher education has declined in real terms since the 1980s (Breen, 2002) and has continued to decline in recent years (Davis, 2013). These changes imply further reductions in the government-supported supply of undergraduate education, placing even more pressure on the university sector as it responds to increasing demand.

A Macro-behavioral View of the Tertiary Education Landscape

With the prior framework in mind, what are the main dynamics afflicting universities, students, educators, and governments today that underpin the phenomenon of grade inflation?

First, the increasing number of young people attending university (e.g., as documented by the US Department of Education, 2013) has meant that universities with strong reputations that formally or informally require on-campus residency have been unable to absorb their proportionate share of students in the absence of massive, long-term building projects that not all have undertaken. Consequently, admission rates at some of these schools, such as the American Ivy League, have been steadily falling (the Ivy Coach, 2014). If these falling rates of admission have not been accompanied by significant declines in the quality of the applicant pool and have been coupled with a concomitant rise in admission standards – such that now only the absolute highest-potential students are offered places at top-quality

residential schools – then we might expect average grades at such schools to rise mechanically. The implication would simply be that, for example, almost every freshman granted entry to Harvard today truly has the potential to one day join the academy. This general line of argument has been pursued by some in the literature, such as Weinberg (2007). However, as pointed out by Baird and Feister (1972), to the extent that academics aim for fairly similar overall grade distributions from year to year, an increase in average student ability within an institution or even in the population at large (à la the Flynn effect) may be unable to account for radical upward shifts in the grade distribution. A tendency to target similar distributions year by year could be an outgrowth of simple inertia, at either the individual or institutional level, or a desire to maintain the very differentiation among students that makes grading useful. Furthermore, ability increases from cohort to cohort may simply not have been large enough to explain the upward trends in grades observed within institutions. To this point, in reviewing the research that has examined the relationship between changes over the past 40 years in the measured ability of student cohorts, on the one hand, and changes in average grades, on the other, Rojstaczer states: “. . . student quality increases cannot account for the magnitude of grade [increases] observed. The bulk of grade [increases] at these institutions is due to other factors” (Rojstaczer, 2014).

What then are these “other factors”? Most importantly, the increased demand for higher education has meant that the social and economic power of the higher education sector has grown. As the gatekeepers to a better life, universities and other providers of tertiary education are today more than ever seen by prospective students and by governments as suppliers of highly valued goods. Just like the value of a company that owns valuable intellectual property or has secured favorable tax deals, the value of a modern university is very appealing as a potential vehicle for personal enrichment. For universities whose activities are funded mainly or even exclusively by private endowments, these endowments and the limited ways in which they can legally be used provide a strong restraint on the ability of profit-hungry people to extract the university’s value for themselves, were they to attain leadership roles within the university. However, many universities cannot rely on private, restricted-use endowments. Some are supported mainly by the state and some to a greater or lesser extent by the fees that they can charge students. Universities’ consequent increased dependency on market forces arguably threatens the autonomy that has characterized academia for generations. Publicly funded universities are more vulnerable today than in the past not just because of tightening public budgets but because of government initiatives that are described using the required rhetoric about increasing access and fairness, but in fact are the outgrowth of political realities and market forces (see, e.g., the latest Australian budget statement for higher education: <https://www.education.gov.au/portfolio-budget-statements-2014-15>).

Like corporations then, many universities today must sell their product in order to stay afloat. In the process, they cannot avoid looking like very attractive prospects to those who would like to extract the value delivered by the university for their own personal purposes – meaning that people who in the past would have

gone into private-sector work are now attracted to the university sector as a possible route to riches. The gradual corporatizing of university leadership, the attempts by bureaucrats to control academic activities, the increased commodification of university education, universities' increased expenditure on marketing activities, the decreased voice of professors in the running of the university – all of these trends, well documented in the literature (e.g., Marginson & Considine, 2000), are outgrowths of the dynamics described above. Adding to these problems is the increased sense of entitlement with which many students arrive at universities, having been exposed as schoolchildren to ideas about equal human value.

To be seen as offering a credible product, thereby safeguarding its reputation, the university has typically required a cadre of professors who are seen to be authentic, i.e., to be genuinely committed to academic ideals. In the long run, without such a cadre, the university is merely an ivory tower emperor with no clothes and will eventually be discovered as such by employers, whereupon its reputation will be changed into merely another provider of vocational training rather than as society's caretaker of intellectual progress and the training grounds for the next generation of academics. Without themselves having the training and professional identity that their academics possess, the corporate heads of universities are in need of the services of their academics in order to continue to run the university as a university. In turn, in this environment, academics are the only ones within the university who have both the means and the incentive – supported by their prior training, as discussed above – to keep grading standards high. Neither the individual student nor the term-limited corporate leaders of the university he attends wish to see that student do poorly: poor grades would be bad for the student individually and would also retard the ability of the university to attract ever more fee-paying students in the short run, since prospective students will be put off by low rates of graduation or low-quality placement of graduates in a job market where everyone else's transcript is inflated. Perhaps a surprising ally of academics in their desire to control grade inflation is prospective employers, who have no stake in the personal outcomes of particular students but do have, like academics, a clear reason to want to preserve the signaling quality of transcripts. Employers' wishes are partly represented by third-party accreditation agencies, although these agencies cannot perfectly monitor a university's quality and so are vulnerable to co-optation by university bureaucracies.

Finally, a note is in order about other means of meeting the increase in demand for higher education aside from bricks-and-mortar university offerings. Alternative forms of postsecondary training have been increasingly offered to absorb demand from people who are unable to gain access to arguably the highest-status providers of higher education, namely, universities. Some such institutions are publicly funded, such as the community college system in the United States and the TAFE system in Australia. There has also been an eruption of for-profit third-party providers of such training that differ in quality and in the programs they offer, but have a standard business model: offer (or appear to offer) job-related skills and knowledge and make profits on fees from students who are desperate to earn some kind of postsecondary qualification. Many of those teaching in these providers' programs

are not doing research (such as those staffing the DeVry University programs in the United States, shown at http://www.devry.edu/why-devry/quality_education_faculty.html); academics with research profiles might also potentially work at such institutions if offered large paychecks to tempt them away from academia. Finally, newly established joint ventures with universities, such as Coursera, now offer educational services online at a fraction of the cost of conventional university programs. All of these sources of postsecondary education services compete to a greater or lesser extent with universities.

The Upshot for Grading Practices

The fact that grading choices within today's universities play out not only in relation to the quality of student work but in terms of power games between academics and other groups (mainly university bureaucrats but also students themselves) has been previously remarked upon in the literature (Sadler, 2011; Smith & Fleisher, 2011). Several forces are aligned in the modern university against the academic's incentive to maintain grading standards.

There are first the pressures towards direct monitoring and control of teaching and assessment placed by bureaucrats now being paid handsomely (Devinney, 2013) to fill leadership roles within universities, who were attracted to the sector ultimately because of the increased demand for higher education. This pressure is coupled with the increasingly powerful force of student entitlement, supported by the equality ideals of the nation state described above. Finally, the rise of other postsecondary education providers creates a rise in the competition faced by universities in the market and only adds to the pressure then placed upon academics by university bureaucrats. These types of control games should be expected to be far less prevalent in universities that do not rely on student fees but rather are funded via endowments and government grants, and to the extent that evidence has been compiled, this indeed seems to be the case (see Foster, 2011).

Because academics are not well-organized politically and to the extent that they are joined or overruled by bureaucrats on committees and other bodies that take academic decisions within universities, academics' collective voice on academic matters is weakened. Small battles are often fought in individual courses to preserve grading standards. Some academics simply start to bend to the rising pressures to raise grades, a tendency that is exacerbated by bureaucrats' increasing reliance on student evaluations to reward academics (cf. Johnson, 2003). While individual students exert additional pressure on individual academics to raise grades in particular courses, students as a group can be argued ultimately to lose the most from declining standards that force them to spend a longer portion of their lives in educational programs in order to discover what they are really good at. Yet, like academics, students are politically unorganized, and hence, this collective voice often goes unheard.

Recalling the particulars discussed at the start of this chapter in regard to changes in grade distributions, it should now not be surprising that adjunct faculty

award higher grades than tenured faculty (as found by Kezimet al. (2005)). Adjunct faculty do not share the strong gatekeeping incentive of tenured faculty that gives rise to the desire to ensure students are differentiated from one another. To the extent that present-day profit-oriented university bureaucrats can do so while still maintaining their university's reputation and hence its market value as a university, they will try to find ways to substitute adjunct and temporary academics for tenured academics due to the relative ease of controlling their actions by direct means. In turn, this will gradually reduce the main institutional source within the academy of pressure to keep grading standards high.

Prognosis and Policy Prescriptions

Armed with the analysis above, what trajectory might we predict for undergraduate grades in the future, and what policy actions might work to counter further rises?

No single person can hope to reverse the global trend of rising grades, as it is the outgrowth of group phenomena. To the extent that those phenomena continue to gain in strength, so too will grades continue to rise. Some of the rise in grades may be due to actual increases in the quality of student work, but even if that is true, the weaker differentiation among students that rising grades bring is problematic for many higher education stakeholders. As suggested earlier, one practical step that would help preserve the ability to differentiate among students is to report students' ranks instead of or in addition to their grades, though it is doubtful that universities would see a strong incentive to do this, given likely resistance from most students. Various other remedies have been proposed in the literature, from more effort devoted to training academics to teach (as suggested in a 2004 *Nature* editorial) to more bureaucratic monitoring of professors' grading activities (Rojstaczer & Healy, 2012).

As Wendell (2001) bluntly states, however, "It's not as if there is some code of academic integrity being upheld by anyone in a real position of power." The only ways in which the forces outlined in this chapter can be countered – and such a countering will inevitably have to be gradual rather than revolutionary, given the size and power of the groups involved – involve nurturing the group-related counterforces that presently exist, however understated they are at present. These possible counterforces, each of which has been explicitly discussed or implied above, are as follows:

- *Stronger academic indoctrination.* Further strengthening of the identification with academic ideals on the part of the worldwide cadre of academics. More arduous terminal-degree programs; more stringent requirements for scientific contributions. The goal is to create academics who are better equipped, due to their ideological commitments, to withstand the pressures in modern universities towards increasing grades.
- *Stronger academic power.* Increasing the voice of tenured academics within universities, including supporting their freedom to use their own judgment with

impunity when grading, rather than being punished either explicitly or implicitly for awarding grades that are in some way out of line with what students or the university leadership wants. The goal is to reduce the personal incentives that academics presently face, due to strong pressures from university leadership and from individual students, to relax standards.

- *More social success associated with not achieving a postsecondary degree – or with achieving one from an alternative provider.* More government investment in trade and industry training, apprenticeship programs, and the creation of a positive “social success” image of people who enter the workforce without a tertiary degree or with a degree from a less-prestigious institution. The goal is to relieve the demand-side pressure for university-provided postsecondary education, so as to reduce both students’ sense of entitlement to good grades from universities and universities’ appeal to profit-minded bureaucrats.

Who is in a position to take these steps? Profit-minded university bureaucrats have no incentive to do so. They will fight against giving power back to academics within universities. They will also fight the additional allocation of resources to postgraduate programs, which are the main context in which future academics are groomed but are extremely expensive to run compared to undergraduate programs. University bureaucrats would not be against a simultaneous pushing of the entire grade distribution downwards across the entire sector, but in the absence of this coordinated effort, they will individually resist being the first mover.

One possible source of energy for action is the group interest embodied in national and international academic societies. These societies represent the interests of academics as a group and operate independently from universities and students. While it can be co-opted by university peak bodies, government as well has a fundamental incentive to ensure that the public money spent on higher education is spent well, which has motivated the creation of quality standards agencies such as TEQSA (2014, <http://www.teqsa.gov.au/>); this body’s stated mission includes “upholding standards for students.” Government also has a broader social caretaking agenda of ensuring that its citizens obtain value from their degrees. Hence, initiatives funded by government and academic societies, such as the learning standards project in Australia (e.g., <http://www.economiclearningstandards.com/>), hold some promise in countering grade inflation. Finally, while each individual student benefits from grade inflation in the short run, an organized student voice against the dilution of standards has sometimes been heard, for example in class-action suits against third-party higher education providers (Greene, 2014).

Summary

In conclusion, rising grades are an undeniable feature of the Western higher education landscape as it has evolved over the past 70 years. By themselves, higher grades cannot materially damage intellectual progress or the ability of academics to

fill their role in society. However, the forces that give rise to relaxed grading standards are powerful and not aligned with the goals of the academy. These underlying forces and the incentives they create are the greater threat.

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Abstract

Commercialization of higher education is a symptom of the widespread shift to an academic capitalist regime across US colleges and universities, wherein institutions exhibit increasingly market-based behavior, and the public good mission takes a backseat to revenues and market share. Cheating behaviors among college students have increased alongside these capitalist trends, causing many scholars to question the role of institutions in matters of academic dishonesty. This chapter uses culture as a theoretical framework to demonstrate the

A. Kezar (✉)

School of Education, University of Southern California, Los Angeles, CA, USA
 e-mail: kezar@rossier.usc.edu

S. Bernstein-Sierra

Rossier School of Education, University of Southern California, Los Angeles, CA, USA
 e-mail: srbernst@usc.edu

impact of the academic capitalist environment on college campuses and how it affects the assumptions by which students' individual decisions are shaped. Students model the behavior of valued others – faculty, staff, and peers – about appropriate ways to act, which informally become a part of their consciousness through the institutional culture in which they are embedded. The bulk of this chapter describes in detail the microlevel trends and behaviors that provide evidence of a growing culture of unethicity on college campuses, which is likely to shape students' attitudes about academic integrity.

Introduction

Over the past three decades, various commentators and scholars have noted a significant change in the campus environment, often described as the commercialization, marketization, or commodification of higher education. Leading higher education scholars Slaughter and Rhoades (2004) classified these changes as part of an academic capitalist environment. They characterized college campuses as shifting from what had traditionally been a public good ideology to an academic capitalist regime. While the two ideologies currently coexist within most campuses and are competing forces, the increasing prevalence of commercial culture on college campuses may shape student behaviors and ultimately threaten the integrity of the academic enterprise.

Expanding on the notion of threat, Kezar et al. (2005) documented how the public good ideology supported a particular set of values, such as the collective good of society over individual benefits from education, equal access, excellence in education, truthfulness and openness of the research enterprise, and faculty members playing a role in challenging society. These public good values also signaled to campus constituents – faculty, staff, and students – appropriate behaviors that are aligned with these broader institutional and societal values.

The academic capitalist ideology privileges a different set of values on college campuses. This includes maximizing efficiency and productivity over effectiveness (such as outsourcing of staffing and the influx of adjunct faculty), managerial expertise over scientific expertise, corporate governance rather than shared governance, privatization of research and intellectual products, the importance of profiting from intellectual efforts of faculty in both research and teaching, and individual rather than collective values (Slaughter and Rhoades 2004). These new values encourage very different sets of behaviors on college campuses.

These capitalist values are not neutral (Kezar et al. 2005). They have the potential to compromise the integrity of the academic enterprise because of ethical issues that emerge from these new ideologies. Kezar et al. (2005) describe the increasingly unethical environment that has resulted from an academic capitalist ideology on college campuses. While institutions certainly dealt with integrity issues under the public good ideology, the capitalist system supports a corrosive environment, as it has few social values that support academic integrity.

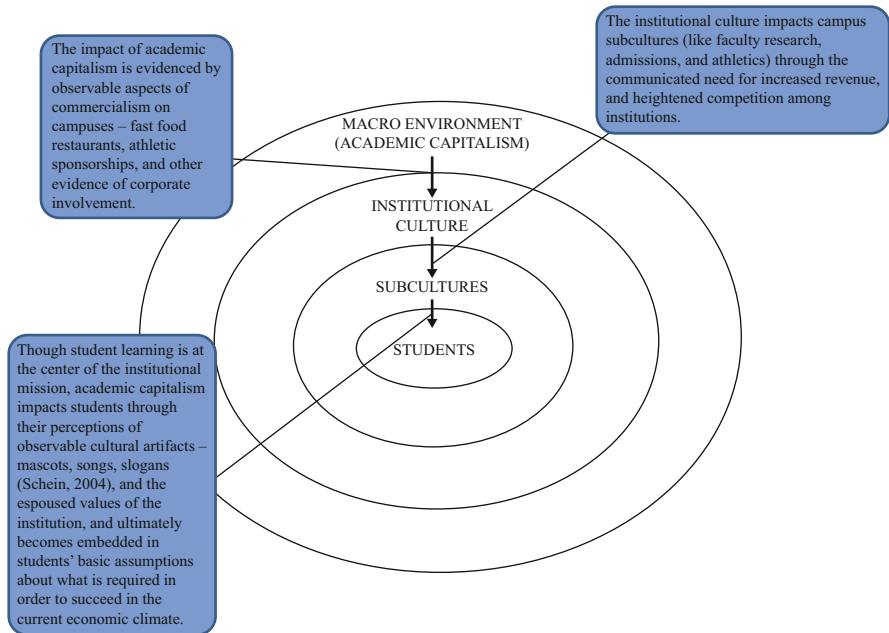


Fig. 1 ‘↓’ indicates direction of influence

Using culture as a theoretical framework, the authors provide some examples of the ways that the macro shifts to an academic capitalist environment have created a culture of growing unethicity on college campuses which signals to students that unethical behavior is “okay.” Culture is a valuable theoretical framework for demonstrating the impact of the academic capitalist (macro) environment on college campuses and how it affects the assumptions on which students’ individual decisions – that may increasingly lack integrity – are shaped. Students model the behavior of valued others – faculty, staff, and peers – about appropriate ways to act, which informally become a part of their consciousness through the institutional culture in which they are embedded. Figure 1 illustrates the perspective that is described in more detail throughout the chapter. This figure captures how the macroenvironment infiltrates campuses; is communicated to the members of the institutional culture, faculty, staff, and students; becomes embedded in the basic assumptions of students; and manifests as unethical behavior. This chapter provides background and context from the forthcoming chapters about students’ behavior on campus.

The chapter is organized as follows: the first section describes the theoretical framework that informs the analysis and the reflexive relationship between various layers of culture in higher education. Next, the authors review the macroenvironmental factors that influence campus subcultures and students’ individual behaviors, including a discussion of academic capitalism and its consumerist manifestations on college campuses. Third, specific examples of faculty and student

subcultural trends and behaviors are discussed that both reflect and reproduce commercial values that encourage academic dishonesty.

Theoretical Framework: Culture

Joanne Martin (1992, 2001), a well-known theorist of culture, notes how sophisticated conceptualizations of culture examine the way that various layers interact to shape the values of individuals. While organizational or institutional culture is often the site of inquiry for culture, external influences are important in shaping internal organizational values that might not be formally espoused or embraced by the institution. Additionally, Martin describes how institutions are not monolithic, but made up of subcultures that can more directly shape the behaviors of individuals. It should be noted that subcultures may hold different or alternative value systems to a dominant institutional culture.

Organizations often espouse values that are inconsistent with their “values in practice” (Argyris and Schon 1978). For example, in higher education, institutions often articulate that they value teaching, but reward faculty primarily for conducting research. As a result, faculty members are conditioned to value research over teaching, in contrast to espoused institutional values. Values in practice are often hard to identify because they rely on basic assumptions that are implicit and not outwardly embraced by institutions.

This disconnect between espoused and practiced values has already been identified as relevant in previous research on creating environments of academic integrity. Bertram Gallant (2007) found that existing literature on academic integrity incorrectly assumes that in order to effect culture change, institutions need only to alter surface-level aspects of their cultures. However, as Bertram Gallant (2007) explains, to bring about cultural change involves “changing private values and normative practices” (p. 395). Where an integrity problem exists on college campuses, contributing factors include more than mere institutional missions and honor codes. Cultural change requires that individuals confront their own ideologies that may be deeply embedded and that may conflict with the surface-level aspects of culture (Bertram Gallant 2007).

As captured in the figure above, the authors use this chapter to illustrate the various layers of culture on college campuses and the ways that they impact students’ academic integrity. It is through the interactions of these layers that external (macro) environmental factors surrounding academic capitalism infiltrate the institutional culture and become embedded in the basic assumptions of cultural members. The authors show how the various layers of culture shape the values of subgroups on campus, including faculty and staff, which then impact students’ attitudes about academic integrity.

The primary purpose of this chapter is to illustrate the overarching shift that is taking place in basic institutional assumptions, which support a lack of integrity on

campuses. Though empirical evidence of the contextual issues addressed in this chapter is provided, implicit and contextual processes are difficult to test empirically, and thus limited evidence is available in the literature.

This chapter builds on several other scholars that have demonstrated the importance of culture to environments of integrity. In addition to Bertram Gallant, the chapter builds on Whitley and Keith-Spiegel (2001) who identified how campus culture shapes cheating on campuses:

The nature and feel of the campus community environment—the campus ethos—is a powerful influence on individual student’s attitudes toward cheating. If students perceive their campus as merely providing a means to an end—and as unjust, disjointed, laissez faire, impersonal, and without a core identity—deterrents to cheating may be very weak. (p. 336)

The authors add to this argument by showing how the macroenvironment can shape institutional cultures and directly impact the ethicality of students’ academic conduct. As scholars have demonstrated in previous studies, culture is a powerful organizing framework for ethicality, aiding in the determination of rewards and punishments, appropriate behavior, and what means and ends are valued (Kuh and Whitt 1988). For this reason, culture is a useful perspective for understanding the contextual influences on college students that may impact their choice to engage in academic dishonesty.

The Macroenvironment

The Origins of Academic Capitalism

The transition to the academic capitalist regime began with economic policies of the 1970s and 1980s that were implemented to boost a weakened economy. The Higher Education Act of 1965 was reauthorized to give aid for tuition directly to students rather than institutions, and government assistance for college was thereafter delivered in the form of student loans and grants (Slaughter and Rhoades 2004). The Bayh-Dole Act was passed in 1980, which allowed colleges and universities to patent inventions developed with federal research grants instead of placing them in the public domain, which had previously allowed for greater access to these innovations by the public. As a result of these legislative changes, universities were legally permitted to profit from both tuition and faculty research.

Alongside these changes, there was a rise in corporate governance of research universities in the USA. Board members and trustees were appointed because of their business experience and connections to industry. Many institutions were “headed by presidents who are paid like corporate executives, and recruitment of university leaders often focuses on the business acumen of candidates, rather than their expertise as educators or their commitment to learning”

(Natale and Doran 2012). In 2010, about half of college and university board members came from business backgrounds (Fain 2010). Decision-making became more centralized, with administrators emphasizing principles of good business management to bolster efficiency and competitiveness at the expense of educational values like truth, equity, and autonomy (Kezar 2004).

With fewer public funds being allocated toward higher education, universities felt increased pressure to generate revenue and cut costs. Campuses were asked to outsource services and activities that often had a fundamental education component, such as residence halls and bookstores (described in greater detail below). Higher education institutions experienced pressure to generate revenues from auxiliary services and to create more programs among high-paying students, such as executive programs and programs supported by business. The University of Arizona's recent partnership with Starbucks is an example of such partnerships and pressures to increase revenues by training and providing education directly for business interests.

The move to managerial leadership and commercial partnerships directly influences trends toward business practices, revenue generation, and privatization that propagate and embed corporate values throughout a student's experience – in the residence halls, in the type of curriculum offered, and the decisions made by important educators in their daily environment. However, it is not these corporate values themselves that are problematic, but how these values translate into ethical compromises – faculty cheating, conflicts of interest between administrators and business interests, competitive pressures that lead to unethical decisions, consumer-oriented approaches to education that privilege individual student interests over broader learning goals, and contingent faculty who are unable to provide sufficient attention to grading and assignments (Benjamin 2003; Kezar 2004; Giroux 2005; Benford 2007; Hartley and Morphew 2008). These broader values become embedded into campuses and then translated into student experiences, which perpetuate commercial values and resultant unethical behaviors.

The effects of academic capitalism are visible in the surface-level aspects of culture on many college campuses. The market-based values held by many higher education institutions are exemplified by consumerism and credentialism – two interrelated concepts that influence student attitudes toward their college education and their own personal worth in a capitalist society. Following is a discussion of how a consumer mentality that develops as a result of the academic capitalist environment reinforces actions that increasingly lack integrity.

Consumerism and Credentialism

With the decision to give financial assistance directly to students instead of institutions, the federal government placed students in the role of consumers of higher education and promoted market-like competition among institutions for federal money. The policy changes of the 1970s and 1980s were premised on the belief that higher education is largely a private good, with benefits accruing primarily to

individual students, who use their degrees to increase their human capital value and better position themselves in the workforce (Slaughter and Rhoades 2004).

Academic capitalist values have become embedded in the institutional culture of most campuses: a culture that mimics the market economy and values rational self-interest over the search for truth and intellectual progress. As illustrated in the figure above, students are socialized into the culture through direct observation of commercialism on campus and interactions with campus subcultures and valued peers. Student consumerism refers to a collection of beliefs and behaviors, which stem from the central premise that higher education is a service for sale and that students are discerning customers of their own future (Giroux 2005). Consumerism is an ideology practiced by students and encouraged by institutions in many ways, from prospective student marketing to exclusive arrangements with corporate partners for advertising access to intercollegiate sporting events.

The transition to consumer culture was marked, in part, by the institutional use of students for extracting revenue in the form of tuition and commercial profits (Slaughter and Rhoades 2004). Institutions often target prospective tuition-paying students with promises of extracurricular activities and commercial services – restaurants and shopping – rather than academic quality. These institutional marketing tactics emphasize consumption and consumer capitalism that serve the college’s own financial interests to the detriment of students. Hartley and Morphew (2008) found that through their marketing materials, institutions attempt to communicate to all students that they are unique and that faculty and staff are typically prepared to serve their individual academic and nonacademic needs (Saichae and Morphew 2014).

Credentialism is the view that degree completion, not learning, is the goal of higher education. Academic credentials, such as degrees and certificates, are shorthand for competence and mastery. “Credentials are proxies for skills and knowledge that are required by employers and symbolic of social status. In this way, they are helpful tools for social organization” (Fairchild and Cragge 2014). A college degree is a signal to the workforce that students have fulfilled the terms of their educational contract: universities provide training and assessment in exchange for completed assignments, exams, and class completion (Happel and Jennings 2008). Employers factor college degrees into their hiring decisions based on the assumption that these signals provide adequate measures of achievement or mastery that students can apply to job tasks. However, a candidate’s resume is not necessarily reflective of what happens in the classroom (Fairchild and Cragge 2014).

Both consumer and credential values impact academic integrity by regarding education as a means to an end. Consumerism favors market-based values over social progress, which means that institutions provide educational services for the purpose of increasing revenue and market share. Like consumerism, the credentialed view emphasizes education as a gatekeeping mechanism or a vehicle for increasing students’ market value. Both perspectives underscore monetary rewards as the ultimate goal of providing or receiving an education. Where institutions ignore or condone academic dishonesty, they send the message to students

that monetary ends are valued over means, effectively de-emphasizing the importance of ethics and honesty in academic work.

Students operating under the credentialed view perceive higher education as a stepping stone to financial and status rewards, instead of an opportunity for learning, and are more likely to condone and engage in cheating behaviors as a means to an end: higher grades and degrees for the purpose of achieving a higher quality of life (Bertram Gallant and Drinan 2006). However, where academic dishonesty is prevalent at an institution, degrees and transcripts are merely signals that a student can cheat without getting caught. Thus, in an academic environment marked by dishonesty, credentials are useless as markers of substantive knowledge (Brown 2001). Increased competition among students – for grades, jobs, and graduate school admission – in tandem with the exaltation of opportunistic values, shifts the focus of students in school from thriving to surviving, encouraging victory in the form of grades and degrees by any means necessary (Bertram Gallant and Drinan 2006).

The consumer model of higher education is one in which “faculty members are seen as providers of customer service and transmitters of industry-relevant skills. Professors are often no longer seen as scholars; rather they are viewed as employees with publications” (Natale and Doran 2012, p. 4). This model may also deter faculty members from reporting incidents of academic dishonesty for fear of damaging student records out of empathy for students who are about to enter a very competitive market (Bertram Gallant and Drinan 2006). The consumer model is based on the belief that “all factors of a student’s educational endeavors are negotiable,” including standards for grades, deadlines, and expectations, which are lowered or altered to please and satisfy student-consumers (Plunkett 2014, p. 1). Following is a discussion of the institutional and subcultural trends that are observable by students on campus and that provide evidence of a growing culture of unethicity.

Microlevel Evidence

While the macroenvironment reflects the more abstract economic paradigms affecting higher education, microlevel factors refer to events, decisions, and behaviors of campus subcultures that are directly observable by students on college campuses. These include the increasing marketization of college admissions, corporate sponsorship and outsourcing, the commercialization of athletics, the role of faculty (including the privatization of the researcher enterprise, faculty-teaching misconduct, and the influx of contingent faculty), as well as the exploitation of graduate students. The examples provided represent only a sampling of the various changes that are occurring on campuses around the country. These increasingly common trends impact student cheating behaviors by signaling to students that compromising integrity is not only acceptable, but in some cases necessary to ensure student success in college and in the future.

College Admissions

The college admissions process is often a student's first encounter with a particular campus culture. Students research institutions by examining campus brochures, websites, and other promotional materials before applying. Prior to the shift to academic capitalism, college promotional materials presented the institutional mission in an informational way, allowing students to make educated decisions based on the academic focus of the institution (Saichaie and Morphew 2014). In 1987, Ernest Boyer conducted a study of university marketing materials from 29 institutions to determine whether the message communicated to prospective students by institutions was consistent with the academic experience. Boyer found that "promotional booklets and brochures are more visually appealing than informative and, if we judged from the pictures, it would be very easy to conclude that about half of all college classes in America are held outside, on a sunny day, by a tree, often close to the water" (1987, p. 14). Though Boyer's study concluded that the material was for the most part ethical, the competitive marketing practices of institutions have gained substantial momentum over the last 30 years.

More recent studies of university marketing practices reveal that institutions often target prospective tuition-paying students with promises of services and extracurricular activities rather than academic quality. Studies have found that viewbooks, websites, and other promotional materials deliver an overwhelmingly homogenous message about the college experience, despite their diverse public missions and goals (Hartley and Morphew 2008; Saichaie and Morphew 2014). These materials consistently depict an experience filled with extracurricular activities, flexible courses tailored to students' individual interests and career paths, all leading up to a valuable credential and a successful future.

Hartley and Morphew (2008) found that through their marketing materials, institutions attempt to communicate to all students that they are special, that their individual needs coincide with the strengths of the institution, and that faculty and staff are always available to serve their academic and nonacademic needs (Saichaie and Morphew 2014). Given the cost of attendance at many four-year institutions and the prevalence of student debt as a result of college attendance, students who make decisions about their education based on exaggerated or unscrupulous marketing efforts of universities may be at a greater disadvantage upon graduating than if they had attended low-cost state or community colleges. Where students choose a particular school based on inflated claims, they are likely to feel misled and to develop a distrustful attitude toward their institution.

For many students, the college admissions process is a first encounter with consumer culture that has direct and serious consequences for their future. The consumer culture is ingrained before applications are submitted, and thus students learn to see themselves as targets of advertising before they are ever socialized as students.

Corporate Sponsorship and Outsourcing

Once enrolled in college, student perceptions of consumer culture are bolstered when they observe the increasing corporate presence on college campuses. Institutions in recent years have turned to corporate sponsorship and outsourcing of university products and services in an effort to cut costs and generate revenue (Slaughter and Rhoades 2004). Outsourcing is the contracting out of services or products to outside suppliers instead of providing the services or products through in-house resources. A form of privatization, university outsourcing usually involves a long-term profit-sharing arrangement with corporations who are adept at performing the task and able to do it at a lower cost than institutions. Campus bookstores are one of the most commonly outsourced operations on college campuses. Companies like Follett and Barnes and Noble offer to purchase university inventory, manage stores at lower labor costs, generate more revenue, and share profits. In addition to campus stores, institutions may outsource food services, janitorial work, security, fundraising, and mail delivery, among other things (Gupta et al. 2005). Though outsourcing has been successful in some areas, like food services, areas more tightly linked to the educational mission, like campus housing, may present threats to institutional values (Kezar 2004).

One issue posed by corporate arrangements is that students on college campuses are captive audiences of corporate advertising. Many modern university campuses are so crowded with fast-food restaurants and chain coffee shops that they have begun to resemble shopping malls. Corporate logos appear on everything from football stadiums to athletic apparel sold at the campus store, and students are all but required to view the ads, eat at the restaurants, and purchase the clothing (Giroux 2005). Commercial arrangements are often made solely on the basis of financial gain for the university, with little regard for how the products or services might impact students when purchased (Giroux 2005).

These trends are evidence that modern institutions operate according to capitalist, profit-driven motives. As a result, students on campus perceive their institutions as comparable to commercial retail companies and hold them to lower ethical standards. Where the administrations who create codes of academic integrity themselves engage in unethical practices, students may view these codes with suspicion as hypocritical and, consequently, optional.

Intercollegiate Athletics

The commercialization of college athletics is neither a new phenomenon, nor a new problem, but one that departed from its educational roots nearly a century ago (Benford 2007):

[College football] is not a student's game as it once was. It is a highly organized commercial enterprise. The athletes who take part in it have come up through years of training; they are commanded by professional coaches; little if any initiative of ordinary play is left to the player. The great matches are highly profitable enterprises. (Savage 1929)

Though the problems are not new, new technologies allow for rampant commercialism of college sports by expanding the market through cable television and streaming Internet (Benford 2007). Between 2005 and 2012 alone, Division I FBS universities increased their funding for athletics by 92 % (the median FBS general fund expenditures for athletics per student were \$11,882 in 2005, compared to \$22,808 in 2012), while these same schools increased their academic spending per student by only 30 % in the same period (Knight Commission 2013). Though college athletics provides nonfinancial benefits to institutions, like reputation and campus spirit, boosts in applications and enrollment are small or short-lived (Desrochers 2013).

The NCAA puts forth ethical guidelines for student-athletes, including appropriate conduct, financial or compensatory award limits, and academic requirements that athletes must meet in order to play (Bertram Gallant et al. 2010). However, ethical breaches by both student-athletes and faculty/coaches/staff have been fairly common in recent years, and scandals have been widely publicized. The most common scandals are those involving faculty and staff-assisted cheating to ensure that student-athletes can meet academic standards to play. Ethical breaches include faculty and staff completing assignments for students to ensure that they meet minimum GPA requirements, coaxing athletes into easy majors and easy courses, and creating special “shadow curricula” for athletes involving phony courses and grades. As recently as October 2014, the New York Times reported that the University of North Carolina had been operating a shadow curriculum for nearly twenty years within the Afro- and African-American Studies department that helped 1,500 athletes at the university meet their GPA requirements to play (Lyll 2014). Both the department’s chairperson and office administrator admitted fault, and an investigation implicated many members of the academic support staff who, in some circumstances, expressly told department staff what grades their students needed in their classes in order to meet NCAA standards.

Finally, institutions both economically and physically exploit their student-athletes (Benford 2007). Student-athletes are promised an education, but encouraged to place practice before academic work, in an environment that condones cheating if it means increased revenues for the institution. Nonathlete students on college campuses watch as their institutions compromise their own integrity and reputation in order to generate revenue through commercial sports and may perceive those actions as institutional endorsement of commercial values over values of truth and integrity. Given the bloated salaries and extravagant perks of many Division I athletic coaches, punishments for those responsible are rarely sufficient to deter recidivism. In the midst of an Ohio State scandal of 2011, when asked whether he might dismiss football coach Jim Tressel, University President Gordon Gee joked that he was “just hoping that the coach doesn’t dismiss me” (Morris 2011).

Gee’s statement, along with his own subsequent departure from Ohio State and other similar dismissals (like that of UNC Chancellor Holden Thorp amidst the most recent scandal), reveals the expendability of high-ranking university officials as compared with athletic staff and reinforces the message to the student body that

revenue-generating athletic programs are more highly valued and enduring than both university leadership and academic matters. Where attending a football tailgate is praised as more culturally relevant than studying for exams, academic work is likely to take a backseat to sporting events. What were once athletic programs to promote educational values are now educational programs to promote athletic competition (Duderstadt 2000; Bertram Gallant and Drinan 2006). Students are socialized into sports culture, which distorts university priorities by rewarding student-athletes with celebrity status, despite acknowledged and very public scandals involving both academic and even criminal violations (Benford 2007). Students who observe their athlete-peers being rewarded for their performance in spite of cheating behaviors are more likely to perceive these behaviors as acceptable, if not encouraged, by the institution.

The Role of Faculty

Faculty members play various roles in the university setting. They are researchers and scientists to their administrations and employers, and they are teachers, advisors, and mentors to their students. The faculty subculture at an institution (comprised of many departmental and disciplinary subcultures) links students directly with the institutional culture. Because all students interact with professors throughout their college attendance, faculty members are the most visible role models for students and play a prominent role in shaping students' attitudes about academic integrity.

Though the academic profession still privileges values of openness and truth (Merton 1973), faculty members do not always act in accordance with ethical norms. Following are three ways in which trends involving faculty members contribute to the deterioration of academic integrity among students: the privatization of research, misconduct in the teaching role, and the influx of contingent faculty in higher education institutions.

Privatization of Research. Robert Merton (1973) articulated the four principles of scientific research: communalism, universalism, disinterestedness, and organized skepticism. These "Mertonian norms" are touted as the primary values undergirding the scientific community. The public good ideology privileges values of openness and truth in faculty research. Faculty members have placed a high premium on research results being authentically represented and are undergoing significant peer review and replication to ensure their truthfulness. This openness has led to discoveries being openly available to the public, which ensures that other people see and respond to research results, rather than hoarding them for profit through patents and licensing.

Since the Bayh-Dole Act was passed in 1980, profits from research have become a considerable source of revenue for institutions and faculty members. Privatization of the research enterprise has led to a move away from openness in research in favor of increased revenues, which bolsters the claim underlying academic capitalism: that knowledge is a *private* good developed for the benefit of industry. This move signals to both faculty and students that the purpose of

knowledge production is to generate revenue and reinforces the credentialed view that education is merely a means to an end.

Much of the research produced for industry does not go through the peer review process to ensure validity and truthfulness. “Philanthropic science,” (Broad 2014) or research funded by wealthy private groups and individuals, operates outside the sphere of governments and peer-reviewed journals. Proponents of philanthropic science argue that privately funded research contributes to scientific progress by creating a market for research and incentivizing scientists to build upon previous work (Murray and Stern 2007). However, demand is not evenly distributed across the scientific spectrum. Opponents of greater industry involvement in academic matters argue that private groups fund studies based on their own interests and issues that are more fashionable, like space travel, arguably at the expense of less trendy but more central topics. “Physics isn’t sexy,” stated White House Science Adviser William H. Press, “but everybody looks at the sky” (Broad 2014). Institutions in the current academic climate encourage a “move to entrepreneurialism: academic leaders provide faculty with incentives to treat their teaching, research and service as commodities to be sold, making profits for the institution, thereby reducing the institution’s responsibility for faculty salaries” (Kezar 2004, p. 439). For example, Sovacool (2008) found that researchers in the biomedical sciences, natural sciences, and engineering make between \$10,000 and \$30,000 more per year than researchers in the humanities and social sciences because of their financial arrangements with research sponsors and universities, including moonlighting through consulting contracts, stock ownership, and patent royalties.

Controversies involving the moonlighting efforts of faculty members usually revolve around conflicts of interest. In 2003, the National Institutes of Health (NIH) and the National Science Foundation (NSF) received some bad publicity after it was revealed that high-level researchers were receiving money for patents and business affiliations with pharmaceutical companies (Sovacool 2008). More recently, the director of the NIH called for an ethics summit as a result of conflicts of interest among top scientists (Willman 2005).

The academic reward structure influences the degree to which faculty abide by norms of openness and truth in scientific research. Institutional emphasis on publications and grant funding has increased so dramatically that only those scientists who conform to entrepreneurial norms will receive the benefits of tenure and promotion. Additionally, with the increasing prevalence of scientific research “teams,” scientists feel more anonymous, feel less reputational pressure, and are more likely to falsify or conceal research results (Sovacool 2008). Graduate students who work in team-like environments are more likely to observe faculty engaging in fraud, plagiarism, and “down-right white collar crime” (Anderson et al. 1994, p. 343). Anderson et al. (1994) found

“that students who have the best opportunities to learn the skills needed to conduct research (by having close, collaborative relationships with faculty and peers) are also those who are most likely to be exposed to forms of behavior that are either contrary to university policy or illegal” (p. 344).

Academic incentives are a barrier to openness in science research, as market-based competition has promoted secrecy of research findings due to fear of theft or perceptions of incompetence. Graduate students and young faculty members are socialized to believe that they must compete for recognition, tenure, and promotion and must therefore demonstrate their independence as researchers in order to succeed (Cohen and Siegel 2005). As a result of extreme competition and isolation, scholars in high-stakes disciplines ultimately battle one another instead of battling the scientific issues (Kumar 2010). Students therefore witness a faculty culture (comprised of presumed role models and mentors) that includes conflicts of interest, cheating, and other unethical behaviors, prompting acceptance of such behavior as commonplace and replicable.

Faculty Misconduct in Teaching. Often overlooked in the literature is the prevalence of faculty misconduct in the teaching role, in both undergraduate and graduate programs. Professors are uniquely visible to students. They provide a direct link to the institutional culture and the external environment. Because they are perceived by students to be agents of the institution and its mission, faculty misconduct in the teaching role is particularly damaging for students. Braxton and Bayer (1999) argue that the academic profession is built on norms, compliance with which is expected in exchange for faculty autonomy and self-regulation of teaching practices. Though normative structures differ between graduate and undergraduate programs, Braxton and Bayer (1999) found seven types of inviolable norms as a result of their empirical analysis of undergraduate faculty disapproval. These include condescension, inattentive planning, moral turpitude relating to sexual misconduct with students or intoxication, particularistic grading, personal disregard or disrespect toward students, uncommunicated course details, and a failure to cooperate with departmental activities relating to teaching (Braxton and Bayer 1999). The extent of faculty disapproval for any one of these norm violations in a particular institution differs depending on the emphasis placed on teaching (whether the institution is a research university, liberal arts college, or two-year college). For instance, though moral turpitude and particularistic grading were condemned universally, uncommunicated course details and personal disregard for students were viewed with less disapproval at research universities than at liberal arts colleges.

Braxton et al. (2002) argue that undergraduate students have the primary responsibility of detecting and reporting faculty wrongdoing. Unfortunately, students have a lower level of disapproval of faculty misconduct than that of the professional community, which may explain why these behaviors go undetected. This suggests that students who are demeaned by their teachers, observe sexually inappropriate behaviors, or are subjected to poorly prepared lectures and materials are conditioned to view these experiences as normal. From a cultural perspective, this evidences a cycle of lowered expectations and fewer role models for students that demonstrate academic integrity.

Contingent Faculty. The culture of an institution is manifested through the behavior of faculty (Bertram Gallant and Drinan 2006). All students have the opportunity to interact with their professors throughout their tenure. Consistent

with the figure above, faculty constitute the most direct and consistent connection for students to the macroenvironment. Because faculty members are the most visible role models for students, they are in a uniquely prominent position to demonstrate the importance of honesty, integrity, and respect for the learning tradition and to counteract the negative cultural influences of academic capitalism. However, due to the rise of contingent faculty hiring practices in recent years, there is less opportunity for faculty members to take on the responsibilities of a role model. Part-time and temporary teaching appointments nullify the potentially positive cultural impact that faculty involvement can have in instilling ethical values in students.

The makeup of the academic profession has undergone massive changes over the last 30 years. Tenure-track faculty members now account for only 30 % of faculty employed at US institutions (Kezar and Maxey 2013a). The remaining 70 % are part-time or full-time non-tenure-track faculty members. Due to efficiency needs and financial necessity, institutions have engaged in what some view as an unethical hiring pattern comprised of a largely contingent faculty (Kezar and Maxey 2013b).

Contingent faculty members often have little to no formal relationships with the institutions at which they teach. They lack office space, making it difficult to hold office hours, advise, or build meaningful relationships with students (Kezar 2004, p. 15). Empirical studies have shown that contingent faculty use less engaging teaching approaches, spend less time preparing for classes, and have little time for advising or office hours (Baldwin and Mywrwinski 2011; Benjamin 2003). Unfortunately, students are more likely to cheat in classes taught by contingent faculty, where they believe it is less likely that their professors will read their work (Park 2003). Studies show that students who take more courses with part-time faculty or are at institutions with large numbers of part-time faculty tend to have lower graduation rates, retention, and transfer from 2-year to 4-year institutions (Kezar and Sam 2010). Various negative outcomes are associated with the significant growth of part-time and contingent faculty employment (Ehrenberg and Zhang 2005; Jacoby 2006; Gross and Goldhaber 2009; Kezar and Maxey 2015).

Though student tenure in college is by nature transitory, in some instances, students are more permanent fixtures at institutions than many contingent faculty members. For this reason, students may have little interest in developing long-term relationships with professors who are not guaranteed to return the following semester. Further, the student-as-consumer culture requires that “colleges and universities cater to the desires of the individual (short-sighted though they may be), thereby further displacing faculty authority” (Gumport 2000, p. 81). Consumer culture on college campuses shifts the power dynamic from teacher to student, reinforcing students’ belief that it is the responsibility of teachers to entertain and make material interesting, and the resulting view that poor performance and academic dishonesty are a direct result of the teacher’s failure.

Further, the overall trend in academe of hiring contingent faculty undermines the traditions of shared governance and academic freedom in the academic profession. Faculty who have little affiliation with their institutions are not represented in their departments, have little voice in curricular matters, and have no job security. These

arrangements are damaging to the fabric of the academic community and provide another example for students of the institution's desire to cut costs at the expense of academic values and student learning. Ultimately, regardless of the skill and concern demonstrated by non-tenure-track faculty members, due to their contingent employment and loose ties to their institutions, it is unlikely that they will truly impact campus cultures in a positive way.

In sum, students receive less attention to their coursework from faculty and less adherence to or enforcement of policies and have fewer lasting role models of integrity. The widespread move to transactional approaches to learning is inconsistent with broader learning goals. The resulting breakdown of the academic profession means that faculty members fail to communicate a holistic view of learning, and ethics is disregarded in the overarching curriculum. Further, the use of contingent faculty members at the expense of student learning may bolster student perceptions of their institutions as commercial enterprises, who are unconcerned with academic values and integrity.

Graduate Student Exploitation

Related to faculty integrity, the use of graduate students in scientific research is problematic in light of increasing industry-funded research. Graduate students are intelligent, inexpensive, and valuable sources of labor, especially in departments like the hard sciences that work closely with industry (Mendoza 2007). For this reason, they not only become targets of exploitation, but they are particularly susceptible to changing values in the academic culture. Graduate students are socialized into the academic profession through their disciplinary culture and primarily their advisors and mentors who are bound to account to industry sponsors for their findings. Young scholars observe and internalize the behavioral and professional norms exhibited by their professors and faculty advisors, in turn inheriting the values they perceive to be operating in the research process. Academic dishonesty among faculty members is thus problematic given that their graduate students who go on to academic careers contribute to reshaping the culture of the discipline, further solidifying the commercial values instilled in them by their faculty advisors.

The possibility for profit in academic research can create serious conflicts of interest between the university and the public (Slaughter et al. 2002). As Mertonian norms are gradually overshadowed by commercial prospects, the role of graduate students in science has become more closely aligned with the interests of industry than with the search for truth. Graduate students are often viewed as employees, who conduct research in line with those who are more likely to offer jobs and fund future projects (Sovacool 2008). Rhoades and Rhoads (2003) found that graduate students are increasingly forming and joining unions because of "what universities are doing to their own students, by way of what they see as exploitation, in the interests, not of students, either undergraduate or graduate, but of the institution" (Rhoads and Rhoades 2005, p. 247). They argue that graduate student unions reflect

a significant change in the academic culture from the public good to commercial interests. In many cases, graduate students are not just cheap labor, but “free” (p. 297) when their research stipends are paid by federal taxpayers. When those students work on private sector projects with faculty members, the federal government is essentially subsidizing professors’ profits.

Because graduate students’ perceptions of the research community are inherited from the previous generation of scholars, the commercial values held by current faculty researchers may ultimately reproduce themselves (Gumport 2005). According to Gumport (2005), graduate students involved in industry-sponsored projects are unlikely to think about societal problems that do not result in profits. Thus, graduate students are likely to encounter the same ethical quandaries as established researchers in their field and are more likely to embody and reproduce those commercial values upon entering the academic profession.

Conclusion

Students are surrounded by instances of compromised integrity on campus. These and other examples of dishonesty and profit seeking are likely to impact student perceptions of the value and purpose of their college education. Given that degree-granting institutions so publicly engage in exploitation and corruption and praise dollars over truth and fairness, how are students supposed to distinguish between rules to break and rules to follow?

Though many institutions have attempted to address cheating behaviors of students, these attempts have done little to curb academic dishonesty. Bertram Gallant and Drinan (2006) suggest that the reason for this is the disproportionate focus on the individual student as the underlying cause of cheating. They argue that many past research studies ignore the larger organizational factors such as “structures, systems, relationships, and governance” (p. 841) that might impact student cheating behaviors. McCabe and Trevino (1997) found that contextual factors were more influential on students’ decisions to cheat than individual characteristics like age, gender, and GPA. These contextual factors include membership in a fraternity or sorority, peer behavior, and peer disapproval. Students reported that they were more likely to cheat when they perceived higher levels of cheating among their peers (p. 391). Thus, the culture created at universities can have a large impact on the prevalence of academic dishonesty. However, few scholars have examined the broader forces that shape student culture, such as the implicit ways that commercial actions and aspects of institutional culture perpetuate student perceptions of cheating. Instead, researchers tend to focus on micro-interactions within student activities and between peers.

This chapter aimed to fill this gap in understanding by looking at broader cultural forces within campuses. Meaningful solutions to the problem of widespread cheating must address the institutional culture – including the actions of presidents, boards, faculty, staff, and athletic departments – not just student culture, as well as move beyond individual sanctions. Bertram Gallant and Drinan (2006) propose that

cheating behaviors should be addressed from an organizational lens, where change can occur more systemically. Among the recommendations, they suggest that institutions must acknowledge cheating as corruption and avoid explanations of cheating as isolated incidents of unethical students. Institutions must take responsibility for the ways in which the organizational structure and practice might contribute to the problem of academic dishonesty. Additionally, those authors argue that institutional leaders must take continuous action by reinforcing the values of integrity at the heart of the educational mission. This reinforcement elevates the level of urgency of the problem, reducing the tendency to ignore or overlook and “minimizing the space in which corruption can fester” (p. 853). Leadership is important in combating the problem of academic dishonesty because institutional change requires reflection on institutional practices and a willingness to take reputational risks (Kezar 2013). Instead of disregard and secrecy, these problems must be diagnosed and treated publicly in order to change the structures that support academic dishonesty. At the national level, accrediting bodies should track and record the results of academic integrity issues, and at the local level, institutions should be transparent about their own academic integrity assessments (Bertram Gallant and Drinan 2006). The goal in this chapter has been to shed light on those areas within the institutional culture that can be addressed and to provide direction for campuses willing to engage in self-reflection. It would be insincere to expect students to act with integrity at an institution that supports cheating among student athletes, hires contingent faculty who are unable to uphold ethical standards or promote ethical behavior, allow faculty to cheat and plagiarize without significant consequence, and emphasize the commercial aspects of the enterprise over student learning. It is imperative that leaders are made aware of potential risks to integrity as a result of commercialization and consumer trends that they may not have considered, as well as the ways that the institutional culture may impact students’ academic conduct.

Summary

Commercialization of higher education is a symptom of the widespread shift to an academic capitalist regime across US colleges and universities, wherein institutions exhibit increasingly market-like behaviors, and the public good mission takes a backseat to revenues and market share. Cheating among college students has increased alongside these capitalist trends, causing many scholars to question the role of institutions in matters of academic dishonesty. This chapter uses culture as a theoretical framework to provide some examples of the ways that the macro shifts to an academic capitalist environment have created a culture of growing unethicality on college campuses which signals to students that unethical behavior is “okay.”

Culture is a valuable theoretical framework for demonstrating the impact of the academic capitalist (macro) environment on college campuses and how it affects the assumptions on which students’ individual decisions – that may increasingly

lack integrity – are shaped. Students model the behavior of valued others – faculty, staff, and peers – about appropriate ways to act, which informally become a part of their consciousness through the institutional culture in which they are embedded. This chapter captures how the macroenvironment infiltrates college campuses; is communicated to the members of the institutional culture, faculty, staff, and students; becomes embedded in the basic assumptions of students; and manifests as unethical behavior.

While the macroenvironment reflects the more abstract economic paradigms affecting higher education, microlevel factors refer to events, decisions, and behaviors of campus subcultures that are directly observable by students on college campuses. These include the increasing marketization of college admissions, corporate sponsorship and outsourcing, the commercialization of athletics, the role of faculty (including the privatization of the researcher enterprise, faculty-teaching misconduct, and the influx of contingent faculty), as well as the exploitation of graduate students. The examples provided represent only a sampling of the various changes that are occurring on campuses around the country. These increasingly common trends impact student cheating behaviors by signaling to students that compromising integrity is not only acceptable, but in some cases necessary to ensure student success in college and in the future.

The culture created at universities can have a large impact on the prevalence of academic dishonesty. However, few scholars have examined the broader forces that shape student culture, such as the implicit ways that commercial actions and aspects of institutional culture perpetuate student perceptions of cheating. This chapter aims to fill this gap in understanding by looking at broader cultural forces on college campuses. Meaningful solutions to the problem of widespread cheating must address the institutional culture – including the actions of presidents, boards, faculty, staff, and athletic departments – not just student culture, as well as move beyond individual sanctions. University leaders must consider the potential risks to academic integrity that result from commercialization and consumer trends, as well as the ways that the institutional culture may impact students' academic conduct.

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Strategic Internationalization in Higher Education: Contexts, Organizations, and Implications for Academic Integrity

25

Brian L. Heuser, Allie E. Martindale, and David J. Lazo

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Abstract

National and institutional priorities for internationalization in higher education often greatly shape the context for academic integrity. To be sure, tertiary internationalization itself does not cause academic corruption, but it does significantly expand the possibilities for how different forms of fraud and corruption can be exchanged within and between institutions and systems. Such possibilities also expand the range of options for individual actors to leverage weaknesses in other systems for their own unscrupulous benefit. In the same ways that globalization has expanded possibilities for economic development, internationalization brings with it dramatically enhanced educational opportunities. And as with the different systems of financial globalization, where higher education systems are underdeveloped, the propensity for corrupt practices in academia greatly increases, often because of the lack of regulatory and

B.L. Heuser (✉) • A.E. Martindale • D.J. Lazo
Department of Leadership, Policy and Organizations, Peabody College, Vanderbilt University,
Nashville, TN, USA
e-mail: brian.l.heuser@vanderbilt.edu; allie.martindale@vanderbilt.edu;
david.j.lazo@vanderbilt.edu

compliance mechanisms at the institutional or systemic levels. Furthermore, significant differences in social and academic norms pose additional challenges related to the interpretation and practice of academic integrity. At the same time, it is possible that isomorphic pressures exerted by more secure and accountable systems can, over time, help to bring about much needed institutional reforms to safeguard academic integrity.

“Virtue, then, being of two kinds, intellectual and moral, intellectual virtue in the main owes both its birth and its growth to teaching (for which reason it requires experience and time), while moral virtue comes about as a result of habit, whence also its name (ethike) is one that is formed by a slight variation from the word ethos (habit).”

– Aristotle, *Nicomachean Ethics, Book II* (350 BCE, Athens, Greece)

“Virtue is harder to be got than knowledge of the world: and, if lost in a young man, is seldom recovered.”

– John Locke, *Some Thoughts Concerning Education* (1693 CE, London, England)

“A virtue is an acquired human quality the possession and exercise of which tends to enable us to achieve those goods which are internal to practices and the lack of which effectively prevents us from achieving any such goods.”

– Alasdair MacIntyre, *After Virtue: A Study in Moral Theology*, First Edition (1981 CE, Boston, United States)

Introduction

The massive and relatively rapid global expansion of higher education systems over the past three decades has brought with it unprecedented opportunities and challenges (Baker, 2014; British Council, 2012; OECD, 2009; Shofer & Meyer, 2005; The World Bank, 2002). Diversification in both the supply of tertiary education and the necessary qualifications to enter postsecondary institutions, coupled with significantly expanded student and parental choice, has produced a truly global higher education marketplace (OECD, 1997, 2009; The World Bank, 1994, 2000). The accompanying internationalization of higher education institutions has been both a consequence of that expansion and a catalyst for its continuation and, much like globalization itself, is replete with ongoing possibilities and threats (Altbach & Knight, 2007; Altbach, Riesburg, & Rumbley, 2009). Among the most significant of these threats are those forces that challenge the broad, fundamental values of academic integrity within tertiary institutions and systems: honesty, trust, fairness, respect, and responsibility (ICAI, 2013). This chapter is primarily concerned about the corruption of these principles, in addition to other compromises to the public trust (namely, equity and quality), as a consequence of internationalization of higher education. But it is also interested in the promising work of many international organizations in advancing these standards alongside of global shifts and expansions.

The Globalized Context and Domains of Internationalization

Internationalization of higher education generally represents the intentional, systematic process of aligning core institutional purposes with international objectives and activities. This process can involve leveraging existing capabilities or creating new ones, or some combination of the two. It is strongly related to “globalization” of higher education in that many dimensions of tertiary internationalization either foster the global expansion of higher education or have arisen in response to that expansion. Internationalization often involves both domestic and abroad-based elements and stakeholders including students, faculty, administrators, research, curriculum, facilities, and programs. Internationalization strategies can emerge from a centralized set of macro-institutional priorities or as a result of natural demands that arise from different departments or offices within a college, university, or tertiary system. The primary – albeit overlapping – domains of tertiary internationalization generally include:

- Cross-border student mobility: study abroad (including language training), student exchanges, student research abroad, and internships abroad;
- Cross-border faculty mobility: visiting professorships, faculty exchanges, research project collaborations, expert consultants, and guest lectures;
- University partnerships: research collaborations, grant collaborations, program collaborations, knowledge sharing/transfer (libraries, archives, databases, laboratories), patent development and commercialization, faculty exchanges, student exchanges, and faculty and staff development;
- Expansion of institutional programs and influence through offshore branch/satellite campuses;
- International training and development programs to build capacity in other countries (e.g., global health, education, public policy/administration, law);
- Engagement with/membership in international education organizations (e.g., IIE, UNESCO, NASFA, CIES, IAEA);
- Hosting international academic conferences;
- Domestic-based foreign language preparation/training;
- Domestic-based international studies programs;
- Domestic-based work with international populations (e.g., immigrants, refugees, IDPs, etc.); and
- Supporting international scholarship opportunities (e.g., Fulbright, Boren, Marshall, Rhodes, Critical Language Scholarships).

The costs and benefits of pursuing some of these areas of internationalization over others are often difficult to empirically assess. Institutional (or national) strategies typically drive the development of internationalization agendas, programs, and initiatives (Altbach et al., 2009). However, due largely to the lack of good institutional data on investment returns for different forms of international activities, discerning the elements of an appropriate institutional strategy of internationalization can be almost overwhelming. Even so, the prioritization of tertiary

internationalization continues to rise on every continent. Engaging with the world through higher education is now considered to contribute greatly to building a quality education system and to what it means to become a world-class institution (Heyneman, 2014; International Association of Universities [IAU], 2012).

While developing countries have much to gain from internationalizing their tertiary systems, they are also considered to be at the greatest risk for exacerbating educational corruption, brain drain, and institutional exploitation (Chapman, 2002; World Bank, 2002). Conversely, systemic corruption present in these countries can also be spread to more developed systems when adequate accountability mechanisms are not in place (Heyneman, 2014). Depending on the particular organizational forms and the motivations underlying program and policy development, internationalization activities have the potential to advance the performance and standing of institutions in both developed and developing countries. Strategic, judicious alignment of priorities for internationalization with legitimated practices has much to do with how concerns for quality and integrity are embedded in the organizational environment (Eckstein, 2003; Gnanam, 2008; Heuser & Drake, 2011).

For all of the opportunities that internationalization offers, serious threats to the core purposes and values of higher education also exist, many of which are played out in higher relief as international participation increases. The worldwide commercialization and commodification of education and academic services – though highly subjective constructs – are legitimate concerns of many faculty, administrators, and policy makers (Altbach et al., 2009; Heuser & Drake, 2011; Knight, 2006; Mohrman, Wanhua, & Baker, 2008; Slaughter & Leslie, 1997; Varia, 2004). Neoliberal logic and policies have certainly imbued academe and there is an increasing pressure to monetize every aspect of higher education, from academic research to the student experience. These issues are salient enough to be listed as the primary “potential societal risks of internationalization” by tertiary institutions in North America, Europe, and Asia Pacific, according to the most recent International Association of Universities (IAU) Global Survey (Egron-Polak & Hudson, 2014, pp. 64). Some of the greatest threats to academic integrity present themselves most prominently in this realm – the potential to entirely corrupt the value of the educational process and creation of capabilities – replacing a system of merit and achievement with one that is merely transactional in nature.

The Central Roles of International Organizations

International organizations (IOs) serve vital, multidimensional functions in globalizing and internationalizing higher education. The Organisation for Economic Co-operation and Development (OECD); World Bank (WB); World Trade Organization (WTO); International Labour Organization (ILO); European Union (EU); European Council (EC); British Council (BC); International Association of Universities (IAU); Institute for International Education (IIE); International Organization for Standardization (ISO); United Nations Educational, Scientific, and Cultural Organization (UNESCO); and regional development banks have all been

key actors in the formulation and dissemination of higher education policies, practices, programs, standards, and evaluations (Basset & Maldonado-Maldonado, 2009; Huisman, 2009; Jones, 2010; Sakamoto & Chapman, 2011; Shahjahan, 2012). Through a broad spectrum of activities including higher education financing practices (and the institutional requirements that often accompany borrowing and lending), policy formulation, governance capacitation, cross-national collaboration, quality assurance evaluation, and the development of regulatory frameworks, IOs have significantly influenced the institutional adoption of accepted standards and best practices.

While some scholars continue to debate whether such involvement in higher education systems fosters hegemonic power asymmetries or beneficent development practices, there is far more agreement that the significant attention that has been afforded to the role of higher education in creating human and knowledge capital has produced measurable institutional isomorphism (Baker, 2014; DiMaggio & Powell, 1983; Rakic, 2001; Shofer & Meyer, 2005; Varia, 2004). In putting forward a new model for understanding organizational change in higher education, Varia (2004) cogently delineates the isomorphic forces that have been exerted on many higher education systems through internationalization:

Higher education institutions thus are facing growing institutional pressures from their field to incorporate the new legitimated and legitimating criterions. The push toward their incorporation is expressing in growing normative and mimetic institutional pressures produced by the agency of institutional carriers... that are evident in higher education policy change and restructuring. (p. 491)

Leaving aside the multitude of specific mechanisms through which such pressures are exerted, it is nonetheless important to recognize that both formal and informal processes serve to advance the adoption of normative structures and practices (Baker, 2014; DiMaggio & Powell, 1983; Meyer & Rowan, 1977). For present purposes, it is less important whether these forces are “coercive” or “mimetic” as this work is primarily concerned with the actual transfer of legitimate (and ethical) criterion between organizations, rather than how this was precisely achieved.

Within this complex, multi-stakeholder context, the research on and dissemination of knowledge about academic integrity in higher education has involved other key organizations, many of which are international nongovernmental organizations (INGOs). Coordinating their activities with national agencies when possible and often dovetailing their efforts with the activities of multilateral IOs (especially the International Institute for Educational Planning (IIEP) of UNESCO), these organizations have sought to increase global awareness of educational corruption and institutionalize best practices in academic integrity. These central actors have included:

- The International Center for Academic Integrity: <http://www.academicintegrity.org/icai/home.php>

- The Center for International Higher Education at Boston College: <https://www.bc.edu/research/cihe/ihe.html>
- The Education Support Program (ESP) of the Open Society Foundations: <http://www.opensocietyfoundations.org/about/programs/education-support-program>
- The Education Division and Anti-Corruption Research Network of Transparency International (TI): <http://www.transparency.org/topic/detail/education>
- The International Development Division (IDD) and Transparency Education Network (TEN) of the Education Development Center (EDC): <http://idd.edc.org/>
- The Magna Charta Observatory of Fundamental University Values and Rights: <http://www.magna-charta.org/>
- The International Association of Academic Integrity Conferences (IAAIC): <http://www.iaaic.org/>
- The Quality of Governance Institute (QOG) and Pozan Declaration at the University of Gothenburg: <http://www.qog.pol.gu.se/>
- The International Association of Universities' Working Group on Ethics in Higher Education: <http://www.iau-aiu.net/content/ethics-higher-education>

In addition to the work of these organizations, the establishment of National Qualifications Framework (NQF), National Quality Assurance (NQA) mechanisms, regional and international QA agencies, transnational QA agreements, and better monitoring and evaluation tools have gradually created new standards for institutional quality and accountability (Alexander, 2000; Gnanam, 2008; Heuser & Drake, 2011). Substantive parts of this ongoing work have included the creation of standards for academic and research integrity, the establishment of institutional codes of conduct for both faculty and students, the expansion of accountability mechanisms, and encouraging more comparative/international research on education corruption and academic integrity. As a consequence of the increased awareness of educational corruption issues over the past two decades, there are many reasons to be optimistic that academic and institutional integrity are becoming normative standards for higher education. Unfortunately, there is also a dearth of generalizable, empirical data on the specific effects of this integrity work, but hopefully future collaborations between stakeholder organizations will make such assessments a priority.

Motivations and Realities of Internationalization

The reasons higher education institutions participate in internationalization are as varied as the academic programs and initiatives they support. Motivators can include, but are not limited to, a desire to enhance institutional and/or national prestige, educate global citizens, build research capacity, develop and attract a workforce with multicultural competencies, generate revenue from international student fees, benefit from trade in education services, diversify academic community, improve student preparedness for the world, or provide an avenue for

influence in another country (Altbach, 2005; Heyneman, 2014; IAU, 2012; Henard et al., 2012).

The reasons countries may wish to engage in internationalization can – and often do – differ from the reasons a given institution may seek to engage. Sometimes institutions and governments are able to synchronize these motivations and other times their positions conflict. As a result, there may be incongruent national and institutional policies in place that hinder participation by either party in the internationalization enterprise. For example, institutions may be interested in enhancing revenue by enrolling full-paying international students, but a country may simultaneously implement harsher visa and immigration laws that hinder student mobility and access (e.g., The United States' post-9/11). Likewise, a country may desire to exercise influence or soft power in another country by creating state-funded student exchange opportunities, but institutions are underprepared or ill-equipped to create beneficial student experiences. Instead of facilitating a bridge between cultures and nations, these divergent positions can create more of a gap, potentially undermining the goals of the state and wasting public funds. The OECD has called for governments to address these challenges by ensuring that national strategies for internationalization are aligned with country-specific goals for human capital development, domestic labor plans, and science and technology research (OECD, 2012, p. 37). Aligning national and institutional goals allows for a more strategic approach in the recruitment of international students, conducting cross-national research, developing cross-border education partnerships, and implementing successful retention policies for international students.

The International Association of Universities (IAU), a UNESCO-based international consortium of tertiary institutions, has been conducting their Global Survey of higher education institutions since 2003, administering it that year and also in 2005, 2010, and 2014. Their most recent study included responses from more than 1300 tertiary institutions with excellent representation from every continent. Significantly, 53 % of institutions responded that they have an established strategic internationalization policy; 22 % said that they are actively preparing one, and 16 % stated that internationalization is embedded as part of a larger institutional strategy (Egroun-Polak & Hudson, 2014, p. 43).

More specifically, these institutions ranked “outgoing mobility opportunities for students” as the single most important institutional-level priority for internationalization for the past two survey cycles, with 29 % of institutions reporting this in the aggregate (Egroun-Polak & Hudson, 2014, p. 78). In their 2014 results, a close second motivation was “international research collaboration” (24 %), followed by “strengthening international/intercultural content of curriculum” (14 %) (Ibid). Cross-border student mobility expressed itself in two other categories as well (though not very significantly) with international student exchanges and the recruitment of international undergraduate and postgraduate students.

While IAU's data is immensely helpful for some kinds of policy and institutional analysis, it almost certainly creates an incomplete picture of internationalization. First, there is significant ambiguity regarding who is responsible for steering internationalization decisions at an institutional or national level. The perception

among institutional insiders is that the head of the institution, international office, and faculty (in rank order of role and importance) are internally responsible for driving internationalization practices, whereas when considering external drivers, government policy was ranked as the most influential factor in dictating internationalization decisions, followed by business and industry, and then national and international rankings (Egron-Polak & Hudson, 2014). Like all strategic decision-making, priorities for internationalization are determined by a multitude of stakeholders at various levels, but the IAU results are much too one-dimensional in this regard.

Additionally, while the IAU has tracked and reported out their data by geographic region (which is certainly useful), it is nonetheless difficult (if not impossible) to discern how these priorities and activities map onto different higher education sectors. Specifically, much more analysis is needed at the level of institutional type. Additionally, there is also good reason to doubt that the IAU's survey is accurately capturing the underlying motivations behind much of internationalization activity. Increasing and diversifying revenue generation, which largely derives from international fee-paying students, was ranked ninth globally (last place in their named categories) for the top benefits of globalization (Egron-Polak & Hudson, 2014, p. 50). Despite the overwhelming financial benefit accruing from full-paying foreign students (Ruiz, 2014), colleges and universities still report that income is a minor motivation. Even the IAU has noted this finding as "surprising," going so far as to suggest the possibility that HEIs may have "offered a politically correct answer to this question rather than indicating that revenue might be a driving force of internationalization" (Egron-Polak & Hudson, 2014, pp. 51, 52). Such issues are of present concern because of the potential impacts that ulterior motivations can have on academic integrity.

The Rising Use of Tertiary Education "Agents"

The burgeoning global demand for *access* to higher education has created unprecedented opportunities and liabilities for colleges and universities and the systems that govern and accredit them. No longer is it merely institutions in Australia, Canada, the United Kingdom, and the United States that are working to attract foreign students. Universities in East and Southeast Asia are creating and bolstering their own English-language programs to meet the demand for higher education as well as promote the value of university degrees in a diversified higher education marketplace. In this context, education "agents" have emerged as a way in which tertiary institutions can be represented internationally, fusing local resources through language and culture as resources for recruitment. The current academic literature surrounding academic fraud and corruption barely addresses the reality of third-party individuals and companies, specifically agents and agencies, in the recruitment of prospective students for university admissions. This opacity is likely due to the difficulties of tracking such data, compounded with an institutional reluctance to disclose the extent of the utilization of such services. Despite a federal

law prohibiting the use of recruitment agents to recruit per capita in the United States by institutions receiving federal funding, Australian, Canadian, and British universities are cited as using agents more frequently in recruitment efforts (West & Addington, 2014).

Increasingly universities in the United States are considering the role and potential advantage that such agents may have on recruitment efforts in lucrative marketplaces, such as China where demand for domestic versions of higher education is oversubscribed and where there is a premium on a degree from an American university (it is important to note the emphasis on the credential, not the academic/intellectual experience or access to alumni network that could distinguish consumers in developed versus developing economies, or perhaps a major distinction between Western and non-Western forms of higher education). In a recent survey of admissions deans and directors spearheaded by the *Chronicle of Higher Education* (2014), 40 % of respondents indicated that international markets were important as a strategy to increase revenue. It is no secret that as demographics change within the college-aged population in the United States, some institutions are increasingly exploring how international students can help offset the financial shortfalls in domestic enrollment (Selingo, 2014). Incentive-based recruitment helps fulfill a role in which an institution can represent itself through a third party, in some instances at a fraction of the cost of sending a US-based university official. The very nature of incentive-based recruiting is yet another systematic opportunity for fraud across borders. Ironically the use of a third party whose incentives may not align with the university (or even directly conflict or undermine it) constitutes a significant gamble on the projected value of the degree they are outsourcing. Unlike the state and federal laws that prohibit such practices against students in the United States, international applicants have no such protection. In fact, the idea of being paid per head for student applications invites corruption through falsification of the composition of entrance essays, letters of recommendations, and even full applications (Vincent-Lacrin, 2013).

Presently, tertiary institutions in the United States are loosely bound to a set of agreed-upon practices and those practices faced a major crisis in 2012 and 2013. The disagreement among institutions in favor of using agents versus those adamantly against the practice in recruiting international students came to head in 2013 at the National Association for College Admission Counseling (NACAC) conference where the practice was directly called into question. The Association concluded that while it did not condone the use of incentive-based international recruitment, it would provide a statement of good practice surrounding the practice of incentive-based recruitment (<http://www.nacacnet.org/media-center/PressRoom/2013/Pages/NACAC-Assembly-Approves-New-Policy-for-Recruiting-International-Students.aspx>). Highlighting the speed at which internationalization of higher education is occurring, the statement mirrored the Call for Action from the International Association of Universities (IAU) where the IAU calls for members alongside its member organizations for a statement of best practices (International Association of Universities, 2012). Unfortunately, other than a prescriptive best

practice guide to using agents in recruiting foreign students, there exists no major force for accountability for members who are found in noncompliance of the best practice other than dismissal from the professional organization.

A similar disagreement has been brewing for years between the American International Recruitment Council (AIRC) and the US Department of State (DOS). AIRC has been a major player in establishing best practices and industry-based standards for recruiting of international students since 2008. However, as US federal financial aid law currently prohibits the recruiting of US students using paid agents, in 2009 the State Department began specifically prohibiting the use of agents for recruiting international students (Fisher, 2012). Offering what they titled *Policy Guidance for Education USA Centers on Commercial Recruitment Agents*, DOS's Education and Cultural Affairs decided to "require all Center Advisers to refrain from partnering with commercial recruitment agents who have contracts to represent specific U.S. universities, as a condition for receiving ECA support" (US DOS, 2009). AIRC decried this policy, arguing that the Department of State has superseded its authority, but the policy remains intact.

To be sure, there are inherent risks in using individual agents (or third-party agencies) in recruiting international students for tertiary institutions that move far beyond the players who are immediately involved in these transactions. In fact, stories about admissions officials taking bribes, while seemingly uncommon, still exist with some frequency. The use of agents may simplify some aspects of recruitment on the institutional side, but it further complicates the information channels that families and prospective students use. From the perspective of the consumer, it is assumed that the recruiter representing the university is the official representative. There are no international recognizable certifications for university admissions officers known to the public at large, and there is a great deal of trust that the institution expects upon its consumers, increasingly many of whom are new to the marketplace.

In addition to this already complicated "system" are (1) the varied methods through which American universities practice admissions to their programs, (2) the relatively few mechanisms for quality assurance of the credentials flowing into the country, and (3) a curtain of secrecy protecting how those credentials are scrutinized at the institutional level, and it is easy to see that without more partnered responses among institutions to tackle issues surrounding fraud, international organizations will be limited in stemming fraud on a large scale. At the same time, enacting simple steps such as creating unified processes to verify credentials – such as QualSearch in Australia or Experian in the United Kingdom – not only is helpful to administrators but also allows parties to easily verify whether credentials are valid in the country which they were received (Hallak and Poisson, 2007). These nationally maintained databases can protect the integrity of higher education credentials as institutions enter the international marketplace and serve as global resource through which cross-national efforts can be launched to combat widespread fraud. Consumers and institutions that choose to not utilize an agent (or agency) are equally protected from possibility of being party to admissions fraud.

Global Degree Mills and the Continued Threat of Fraudulent Admissions Credentials

The whole system is rendered meaningless when the school system fails to instruct the young to fulfill society's requirements, exams fail to select the best according to stated criteria, and certificates and diplomas fail to record the true quality and accomplishments of students. (Eckstein, 2003, p. 73)

"Diploma mills" are certainly not new phenomena and neither is the threat of their global detriment. In fact, the US Senate first became concerned about the falsification of domestic medical credentials in the early 1920s, and its Subcommittee on Education and Labor held hearings on diploma mills in January of 1924 (US Senate, 1924). Interestingly, one of the Senate's seven major concerns was the standing of the US medical profession and whether it had been "injured in other countries by the action[s] of such self-styled medical institutions and 'diploma mills'" (US Senate, section D, p. 1). The Senators' other concerns centered around the possibilities that (a) the public health of US citizens was being placed in jeopardy, (b) the US Government might have been employing physicians with falsified credentials, (c) the issuance of medical degrees was being done without the recipients having the necessary capabilities to act as competent doctors, and (d) the US mail, as a primary distribution mechanism, was being used "for purposes of fraud in connection with the sale of degrees or diplomas" (US Senate, p. 1). Today, the same basic domains of concern – the standing of a country's educational system, protecting the public welfare, integrity of governance, quality assurance, and the use of technology for delivery – are little changed.

According to some estimates, there are more than 3000 "unrecognized universities worldwide, many of them outright fakes, selling bachelor's, master's, doctorates, law and medical degrees to anyone willing to pay the price" (Ezell & Bear, 2012, p. 9). While there are numerous definitions of diploma mills and identifying them can often be challenging (Council for Higher Education Accreditation [CHEA], 2003), they nonetheless share certain key characteristics: (1) they allow (even encourage) the purchasing of credentials without the necessary work product or achievement of qualifications; (2) they are not legitimately accredited as degree-granting institutions; (3) they falsely claim to be accredited, often by using names and affiliations that are similar to actual legitimate institutions; and (4) they usually operate with some degree of secrecy and anonymity (CHEA, 2003; Eckstein, 2003; Knight, 2006). The advent of the Internet has enabled diploma mills to expand and *virtually* locate themselves in nearly any country. These entities constitute a broad threat to the integrity of national systems of higher education and to the international labor market.

A higher education diploma represents the attainment of specific qualifications and the joining of a potentially durable network of individuals who are bound by a common educational experience. Eckstein (2003) compares the value of a tertiary degree to that of a tight-knit community where a personal recommendation can serve as a form of credentialing or vouching for the capacities and qualities of an

individual. In an era of increasingly globalized access to higher education, diplomas and other educational credentials are a form of currency that one can exchange for access into more specialized, thus a better remunerated job market (Van Damme, 2001). As developed economies demand more specialization in their labor markets, certain degrees carry more value based on name, field, prestige, and expertise, and the overall demand for all degrees has hugely increased. Collegiate alumni networks are invaluable because there is a shared understanding and value placed upon the experience the degree represents and there is little need to investigate what type of skills the prospective applicant might have. Such value is largely implied through the degree that the applicant holds. Similarly, essential credentials provide a common certification for individuals, a gateway for social advancement, and a passport to increased global mobility. Thus, mirroring the effect of fraudulent degrees, false credentials and the companies that falsify them represent a major threat to the value – perceived and actual – the public places on the institution awarding the degree (Stewart & Spille, 1988). Moreover, as access to affordable, quality higher education continues to be constrained, one of the greatest threats of the proliferation of online diploma mills involves the potential of truncated access for legitimate, quality distance education (Piña, 2010).

As the consumer base for higher education expands and access to world-class universities has become a prized commodity, the value of robust tertiary admissions credentials has also grown in value. Increasingly, high-value credentials, such as high school transcripts, strong results for college entrance exams, high TOEFL scores, college admissions essays, etc., are increasingly prone to fraud. Eckstein's work (2003) details numerous ways that college entrance exams have been corrupted, including test questions being leaked before tests are administered; papers opened ahead of time, copied, and sold; test takers hiring an impersonator; candidates smuggling unauthorized information into the examination room; candidates sharing answers during the test; candidates obtaining information from outside the examination room; misconduct occurring during grading and reporting grades or marks; and/or certificates and diplomas being blatantly falsified. Entrance exam fraud is a clear example of how internationalization has provided the benefit of access to those who are willing to cheat the system while simultaneously presenting additional challenges for international academic integrity. The systemic failures that fraudulent qualification documents can have on the system as a whole are fundamentally destabilizing (Eckstein, 2003), and there is real risk that systems will choose overprotective policies that hinder the mobility of quality labor (Van Damme, 2001).

It is important to note that cultural influences and expectations often present real challenges to discerning and combatting educational corruption. For example, China is often cited as a country where fraud in education is widespread and non-apologetic. The notion of *guanxi*, or one's network, disincentivizes whistleblowers from speaking out against fraud and incentivizes others to commit fraud (Ren, 2012). Particular situations often morph in different cultural settings, and the benefits of a diversified international higher education landscape beg a deeper understanding of fraud and corruption through a cultural lens

(Hallak & Poisson, 2007). The effects of *guanxi*, Ren (2012) argues, must be understood as it relates to fraud in offering solutions that may be specific to the Chinese cultural context. While an awareness of such cultural phenomena is helpful for contextualizing the threats of educational fraud, it is also the duty of higher institutions to clearly define, communicate, and enforce basic tenants of integrity in admissions and credentialing.

Finally, while countries can take steps to protect the value of higher education by criminalizing degree mills (as the United States did in the 1980s) and the falsification of credentials, Eckstein (2003) points to the rampant growth of technology and the Internet as the primary mechanisms that criminals use to manufacture fake qualifications of all kinds. In this largely anonymous realm, criminal penalties will likely be only modestly effective in curbing the provision of falsified credentials (Johnson, 2005/2006). Rather, higher education systems need a combination of effective laws that safeguard the value of their degrees, a robust system of quality assurance, a publically accessible database that enables employers and schools to better uncover fraudulent degrees, and greater education of consumers on discerning legitimate tertiary programs from bogus ones.

Creating Cross-National Institutional Cultures of Academic Integrity

Organizational cultures intersect with societal cultures at the level of human agency and participation. As formal institutions of higher education have expanded, so has the need for increasing communication around the cultural norms, values, standards, ideas, expectations, assumptions, beliefs, and practices that inform how both societies and organizations function. Concepts such as virtue, integrity, and honesty all have various universal expressions, but such values are also nuanced by both social context and the formation of personal identity (Welzel & Inglehart, 2010). What makes the work of building a global culture of academic integrity so challenging is the task of bridging those concepts to both personal and organizational values – moving beyond merely transactional needs – and convincing higher education leaders that systemic integrity is fundamentally necessary for building durable and respected institutions.

Fortunately, the ability to claim a standard of academic integrity is becoming an essential characteristic in the increasingly competitive race for international reputation and prestige (East & Donnelly, 2012). Colleges and universities around the world are beginning to understand the need to create institutional cultures of academic integrity through strategic structural and systematic changes to the academic environment. If they are unable to do so, they risk losing their credibility and therefore opportunities to realize the potential benefits of internationalization. Ethical academic behaviors do not emerge accidentally, but rather are influenced and produced by the surrounding structural and environmental factors present (Bertram Gallant, 2011; Heuser & Drake, 2011). Institutional context and environment exert a powerful influence on specific behaviors associated with academic

integrity (McCabe & Trevino, 1993, 1997; Teixeira & Rocha, 2010). Accordingly, since the propensity of a student to engage in academic dishonesty is affected by environmental factors within the institution, then it is imperative that education stakeholders make ethics a strategic institutional priority (Heyneman, 2013).

Environmental/institutional factors that can produce a culture of academic integrity include academic codes of conduct, academic integrity policies, shaping student attitudes toward academic dishonesty, presence of consistent sanctions via honor councils and/or faculty enforcement, training modules that communicate community standards, technology that provides accountability, and threat of sanction (Eckstein, 2003; Heyneman, 2013). Research has shown that the presence of codes of conduct policies alone can positively influence student academic integrity (Heyneman, 2014; McCabe & Trevino, 1993). However, many students, faculty, and staff also remain unaware of existing academic conduct policies (Alahmad, 2013; Glendinning, 2014), suggesting that effectively communicating the existence and seriousness of these policies may be just as important as their establishment. Clearly institutional prioritization of these issues – through the creation and consistent dissemination, communication, and enforcement of existing integrity policies – is essential to cultivating ethical academic standards and norms.

Significant evidence also exists regarding the need to actively teach specific academic skills and norms to international students as part of a process of academic acculturation (Andrade, 2006; East & Donnelly, 2012; Handa & Power, 2005; McCabe, Butterfield, & Linda, 2006; Vogel, 2013). Explaining ethical norms, reviewing existing codes of student conduct, and teaching about academic integrity standards should be an integral part of any international student acculturation process. Moreover, the role of tertiary faculty becomes an urgent one in light of the fact that international students place more weight on the relationship between teacher and student than their US domestic colleagues (Kaktins, 2013). In the cases of plagiarism, faculty members – as the gatekeepers of academic standards – play a significant role in clarifying what constitutes plagiarism at the host institution. The default assumption should not be that international students will simply “figure out” academic integrity standards on their own or that others within the institution will be responsible for that task. Anthropologist Edward Hall has differentiated between *high-context cultures* – cultures where members are expected to implicitly understand the situation in which they operate by interpreting the context around them (typically characteristic of Asian, Indian, and Latin American cultures) – and *low-context cultures*, where members are given more explicit direction to navigate the cultural environment in which they operate (typically characteristic of Western cultures) (Hall, 1981). Other scholars have expanded on that research to explore how those differences emerge in an academic setting on writing style, research, and academic community norms (Clyne, 1982; East & Donnelly, 2012; Hall, 1981). The implications of this work for academic integrity are clear: institutions must better discern the cultural inclinations of their students (and perhaps faculty as well) when developing academic support systems and policies that incorporate international students into the academic community (East & Donnelly, 2012).

Conclusion

The potential benefits and challenges of internationalization are very significant. Tertiary systems on every continent are poised to continue their expansion and development with equity and access at the forefront of policy considerations. Higher education institutions are poised to accept increasing numbers of international students and scholars with academic quality and financial sustainability at the forefront of organizational considerations. Most of the rationales undergirding these global phenomena are sound and much of higher education leadership seems to be trying to maximize the benefits for all stakeholders. The unprecedented attention that continues to be directed at broad issues of academic integrity has assuredly done much to maintain academic legitimacy during these massive global transformations. But these forces and issues are not static and the work of integrity is not complete. The possibilities for knowledge to transform societies have never been greater; and the need to protect that knowledge from fraud has thus never been more urgent.

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Why Students Cheat: An Exploration of the Motivators of Student Academic Dishonesty in Higher Education

26

Mark Brimble

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Abstract

It is difficult to remember any recent conversation about assessment or learning standards in higher education where academic dishonesty was not mentioned. Tension in relation to student behaviors in this regard appears to be growing as the perfect storm of commercialization, massification, disengagement, resource constraints, short termism, and increased (and ease of) opportunity converge to influence student (and faculty) behavior and attitudes. Add this to the rapidly evolving higher education landscape with a workforce that is often not trained in education, is increasingly casualized, and often deprioritizes teaching and learning relative to other academic pursuits, and the opportunity for academic dishonesty is obvious.

M. Brimble (✉)

Griffith Business School, Griffith University, Brisbane, QLD, Australia

e-mail: m.brimble@griffith.edu.au

Within this context, this chapter examines the motivations of student academic dishonesty in higher education. Drawing on the empirical literature, seven groups of motivators are identified that illustrate a range of contextual, situational, and awareness/knowledge-based motivators.

It is concluded that while a range of factors motivate student behavior, the higher education landscape and academic culture are also key components. There are a range of strategies that may mitigate these activities (such as academic professional development, improved assessment design, student training, and technological advancements). It is argued that a dedicated medium-term approach is required to combat the rising tide and the changing higher education landscape.

Introduction

The last decade has highlighted dishonest behavior in the wider community with instances of political corruption, corporate fraud and deception, corporate bribery, and financial services scandals (e.g., the LIBOR scandal and financial advice failures (Graves and Austin 2008)). To most citizens this is concerning, if not alarming, and such behavior is often explained as driven by greed and self-interest. Indeed, society may become desensitized and more accepting of such behavior, which may serve to undermine the moral fabric of the community.

Higher education has not been immune, with research retractions and continued evidence of academic dishonesty. The education sector plays an important role in mitigating such behavior as it has the potential to influence the development of individuals, equip them with knowledge and skills in relation to an ethical framework for decision making and moral reasoning more broadly. Research also suggests that graduate attributes such as ethical reasoning (or lack thereof) are transferred into the professional workplace (Lawson 2004; Nonis and Swift 2001; Graves and Austin 2008), further highlighting the importance of higher education in developing students in this regard. Evidence of continued high levels of (usually self-reported) academic misconduct in higher education (McCabe and Trevino 1996; McCabe et al. 2001; Brimble and Stevenson-Clarke 2005; Young 2010; Bernardi et al. 2011), backed by the beliefs of the academic faculty in this regard, suggests that higher education is struggling to mitigate academic dishonesty. Indeed, evidence suggests many staff and students have not read the relevant policies on the matter and in some cases ignore/dismiss identified cases of student misconduct (Brimble and Stevenson-Clarke 2006; Coren 2011; Gullifer and Tyson 2014). Thus, student cheating threatens to undermine the integrity of education outcomes and the academy in general. For the purposes of this work, the broad definition of “cheating” is used from Molnar and Kletke (2012, p. 202) “a violation of intellectual property that goes against a university’s academic integrity policy.”

This is perhaps not that surprising. Talk to any university academic and issues in relation to growing workload pressure, higher expectations in research (and teaching and service), larger class sizes, disengaged students, and diminishing resources

result in little time or incentive for curriculum or professional development (Brimble and Stevenson-Clarke 2006; Gullifer and Tyson 2014). Dig a bit deeper and concerns emerge over the capacity and willingness of staff to engage in curriculum and assessment design that mitigates risk of academic dishonesty (Coren 2011). It is argued that this is often based on the lack of education training, lack of interest in the pedagogical literature, and a deprioritization of teaching and learning relative to research. All in all, the combined forces of commercialization, massification, disengagement, resource constraints, and academic attitudes raise concerns over the ability of the higher education institutions to respond to this issue.

Exacerbating this further is the apparent increase in sophistication and commercialization of the dishonest behavior with outsourcing services (assignment writing) and digital resource banks of teaching and learning materials and assessment items emerging. Such developments serve to make it easier (and in some cases cheaper) for students to engage in dishonest behavior and perhaps furthers the culture of acceptance of such things.

The impact on education is an undermining of the integrity of learning outcomes, and therefore raises doubts about the value of qualifications and the awarding institutions in general. Indeed, external stakeholders may become accustomed to expecting less of graduates in terms of their knowledge and skills than should be the case. This also calls into question how the education providers are responding to academic dishonesty and how effective their actions have been. A key ingredient in both developing and assessing strategies to combat such behavior by students is to understand the motivations for partaking in such things in the first place.

There are a range of issues that drive student behavior (contextual, situational, and behavioral); it is not as simple as greed and self-interest. This chapter will review the motivations that drive student engagement in academic dishonesty. It is argued that there are a variety of motivations that may drive student behavior resulting in a complex web of situational, behavioral, and contextual issues that educators and education managers need to understand in order to put strategies in place to manage this dilemma. This discussion leads to a set of recommendations in terms of an institutional response. It is hoped that this is of relevance to academics, academic managers, higher education executives, and policy makers.

The remainder of this chapter is structured as follows. The next section provides further context on the changing nature of higher education and academic work. This leads into the third section which discusses the drivers of student academic misconduct, which is followed by a discussion and recommendations section. The conclusion section completes the chapter.

Higher Education Context: Setting the Scene for Academic Dishonesty

Higher education is in a state of change. The forces of massification and commercialization of higher education that have been in action for some time have converged with the modality changes (drive to blended, online and open access

modes), a changing policy environment which has led in many cases to decline government contributions to the cost of higher education and the drive for greater research productivity and commercialization. It is argued that this sets the scene for a more time poor academic community that has to balance competing pressures, often with research outcomes as a dominant driver. This is exacerbated by the demands of changes in the teaching and learning space which many academics (who are not in most cases trained educators) are not equipped to deal with (Brimble and Stevenson-Clarke 2006; Coren 2011; Gullifer and Tyson 2014). Add to this the concerns in relation to the lack of student engagement and the evidence on the prevalence of academic misconduct in higher education (McCabe and Trevino 1996; McCabe et al. 2001; Brimble and Stevenson-Clarke 2005; Owunwanne et al. 2010), and one begins to question the integrity of the outcomes these institutions are delivering.

In contrast, some have suggested that current notions of academic cheating are outdated and need to be reconsidered to reflect collaborative learning approaches that utilize open source resources and participative communication platforms. Harkins and Kubik (2010, p. 138) go so far as to argue that there is a “growing dissonance between traditional academic views of ethical standards and the impatience of learners straining to become 21st century workers and societal members” and introduce the term “ethical cheating.” Ethical cheating is where students, in the context of the modern digital environment, collaborate, share (knowledge, information, and ideas), and use a variety of open source information and platforms in a way that may traditionally be seen as cheating. This highlights a further complication – the divergence of views on what constitutes “cheating” (Higbee et al. 2011). In some cases this is clear (plagiarism, falsifying results, and using banned materials in an examination); however, in others this is not so easy to define (proof reading/making corrections to a friend’s work, reading an abstract only rather than the full paper, or inadvertent plagiarism – see discussion below). For the purposes of this chapter, plagiarism is defined as the practice of taking another’s work and/or ideas and claiming them to be one’s own. Thus, it is one form of student cheating. As Gullifer and Tyson note that as per Gullifer and Tyson (2014) there is little agreement on the definition of plagiarism. Evidence also suggests there are differing views on the seriousness and degree to which different forms of academic misconduct should be “punished” (Brimble and Stevenson-Clarke 2005; Higbee et al. 2011). Thus, it is important that institutional policy clarifies what is and is not acceptable behavior, articulates the role of staff and students, and is consistently promoted and applied. A failure to do so may lead to reluctance to take action and students inadvertently engaging in behavior that is not acceptable.

A final contextual element is the question of the broader community attitude towards dishonest behavior – is this becoming acceptable behavior? With the frequent reporting of incidents of academic misconduct in the academic literature (and not to mention society in general), the concern is that this may inculcate social acceptance of such behavior and make it easier for students to justify their dishonest behavior (Cole and Smith 1995; Lawson 2004; Kremmer et al. 2007, among others). This offers further context to the prevalence data and the need to put

effective strategies in place to manage the integrity of learning outcomes in higher education.

It is evident that academic dishonesty is a complex issue and it is not always a matter of right or wrong behavior. Thus, the strategies for dealing with it are not always effective or appropriate. An element of designing effective strategies, however, is to understand the variety of motivations that drive dishonest student behavior – the subject of the next section.

Student Motivations

There are a variety of factors addressed in the literature, and this section groups these into seven categories and discusses the empirical evidence in relation to each.

Changing Attitudes

Perhaps the most concerning assertion in relation to academic dishonesty is that the student culture is becoming more accepting of such behavior, and some may even pursue it in the belief that this is required to maintain a level playing field with those that do cheat (Kremmer et al. 2007; Engler et al. 2008). This belief is exacerbated by social norms error where students overestimate the degree to which other students cheat (Engler et al. 2008) and the perception that cheating in this context is a victimless crime. Furthermore, students do not associate these matters with the broader academic and campus culture; rather they see them as only the business of the student(s) involved and that it will catch up with them eventually (Haines et al. 1986; Brimble and Stevenson-Clarke 2005; Brimble and Stevenson-Clarke 2006). Indeed, students also seem willing to assist their friends even if this constitutes cheating – this was the most common reason identified by students for their cheating in the Brimble and Stevenson-Clarke (2005) and Stevenson-Clarke and Brimble (2007) studies. “I didn’t think it was wrong” was the sixth most common reason given.

Alarmingly, Ruedy et al. (2013) take this a step further and suggest that this behavior can lead to a “cheater’s high” rather than a feeling of guilt, shame, or remorse (which should serve to moderate engagement in such behavior) and can lead to persistent feelings of self-satisfaction. It is also argued that students are utility maximizers who rationalize the “effort versus grade” trade-off in terms of their engagement in misconduct (Woessner 2004). The evidence also suggests students are more tolerant of such behavior than academics (Brimble and Stevenson-Clarke 2006), suggesting an emergent culture of acceptance.

Taken together, these points suggest the starting point for ethical reasoning and attitudes towards cheating are relatively low. This may be instructive in relation to empirical evidence of high reported incidences of student engagement in dishonest behavior, often more than 50 % of students (McCabe and Trevino 1996; McCabe et al. 2001; Brimble and Stevenson-Clarke 2005; Young 2010; Bernardi

et al. 2011). This highlights the need to tackle the campus culture issue directly as a key underpinning contributor to student behavior.

Education, Training, and Learning

Students

An important element of the management of academic dishonesty is to provide students with relevant education and training on expected behaviors, including how to avoid inadvertently “cheating” (in particular plagiarism, in terms of how to reference appropriately) as well as a framework for managing ethical dilemmas. A failure to do so may result in the scenario where students assert they accidentally cheated or plagiarized as they were not aware of what they were supposed to do (Brimble and Stevenson-Clarke 2005; Ryan et al. 2009; Beasley 2013). Indeed, this was the fifth most common reason identified by students for their behavior in the Brimble and Stevenson-Clarke (2005) study. This may also be common for first year students and students in multidisciplinary programs where students may not be aware of their responsibilities and/or that different disciplines have different standards/approaches/expectations in relation to misconduct issues. Thus, an educative and developmental process (where students undergo training on how to reference, expected professional standards, or even ethics and ethical reasoning) may be appropriate to minimize inadvertent motivators of academic dishonesty. This should be backed by a solid policy framework (consisting of a charter/code of conduct and a mitigation, detection, reporting, and penalty framework – more on this below) that is regularly communicated to students through various channels and times in the student life cycle and calendar.

Faculty Members

As noted above, academics in colleges and university are often not trained educators, and thus the impact of rapid change and disruptive technologies on the capacity of the academic workforce in relation to managing curriculum and assessment may be a relevant issue. Given this, and the importance of assessment design for mitigating opportunities for dishonest behavior, the lack of academic staff professional development may be a motivator in and of itself for student cheating behavior. This is particularly the case if it manifests itself as staff not being prepared to report identified cases or takes steps to mitigating opportunities for them (Brimble and Stevenson-Clarke 2006; Coren 2011). This relates to elements of course design that are able to mitigate student cheating, the degree of vigilance in identifying student cheating, and willingness to report cases of it. In addition, the ability of staff to communicate expectations to students and to take action on suspected cases is related to their understanding of institutional policy in this area. Thus, the expertise and willingness of staff to take action in this area is critical to combating it. This is supported by the evidence of student behavior being influenced by a belief (in some cases backed by observations and academic self-reports) of academics being unwilling to report/take action on

suspected cases and students reporting/observing assessment/grading invigilators observing cases and taking no action (McCabe et al. 2001; Brimble and Stevenson-Clarke 2006).

It should also be noted that in recent years, it has also become common place (if not required) that text matching software is used in the assessment submission process. This has drawn the attention of both staff and students to the plagiarism issue and has highlighted the detection of this as a part of the marking/grading process. While this is a useful adoption of technology, plagiarism is but one of the forms of student dishonesty, and the software is only useful for certain forms and types of grading/assessment. More on technology later.

The impact of these points should not be underestimated as academics are a key link for the students to the education institution and set its tone and culture. Indeed, David et al. (1990) find that 92 % of graduated students report academic staff actions are one of the most important factors in relation to the development of their ethical standards and values. This suggests academic staff expertise and willingness to act are influencers of student behavior.

In summary, a lack of education and expertise on behalf of both students and academics may facilitate academic dishonesty. At a minimum, this will undermine the opportunities for early and regular dialogue about academic dishonesty and not provide students/staff with the skills needed to avoid/mitigate it. Thus, an educative and developmental approach to academic integrity issues is recommended for both staff and students.

Curriculum Design

Course Design and Delivery

Course design is an important component of creating student engagement with the curriculum and building student-faculty relationships. If students have low engagement, feel a course is of little interest to them, or believe the reward for effort is low, then they are more likely to seek alternative means of passing a course (Owunwanne et al. 2010; Beasley 2013). Hence, they essentially opt out of the learning process and circumvent this with dishonest behavior. This can be accentuated if the student faculty relationships are not present and/or the students have little respect for the teaching staff due to perceptions of unfairness, the course being too difficult, or of poor quality. In this situation, cheating is more likely to occur (Murdock et al. 2007).

It is also suggested that assessment that is too generic and/or repeated across courses makes it easier for students to cheat (easy to acquire assignments online and/or from past students or utilize assignment production services). This may also invite such behavior, as students see little educational value in completing the task and/or the temptation is simply too great if the assessment design allows this (Brimble and Stevenson-Clarke 2005). As noted above, the use of text matching software may mitigate this to some extent, however not if procurement services are used.

Finally, there may be a need for better program level coordination of assessment timing with students nominating the coinciding of assessments across courses as a reason for cheating. Presumably, students are relating to their ability to manage the workload expectations on them at this time (Brimble and Stevenson-Clarke 2005).

Ethical Content

The teaching of ethics as part of the curriculum is also an interesting issue to consider. Notwithstanding the debate on how to operationalize this (stand-alone ethics courses versus embedding ethics concepts and cases throughout the curriculum – or both) and the issues of staff capability in teaching ethics, it is not clear how effective or prevalent ethics education is. Indeed, Brimble and Stevenson-Clarke (2006) call for institutional strategies such as the embedding of ethical education across the entire curriculum focusing on ethical and moral development of students. In some fields professional accreditation bodies dictate this as an element of the curriculum, which may bring consistency at the discipline level. It is argued, however, that across professions these standards vary and that the depth and breadth of coverage is questionable and could be expanded. Indeed, not all areas of study are covered by such bodies/associations. The need for ethics/ethical reasoning education in the curriculum is further evident given that student behaviors transfer to the workplace (Lawson 2004).

Perceptions of Fairness

As noted above, student perceptions of fairness can drive behavior in relation to academic dishonesty. In addition to poor course design or low staff engagement, other aspects of the curriculum can influence student perceptions of fairness. As discussed earlier, if students perceive the course work (and related assessment) to be too difficult or time consuming, they are more likely to engage in dishonest behavior (Brimble and Stevenson-Clarke 2005; Haines et al. 1986). Another example here is group work, where if assessment items are poorly structured or inappropriately used, this can result in the “free rider” problem and create a range of tensions between students and academic staff. This may lead to some students engaging in dishonest behavior (being the free rider, not reporting the free rider, cheating in order to achieve a good grade due to other members not doing their share). This, again, highlights the need for thoughtful course design.

Another element of fairness is where students believe they have been given insufficient guidance, support, or explanation by academic staff (Owunwanne et al. 2010; Beasley 2013). This also applies where the curriculum is perceived as being too difficult or voluminous and students believe no matter what they do, they will not be able to work through it (Haines, et al. 1986). Furthermore, staff who are unavailable for students and/or do not respond in a timely way to inquiries can exacerbate student perceptions of unfairness, potentially leading to them justifying dishonest behavior. These factors support a neutralizing effect (where cheating is believed to be wrong by the perpetrator, yet they deny their behavior is wrong and/or blame someone else for it) which allows students to rationalize behavior that may be counter to their own ethical and moral values and beliefs. (Ethics and

morals are distinguished here for completeness. Ethics are defined as the principles of “right” conduct, while morals are the values upon which an individual’s judgments are based. A full debate and discussion of these issues is not possible in this chapter, and interested readers are referred to other chapters of this book and various other works that directly deal with this issue.) This neutralizing effect enables the behaviors and supports acceptance of it, usually in blaming it on external factors or persons, thus avoiding moral culpability and any sense of guilt or shame. In this case, the position taken by students is that the course is not fair and it is the academic’s fault, thus motivating engagement in dishonest behavior (Murdock et al. 2007).

Overall, issues in relation to curriculum design and delivery have an impact on the likelihood of students engaging in academic dishonesty. If a course is seen to be unfair by students or is poorly delivered, then students are more likely to justify dishonest behavior due to their perception that the academic has put them in this unfair position.

Situational Factors: A Level Playing Field?

Campus Culture

The institutional culture in relation to ethics and cheating is a key driver of student behavior (Gerdeman 2000). The extent to which there is a culture of engagement, honesty, and reporting will impact the decisions made by students. Campus culture is also influenced by the level of connectedness and engagement in the academic community and campus environment by students. The more involved students are, the more likely it is that they will seek to protect academic standards and the reputation of the institution (Simon et al. 2004; Rettinger and Kramer 2009; Molnar and Kletke 2012).

In relation to student clubs, sororities, and fraternities, McCabe and Bowers (2009) find that more cheating appears to occur (based on self-reported data) by students who are members of such organizations. They note however that this is most likely due to some form of social-academic trade-off, and thus a broader, campus-wide, approach to addressing the issue is more appropriate. In this regard numerous studies advocate honor codes as a means of developing a culture that rejects cheating/academic misconduct as acceptable behavior (Bowers 1964; McCabe and Trevino 1993; McCabe et al. 2010). Interestingly, honor codes are only seen to be effective if they are regularly communicated to students, reinforced by staff, and thus highly visible to existing and new students. Thus, a lack of an honor code or equivalent, or one that is not part of the “fabric” of the institution, may lead to a culture that is more accepting of dishonest behavior.

Interestingly, there is some evidence that students in private/religious institutions are less likely to cheat, again suggesting that there is a broader cultural/community impact on the campus environment that can promote ethical behavior (Molnar et al. 2009). On the other hand, Quah et al. (2012), in a study on Malaysian students, found religious affiliation to have no moderating influence on student

attitudes. In contrast, Hosny and Fatima (2014) concluded that students engaged in such behavior despite believing this was unethical and against their religious values. This highlights the importance of academic institutions fostering a culture of engagement that also promotes ethical decision making.

Prevalence

A key influence on student behavior is their perceptions of their peers' behaviors and attitudes (McCabe et al. 2001; Brimble and Stevenson-Clarke 2005). Evidence suggests that if students believe that their peers are cheating, then they are more likely to do so themselves. This is driven by some form of desire (even stronger than their own beliefs) to maintain some form of fairness (or mitigate others gaining unfair advantage) as discussed above (McCabe and Trevino 1993; Brimble and Stevenson-Clarke 2006; Bernardi et al. 2011). Indeed, in Owunwanne et al. (2010), it was noted that students may feel disadvantaged if they do not cheat (and they believe everyone else is) and that this is the only way to get a "fair and equal opportunity to succeed" (p. 62). Thus, managing student perceptions and setting a culture of low/no tolerance is important.

The impact of student perceptions on student behavior is important as witnessing others cheating can act as a neutralizing effect. Thus, an environment where students observe cheating, students believe others engage in such behavior, or that such actions are not taken seriously may facilitate neutralization and promote engagement in such behaviors (Rettinger and Kramer 2009).

It is also worth noting that Kremmer et al. (2007), Whitley (1998), and Bernardi et al. (2011) find that the likelihood of cheating is also influenced by past incidence of cheating. This suggests that once a student partakes in such behavior, a "repeat offense" is more likely. Thus, early (in terms of the student life cycle) and consistent communication and action on these matters is important. It is unclear whether technological interventions (such as text matching software and escalation penalty regimes – for repeat offenses) have impacted on this or shifted behaviors to other forms of dishonesty such as outsourcing the production of assessment. More research is required in this regard.

Penalties

In general, there is support in the literature for deterrent strategies that ensure students who are caught are treated in a way that reflects the gravity of the issue, while signaling to other students the consequences of such behavior. The concern in this regard is that the literature suggests that students often believe there is little risk of being caught and if they are, the punishment will be minor (Brimble and Stevenson-Clarke 2006). Interestingly, this was the second most common student-reported reason for cheating found in Stevenson-Clarke and Brimble (2007). Indeed, some students may even rationally assess the costs and benefits of their actions in this regard.

Perhaps even more concerning are the suggestions that students observe and report cheating that is not dealt with (Brimble and Stevenson-Clarke 2006; Coren 2011). Furthermore, some staff are reluctant to report, primarily because of the

perceptions of the time involved, the lack of support from the institution, a belief that the student did not mean to cheat, or concern that they could not substantiate the allegation (Brimble and Stevenson-Clarke 2006; Coren 2011). Indeed, the student perception of a lack of penalties, a lack of reporting and enforcement, and a lack of communication about the policy regime in this regard may motivate student cheating.

In summary, it appears that situational factors such as the campus culture, perceptions of other students behavior, the likelihood of being caught, and the severity of the consequences all influence student behavior. This highlights the diverse and complex nature of student behavior and factors that influence it.

Life of the Modern Student

Students Who Lack Time

The modern student typically has a range of commitments that are external to their studies including work, family, sporting, and community (Haines et al. 1986; Brimble and Stevenson-Clarke 2005; Beasley 2013). Indeed, students self-report that a lack of time to complete assessment is a common driver of dishonest behavior (Stevenson-Clarke and Brimble 2007). Indeed, higher education providers have also sought to encourage extracurricular activities that support student work readiness. These commitments and activities, together with academic deadlines and exam schedules, can often leave students underprepared and/or with academic study ranked low on the priority list. This, in turn, may result in students engaging in dishonest behavior as a means of “survival” in order to balance and maintain these competing priorities and particularly if the academic piece is deprioritized (Owunwanne et al. 2010).

Pressure to Achieve

Many students feel pressure to achieve high grades. This may derive from personally applied pressure to achieve, pressure from parents/employers, the need to achieve a grade for entry into a subsequent program, the need to apply for a scholarship, or the need obtain an award (Brimble and Stevenson-Clarke 2005; Koh et al. 2011). Indeed, the sheer cost of higher education may drive the perceived need to cheat and supports the cost-benefit analysis framework where students assess the return on investment, in so far as grades impact on student employability. For some, this may create a “succeed at all costs” mentality, leading to students relying on academic dishonesty to achieve these outcomes (Beasley 2013). When combined with neutralizing factors (referred to above), the high stakes financial investment in education can be a powerful motivator for engagement in dishonest behavior (Owunwanne et al. 2010).

Curriculum Relevance

In line with the above discussion, it also appears that students question the relevance of some aspects of their curriculum. Furthermore, suggestions of too little

focus on graduate outcomes in the curriculum with too few links to industry/employers and a lack of attention to employability skills may heighten student willingness to be dishonest. Students are all too easily referring to the curriculum as academic and not of future use to them. Haines et al. (1986) note this case in relation to courses that are not core to a degree and students see little value in the content. This also has the potential to also be a neutralizing factor, and thus the nature of program design and assurance of learning should be considered and communicated to students. This will assist in ensuring relevance and build student understanding of the intended program outcomes and how all components of the curriculum relate to it.

Life of the Modern Academic

The life of the modern academic has also changed with most academics identifying issues such as increasing workload requirements, decreasing resources, increasing student numbers, and increasing digitization of learning as factors that affect their capacity and willingness to respond to education issues such as academic integrity (Brimble and Stevenson-Clarke 2006; Coren 2011). These beliefs create several concerns. Firstly, the willingness of academics to invest in professional development and/or curriculum development to respond to student integrity issues may be limited due to competing priorities. If so, the capacity of the academic workforce to respond to the changing education environment will be reduced. Secondly, the lack of willingness of academics to report identified cases (as noted above) serves to undermine policy and promote student perceptions of low chance of detection and little consequence. Finally, a lack of time to invest in teaching and learning may undermine student engagement with the institution, thus creating a more transactional relationship (Haines et al. 1986; Coren 2011). These factors may increase the likelihood of academic dishonesty, thus suggesting a more systemic issue may be emerging in higher education with the need for comprehensive, institution-wide responses such as mandatory use of text matching software, required professional development of staff, and assessment design practices that aim to restrict opportunities for academic dishonesty.

Individual Student Characteristics

Age

There is some evidence that the age of a student may be a predictor of student behavior. This suggests that younger students are somewhat more likely to cheat in a general sense, but particularly so when it comes to collaborative cheating (Kremmer et al. 2007). Szabo and Underwood (2004) also find that later stage (third and final year) students take a more serious view of academic misconduct, suggesting there is some evidence of an age impact.

Gender

Gender differences have been shown to impact on ethical behavior with males generally seen to be less ethical than females (Tibbetts 1999; Szabo and Underwood 2004; Kremmer et al. 2007; Molnar and Kletke 2012). This includes the likelihood of behaving unethically, likelihood of reporting such behavior, and the perceptions of such behavior. Underpinning this is the evidence of Tibbetts (1999) that females tend to feel more shame than males and males tend to exhibit less self-control. Thus, gender is seen as a relevant individual characteristic in terms of predicting student behavior.

Language Skills

With a diverse cohort of students, some are less academically prepared for higher education, and the language skills of some students (whether or not their primary language is different to that of the language of instruction) come into play. Language difficulties (including literacy and numeracy concerns) may lead to students struggling with course work or not understanding the requirements/expectations of them in terms of both awareness and understanding, leaving them vulnerable to motivations for cheating (Devlin and Gray 2007; Kremmer et al. 2007; Bretag et al. 2014). Indeed, inadvertent cheating may result from a lack of understanding of assessment requirements or referencing conventions (Gullifer and Tyson 2014). This suggests more could be done to support international students and others with literacy and numeracy issues.

International Students

In addition to the previous item, diverse student cohorts may “motivate” different forms of academic dishonesty with different culture norms, customs, and levels of understanding of accepted practice influencing student behavior (Marshall and Garry 2006; Kremmer et al. 2007). For example, in relation to international students, Kremmer et al. (2007) found, in a study based on self-reported data, that such students are more likely to cheat on examinations than domestic students and less likely to cheat (or self-report cheating) overall.

Internet Usage and Technology

It has also been argued that time spent on the Internet can impact ethical beliefs in regard to cheating. For example, Underwood and Szabo (2003) found that this can influence attitudes towards plagiarism, and Molnar and Kletke (2012) found that less Internet usage can reduce acceptance of some forms of cheating. Given the pervasive use of the Internet in the modern world (including in education), this is difficult to manage other than with the broad strategies of awareness and building an ethical culture. This temptation to cheat may also be related to the sheer availability of resources on the Internet and the ease with which students can access materials for use in graded materials (and particularly so if the item is generic and/or repeated as noted above). Ma, Wan, and Lu (2009) go so far as to suggest that students have a more accepted and relaxed attitude to cheating online.

Furthermore, the establishment of various Internet-based assignment curation/production services that easily allow students to outsource (for a fee) assignment production adds to this temptation. This is referred to as “contract cheating” and is seen to be very difficult to detect and more fraudulent in nature than other forms of misconduct (Walker and Townley 2012). Thus, it is likely to provide opportunity and motivation for students to cheat, particularly when combined with other factors such as time, fairness, and pressure to perform.

Access to information and efficient (and accessible) communication devices also raise the issue of the appropriateness of the approaches to education and academic integrity. In the context of modern learning strategies that embrace collaboration, sharing, and curation of learning materials, the traditional notion of cheating is somewhat challenged. With the ease of access to information, learning materials (MOOCs), and platforms for sharing and collaborating, concepts such as peer assessment, knowledge curation, innovation and entrepreneurship, and creative and critical thinking seem more appropriate than traditional individual graded essays. How this impacts on teaching practices, student learning, assessment/grading of learning outcomes, and academic integrity is an issue that requires much more thought, attention, and research.

It is also important to note the advances in technology that are utilized both for education delivery (online and blended learning) and in terms of classroom (course websites, e-polling tools, e-books, online quizzes, digital submission, multimedia-based assignments, etc.). Fask et al. (2014) note the rise of online learning and online examination, but conclude that while opportunities to cheat are evidenced (a measurable performance gap between proctored and non-proctored [online] exams), these are offset by negative impacts. These negative impacts include more ambient distractions, possible technical problems, and inability to obtain clarifications on questions.

Thus, there are a range of student characteristics that suggest some students may be more likely to engage in dishonest behavior. Those who create and implement strategies for managing academic dishonesty should be aware of these.

Discussion

Overall, there appears to be a range of issues that motivate in dishonest behavior by students in higher education. This includes inadvertent plagiarism due to a lack of awareness of what is required, through to more deliberate actions driven by desire to get the best grades at all cost. In between, issues such as poor curriculum design, unfair expectations of students, students who lack time that deprioritize their education activities, lack of awareness, perceptions of lax vigilance and enforcement of policies, and poor class room engagement are also seen to influence student behavior.

Perhaps most concerning are the changing students’ attitudes and campus culture, where dishonest behavior is becoming the norm and seen as necessary to

keep the playing field level as “everyone else” is cheating. Indeed, the view that cheating is victimless, someone else’s problem, and too difficult and time consuming to deal with does not augur well for the integrity of academic outcomes. Thus, a concerted effort is required to arrest this cultural shift and to protect academic outcomes. Given the influence that higher education has on the development of students’ knowledge, skills, and values, the potential impact of dealing with this issue should not be underestimated.

As per Nonis and Swift (2001), Brimble and Stevenson-Clarke (2006), and Bretag et al. (2014), a comprehensive and fundamental approach to managing academic misconduct is therefore recommended to respond to the variety of factors that motivate students to behave dishonestly. This would include:

- Increasing resources to develop and implement academic integrity policies (including student codes of conduct), enforcement mechanisms, training programs (for staff and students), and communication strategies;
- Increasing cooperation between institutions to share best practice approaches, perhaps coordinated through a national body;
- Enhancing professional development of academic staff that focuses on student engagement and assessment design strategies that reduce motivations and opportunities to cheat;
- Fostering a culture of excellence and an atmosphere of academic integrity as hallmarks of the campus culture, be it physical or virtual;
- Ensuring appropriate strategies for vigilance during assessment;
- Requiring a professional and timely response, penalties, and public reporting of identified cheating; and
- Requiring curriculum renewal with ethics, responsibility, and student outcomes in mind.

In addition to the above, the behavioral aspects must also be dealt with in a broader context. In relation to the earlier stated social norms error, Engler et al. (2008, p. 101) argue that strategies must “have consistency, depth and breadth.” This relates to the development of an academic culture that requires codes, policies, and expected behaviors to be given to students in a variety of forms and times in order for the messages to have any sense of relevance, importance, and impact. Such a systematic approach may drive the desired behavior and foster the desired culture.

Finally, the issues of technological advancement are both curious and confronting, for example, the open source, collaborative culture, the difficulty of detecting “contract cheating,” and the different factors that drive cheating by on-campus versus off-campus students (Black et al. 2014). This is challenging our knowledge and evidence of student behavior in regard to cheating. Indeed, Black et al. (2014) suggest that we need to reconsider what constitutes cheating in this modern environment.

Summary

Academic integrity should be central to the learning process and the outcomes derived by the higher education sector. In addition, the literature suggests that an emphasis on academic integrity will also shape the behaviors and values of graduates as they become the next generation of professionals and leaders. Despite this, the evidence of high (and potentially increasing) levels of identified cheating within the sector continues to be produced, suggesting that little progress is being made. This raises the question of what is motivating such student behavior as a prerequisite to developing strategies for dealing with it.

This chapter has examined the various issues that motivate students to engage in such behavior. Drawing on the received theory and evidence, a variety of issues were presented in seven themed areas: (1) changing attitudes; (2) education, training, and learning; (3) curriculum design; (4) situational factors; (5) life of the modern student; (6) life of the modern academic; and (7) individual student characteristics. Each of these contributes to student behavior and attitudes in a variety of ways. This creates a complex set of drivers that need to be well understood by academics, academic managers, and policy makers. Indeed, continued investigation of student motivations to cheat and the impact of deployed strategies are essential to developing and refining our approaches to managing student behavior and the campus culture.

Therefore, academic dishonesty is a complex phenomenon driven by a range of personal, behavioral, contextual, and situational issues that risk developing a campus culture where both staff and students are more accepting of such behavior. This should, however, be seen as a call to arms, for institutions, staff, and students to develop and implement a more holistic and fundamental approach to protect the integrity of our higher education institutions and the outcomes produced by them. Developing a positive and engaged campus culture should be a priority in this regard.

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Abstract

It is ineffective to address the topic of teaching and enforcing academic integrity without understanding the lives, hopes, values, and challenges of those who are expected to enact it: college students. This chapter argues that students and faculty are unlikely to share views of the meaning and especially the importance of academic integrity, which is, after all, a set of notions peculiar to the professional ethics of the contemporary world of letters; compliance may be demanded and obtained without genuine embrace of the concept. Many aspects of students' lives explain reasons for *neglect and disregard* of norms of academic integrity; only a few *support* those norms. Presentation of these contexts is not intended to excuse violations of academic integrity. It is to explain what students may think – or fail to think – about the topic and to show why it is so difficult to get students' attention on this subject, no matter how many times they

S.D. Blum (✉)

Department of Anthropology, The University of Notre Dame, Notre Dame, IN, USA

e-mail: sblum@nd.edu; susan.blum.24@nd.edu

may sign affirmations upholding institutional norms of academic integrity. This chapter shows that many, or most, students are distracted, busy, and stressed and live with attention directed everywhere but at upholding norms of academic integrity.

Introduction

Faculty and administrators often speak about academic integrity as if it is an eternally valued, widely shared, and obviously absolute virtue honored by any decent person. Yet the notion of academic integrity arose especially within the sphere of professionals in the world of letters – a world to which many undergraduate students do not belong. Further, faculty attention is focused on classes and behavior within them, while student attention is often focused elsewhere. In reality, even students without the intention of cheating may engage in behavior that counts as a violation of norms of integrity through ignorance or inattention. While faculty may enforce compliance, many students spend the bulk of their attention and time on matters unrelated to the specifics of academic writing and performance. Research on the full experience of students both inside and outside the classroom reveals a complex web of activities, demands, and challenges that are in some ways unrelated to academic integrity, in other ways in opposition to the demand for academic integrity, and in a few ways similar to what faculty hope to inculcate. Understanding all this should help faculty make the needed connections to the full context of students' lives.

This chapter begins with a brief discussion of academic integrity, followed by discussion of the contexts of higher education: social and economic contexts and other contexts that have either direct bearing or indirect bearing on students' actions with regard to academic integrity. Contexts with direct bearing may either support or challenge norms of academic integrity; the latter include notions of authorship, sharing, and multiplicity of norms. Contexts with indirect bearing include motivations and incentives contrary to academic integrity (pressure to achieve, lack of interest in classes) and other aims beyond the academic that draw students' attentions (time pressure, temptations, student roles and identities, relationships, gender and sexuality, and mental health and mental illness).

Though faculty and administrators may certainly uphold notions of academic integrity, it is helpful to understand the full context of students' lives.

Academic Integrity

Academic integrity is a set of specific practices revolving around independent work, production of original scholarship, tracing of sources and others' contributions accurately and transparently, and following stated and unstated norms of academic conduct for academic rewards (Whitley and Keith-Spiegel 2002; Davis et al. 2009).

These practices – in some sense contingent and arbitrary – are supposed to govern the work of the most novice college students as well as of faculty and are connected with the conduct of researchers, writers, journalists, and others working with intellectual property (Buranen and Roy 1999; Vaidhyanathan 2001). Many educators are concerned about students' failure consistently to follow norms of academic integrity and about deliberate violations of these norms (DeSena 2007; Gilmore 2008). There is considerable variation in institutional or instructional response to breaches of these norms, from (common) disregard to imposition of minor or major sanctions.

But these norms operate only within a frame of the classroom, and students' experiences outside their academic life may explain some of the lack of compliance observed by many in higher education. This chapter aims to show how understanding the broader field of college students' experience can help illuminate the challenge of enforcing norms of academic integrity.

Academic integrity can sound merely "academic," or unrelated to the real world, to the large majority of students who regard the academic side of college as a set of tasks to be completed rather than as a portal to a life they plan to lead. In the context of contemporary multiversities and community colleges, students have multiple positions and identities. They arrive with a range of academic skills and with diverse reasons for attending, from workers needing to plow through their associate degree to get a raise to business students needing accounting skills yet obligated also to pass Chinese history, from athletes having to pass sociology of sport to maintain eligibility to creative writers hoping to learn a tip that will get their first poem published, and from premed students hoping to get a high-enough score in organic chemistry so they will not be automatically rejected from medical schools when they apply, to students passionate about learning the ins and outs of economic or evolutionary or ecological theory. Students come from an enormous range of backgrounds – from every possible country, speaking every possible language, with every form of personal experience – and will go to all manner of future lives. For the 2 or 4 or 6 years that they live within the regulations of academic institutions and for the hours they are governed by academic codes of ethics, one part of their lives is supposed to be guided by the ethics of academic integrity.

Some attribute student violations of norms of academic integrity to a more general decline in society's sense of morality (Callahan 2004) and the need to enforce academic integrity as connected to students' future moral and ethical behavior. Surely, nonstudents also violate ethical norms, as evidenced by the Enron and Bernard Madoff scandals. Whether this is new or not is difficult to say with certainty (McCabe et al. 2001), and though some studies have demonstrated a connection between a person's academic misconduct as a student and hypothetical misconduct afterward (Laduke 2013), it is not clear that schools can transform this; correlation is not causation. These students may be inclined to cheat and deceive no matter what the context. Students and faculty often disagree about what constitutes academic misconduct.

The claim that there is a “current” crisis has been called a *moral panic* (Clegg and Flint 2006). Technological innovations are often regarded by an uneasy public as the proximate or enabling cause of cheating. Yet such violations of academic integrity were rampant in the ancient Chinese civil service examination (Miyazaki 1981 [1963]; Elman 2000) just as at Yale in the nineteenth century (Horowitz 1987). High-stakes outcomes motivate behavior focused on outcomes (Suen and Yu 2006) no matter what the route.

Many efforts to promote academic integrity focus on individual responsibility, while some social scientists focus on cultural patterns embedded in wider contexts. This chapter presents three broad aspects of their lives within which students’ behavior with regard to academic integrity must be understood: the social and economic contexts of higher education, aspects of students’ lives with direct bearing on academic integrity, and aspects with indirect bearing on it. The fact that it is often a struggle to inculcate these values can be understood by looking at students’ motivations for attending college, at the full picture of their lives, at the discourse surrounding accomplishment and achievement, and at the many competing values evident in the struggle. This picture is even more complicated when one takes an international perspective on the nature of higher education. Though the analysis in this chapter focuses on the USA, it includes occasional comparisons highlighting international differences and similarities.

Social and Economic Contexts of Higher Education

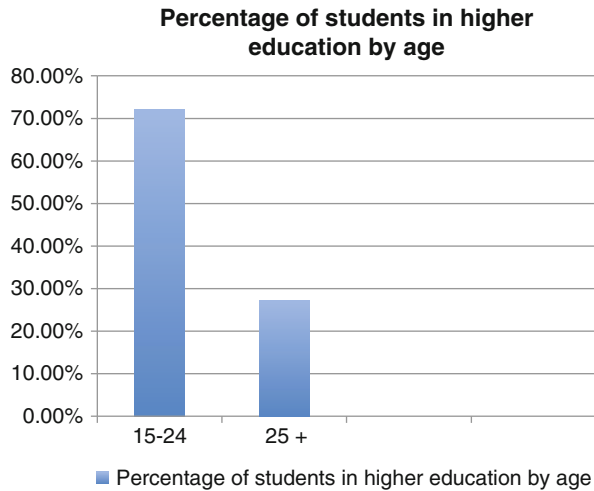
Faculty may often be unaware of the broadest social and economic contexts that surround students in their classes, but these contexts – while neither excusing nor explaining violations of academic integrity – can help situate the more delimited aspect of higher education that involves the academic aspect of academic integrity.

As access to higher education is conveyed around the world as a societal desideratum, edging beyond “massified” higher education toward “universal” higher education (Trow 2006; Kipnis 2011), increasing numbers of young and not-so-young people are being told that they have to go to college (for skills and credentials, to compete). The positive “return on investment” of a college degree is widely repeated (Baum et al. 2013), though competing voices also question the value of this “investment,” sometimes focusing on student debt (Kamenetz 2006; Carey 2015). As increasingly diverse students find themselves in higher education, it is increasingly likely that some of them lack understanding of the enterprise, some lack motivation, and some lack skills. Whether increasing access to higher education increases equality or not is a major topic of discussion (Marsh 2011).

Worldwide approximately 262 million students are enrolled in institutions of higher education (Blessinger 2015). In the USA the total is almost 16 million students, of whom 57 % are women. Higher education has gone from an activity of the most privileged to a much more widespread activity.

While the number of students *entering* higher education is high – in 2014 approximately 70 % of all students aged 18–24 were engaged in higher education

Fig. 1 Of students in higher education, 72.5 % are aged 15–24 and 27.5 % are 25 or older (Source: US Census Table 4. Year Enrolled for College Students 15–24, 24 and older (October 2013) <http://www.census.gov/hhes/school/data/cps/2013/tables.html>)



to some extent – *completion* of four-year degrees in the US population is only about 30 %, where it has been fairly steady for decades. This rate varies quite a lot globally.

Students are not uniform or homogeneous. More than a quarter are older than age 25. (See Fig. 1.) One-third study in two-year institutions, where women earn 62 % of associate degrees (US Census Bureau).

Of students enrolled in public two-year institutions, approximately 60 % enroll part-time (Cohen et al. 2013, p. 49). This makes sense since almost 80 % of community college students work – including 40 % full time (Cohen et al. 2013, p. 50). (See Fig. 2 for student work hours.)

The question of debt looms large in the lives of today’s students. In 2012, 71 % of four-year college graduates had student loan debt, with the average debt at \$29,400 (Institute for College Access and Success 2014). At for-profit colleges, average debt was \$39,950. Many wonder if college is worth the cost. But this conversation revolves only around the ends of the college experience – the credits and the degrees – rather than the values or skills or knowledge gained through it.

The costs of higher education are borne variably and by divergent entities worldwide, sometimes with lower rates of access, though costs are not always obstacles to college completion. For example, Germany has completion rates of “academically oriented tertiary programs” of only about 31 %, though an additional 15 % complete vocationally oriented tertiary programs (OECD 2014), and in 2014 tuition again became free to individuals, following the experiment of levying tuition that began in 2006.

Throughout East Asia, as in North America, massification of higher education is widespread, and variation in the forms of institutions has increased, with the traditional publicly supported institutions reserved for a tiny elite now accompanied by increasing numbers of private, for-profit institutions of varying quality (Kariya 2011; Huang 2012; Liu 2014). While national subsidies for public universities remain, restricted through strict uniform entrance examinations, not all institutions

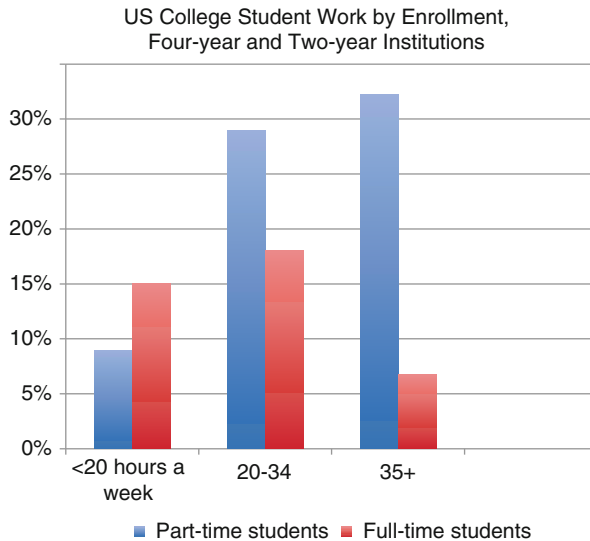


Fig. 2 In four-year and two-year colleges, part-time students work as follows: 9 %, less than 20 h a week; 29 %, 20–34 h a week; and 32 % work 35 h or more. Full-time students work as follows: 15 % work less than 20 h, 18 % work 20–34 h, and 7 % work 35 h or more (Original Source: U.S. Department of Commerce, Census Bureau, Current Population Survey (CPS), October 2012. See Digest of Education Statistics 2013, table 503.20. Link to original data table: http://nces.ed.gov/programs/digest/d13/tables/dt13_503.20.asp. Link to source: http://nces.ed.gov/programs/coe/indicator_csb.asp)

have the same barriers to entry (Seth 2002; Kariya 2011) nor the same level of prestige.

Students must cover both the costs of schooling itself – not only tuition but also books, computers, parking, fees, housing – and the cost of not earning money while doing so (“foregone wages”). While some students may qualify for full tuition coverage in the form of Pell Grants (in the USA), most students combine some mix of student debt and loans with work, family savings, and sometimes some scholarships.

This chapter can present only a rough approximation of student experience in higher education, given the diversity of students’ ages, full- and part-time student status, and backgrounds, and the diversity of motives and financial situation. Students in higher education are increasingly representative of society as a whole (though not fully), and institutions of higher education are greatly varied as well. Still, these topics are raised to remind readers that discussions of academic integrity should include focus on not only *students* but *people who have at least some role as students*. The economic aspects of higher education must not be neglected.

Some aspects of contemporary college students’ lives may have direct bearing on the topic of academic integrity, whether supportive or oppositional, while others have indirect bearing. The remainder of this chapter examines both types.

Contexts with Direct Bearing on Academic Integrity

Support for Academic Integrity Norms

It is in the professional contexts of college learning that academic integrity is especially necessary. Students who will become (or already work as) scientists, writers of any sort including journalists, communication experts, poets, novelists, creative nonfiction writers, screenwriters, academics, editors, and musicians, or other participants in the world of letters and knowledge, should have a great stake in mastering the values of academic integrity, because they will be evaluated and will evaluate others on these terms. In such fields they will be evaluated on the basis of their own independent creativity, originality, and discovery (e.g., Mallon 1989).

As *consumers* of intellectual property, rather than as *producers*, students may find it appealing to take without attribution. Sharing movies and TV shows and passing along music are widespread practices. Faculty could spell out the connection between the norms in classes and norms outside school – not just *rules* but reasons for the rules. When a faculty member tells students that academic writers get no financial reward for most writing, only reputational rewards (“face”), students may be more willing to regard those writers as fellow humans needing acknowledgment and then to provide that acknowledgment. Students trying to make some money as musicians or web designers may grasp the importance of tracing intellectual property, though the connection between this and the classroom norms may be less obvious than faculty think.

Still, while not a small list, the percentage of college students planning to enter the world of letters is far smaller than that expecting to live their lives within business, health care, service, or skilled trades.

Challenges to Academic Integrity Norms

In college classes, as in the conventions of professional academic writing, the ethical demands of academic integrity require attention to single credit for submission (no “double counting” or “self-plagiarism”), collaboration only when authorized, and consultation of reference works only when explicitly permitted. Yet in many contexts in which students operate, norms entirely contradictory of those of academic integrity are in force.

Authorship

Even in academic journal publishing, the nature of authorship and co-authorship is under scrutiny (Biagioli 1998; Osborne and Holland 2009), especially in the sciences where the number of contributors to any study may run in the hundreds (Dance 2012). Increasingly in mainstream journalism editors are credited with bylines, yet the free sharing of intellectual property without even requiring attribution is common in digital contexts beyond the classroom (Lessig 2004). The instability of rules of intellectual property forms some of the context within

which students may resist the mandates of academic integrity, which may fail to conform to changing de facto practices.

Further, in many contexts, re-use of material is universal. Even within academic administration, it is standard to use “boilerplate”: chunks of text that are simply used in every report, grant proposal, and so forth. What is considered “self-plagiarism” in student or professional academic writing is simply efficient business practice. In addition, in business writing (such as annual reports or regular brochures), the norms of originality are quite different from the norms within the academy; many publications are team written with no credit given for individual contributions.

And norms of originality may be quite varied (Barthes 1977 [1968]; Foucault 1979; Ede and Lunsford 1990; Stillinger 1991; Buranen and Roy 1999; Howard 1999; Rimmer 2005; Eisner and Vicinus 2008; Blum 2009). For example, the idea of *sampling* or *mosaic*, which is sometimes regarded as artful recombination, is sometimes seen as standard procedure for many African-Americans (Gates 1988; Schur 2009). In this context, the accusations that the Reverend Martin Luther King, Jr., plagiarized vast amounts of his doctoral dissertation – a scandal uncovered in the 1980s – have been explained.

Higher education is increasingly international, with substantial increases in the number of students pursuing higher education. Students study in countries outside their homelands, either for short periods or for their entire degree. Universities are establishing satellite campuses in other countries. Agreements about recognition of credit and degrees from other systems have given rise to the Bologna Protocol, for instance. Students must follow the norms of the institutions within which they find themselves, but many systems pay different amounts of attention to North American norms of academic integrity (e.g., Spain, Mexico, China).

As is evident from the many chapters in Section 1 (Defining Academic Integrity: International Perspectives), students coming from societies with intellectual traditions different from that of Western Europe and the Americas may not truly grasp the norms of academic integrity that privilege solitary production. Students from some places may regard the pragmatic completion of an exercise as their task, no matter how it is done. They may regard student solidarity as primary and refusal of cooperation as betrayal. For some, turning in a fellow student would be a punishable, and often unthinkable, denial of age-grade bonds. They may regard compilation of authoritative fragments and quotations, rather than original contributions, as their principal task. Students coming from South Asia or East Asia, and parts of Africa, are generally seen as inheritors of ideologies of sharing and originality quite at odds with those that enforce individual, independent creation (Wong 2013; Ehrich et al. 2014; Heckler and Forde 2015).

At the same time, recent news shows that some Chinese parents bribe teachers to grade their children’s homework (Levin 2012). Forms of advantage vary and are in some settings not regarded as unethical. For example, affluent American parents give their children every advantage they can afford, from donations to private schools to test preparation and college counselors. This is not regarded as bribery,

but when North Americans view Chinese practices, they do regard them as unethical. As Dan Levin reported in the *New York Times*, “the going bribery rate for admission to a high school linked to the renowned Renmin University in Beijing is \$80,000 to \$130,000.” Students everywhere bring with them a view of practices in their home countries as widespread and normal, acknowledging that every country as well has diverse practices, some of which are illegal or seen within their own context as unethical.

While students in institutions of higher education must follow the regulations within which they are governed, it is important for enforcers to recognize the strength of the home culture for many of those students.

Norms of Sharing

Many aspects of academic integrity stem from a focus on individual attainment and competition, with sharing permitted only when it is explicitly acknowledged. Yet many students operate increasingly in a world where cooperation, rather than ownership, is valued. From car-sharing to informal rental of private rooms, the undesirability of individual ownership is evident. If the root of academic integrity lies in values of *individualism*, *ownership*, *transparency*, and the importance of *originality* (Rose 1993; Woodmansee 1984), students in an era of seamless digital sharing may also find the rules against sharing in violation of their own ordinary practices. Such sharing can be prevented, but only with difficulty (Buranen and Roy 1999; Eisner and Vicinus 2008).

In residential colleges, or colleges with active fraternities and sororities, academic material is expected to be freely transmitted. Study guides and old examinations may be circulated physically or electronically; the line between supporting studying and supporting cheating can be fuzzy, as students socialize each other into a community of sharing.

Multiplicity of Norms Contributes to Confusion

Students encounter a variety of enforcement and focus in their courses that may appear arbitrary and perplexing. Students taking several courses may find some faculty insisting on documentation of everything and all papers to be submitted through a so-called plagiarism-detection service, while others disregard entirely the topic of citation. Some faculty encourage collaboration, while others forbid it and regard it as cheating. Students may not even consider their own behavior to be a violation of academic integrity unless it is spelled out in each specific setting.

If studies show that somewhere between one-third and two-thirds of all students engage in some form of academic misconduct (McCabe, Treviño, and Butterfield 2001), yet the common experience is for each institution to prosecute no more than dozens of such cases, then it is understandable that some students gamble on evading scrutiny. Given increased faculty workloads and emphasis on publication, the increased reliance on underpaid and overworked adjunct faculty, few faculty have the time and energy to enforce rules of academic integrity – if they even understand them themselves (see Howard and Robillard 2008).

Contexts with Indirect Bearing on Academic Integrity

Many aspects of students' lives have implications for academic integrity even if direct causality has not been demonstrated. These are important lived realities that may either lead students away from considering the norms of academic integrity or distract them from the academic portion of higher education.

Motivations and Incentives Contrary to Academic Integrity

While individual students may certainly be held responsible for following the mandates of academic integrity, many aspects of the society within which they operate may be seen as in opposition to those values. When people in the culture as a whole see depictions of college life, portrayals alternate between fun-loving drinking (movies such as *Animal House* and *Accepted*) and misbegotten urban commuters (TV shows such as *Community*). Rarely is anything like studying or struggling over the proper words for writing ever shown (*The Paper Chase*, *Love Story*, and *Good Will Hunting* are romantic exceptions). Hoped-for outcomes of college are not only individually derived; they also are set by broader cultural values.

Students enrolled in diverse institutions of higher education have many goals for attending. The public, which to some degree supports higher education through government funding and loans, also conveys certain goals for students. Tension between “learning for learning’s sake” and the economic, occupational, credentialist, and practical goals of college is evident in the public sphere arguments about the demise and value of liberal arts. The importance of college for jobs, for transferrable skills, and for credentials has little or no bearing on the specialized notion of academic integrity. And despite appeals about “learning for its own sake,” most students in higher education have *practical* reasons for attending. “The perception that higher education is to be used particularly for occupational training seems pervasive among students in all types of institutions” (Cohen, Brawer, and Kisker 2013, p. 65). When the goal of “getting through it” is so often reiterated, the need to cite sources or operate entirely independently on examinations or homework may appear an impediment. Desperate students may feel compelled to engage in elaborate forms of cheating.

All this means that students may make an economic calculation: the longer it takes to complete a degree, the higher the cost. If a student risks failure on a particular assignment or class, it is likely that the time to degree will increase. As it is, only about half of four-year college students in the USA complete their degrees; the rate is even lower for two-year degrees. Thus, students have a practical motive to be “efficient” with their time and energy.

Pressure to Achieve

While it is clear at some level that the business of colleges is learning and education, increasingly colleges are known as businesses, operating with a

“business model” and with education a consumable commodity. This is evident in elite colleges’ competition for paying, high-achieving students; branding, marketing, and corporatization (Washburn 2005); the increase of administrators outside the academic sphere; students being courted not as much in their roles as learners as in their roles as consumers and customers; evaluation of faculty and courses through restaurant review-type surveys; presidents being recruited for their business and fund-raising acumen as CEOs rather than for their intellectual firepower; the dramatic decrease in full-time and long-term faculty with a stake in the institution in favor of increasing numbers of contingent, adjunct, part-time, and revolving faculty; measuring grants and return on endowment; and annual surveys measuring numbers of faculty, publications, funding, etc. (*US News*, Times Higher Education World University Rankings, Shanghai Ranking). In all these ways, it is understandable that students and indeed faculty would get an unspoken message about the importance of increasing indicators (grades, grants, pages written, publications), no matter how attained (Strathern 2000). These institutional factors do not support the efforts to enforce norms of academic integrity despite lip service being paid to it. Rather, they support rejection of these norms.

In what has been called “the social life of achievement” (Long and Moore 2013) and connected with “audit culture” (Strathern 2000), the goals of educational activities are often expressed in terms of measurable outcomes. And in higher education, one of the primary preoccupations for many students is the grade. This is spoken of when administrators lament *grade inflation* and when scholarships are connected with grades. Students’ and administrators’ aims may conflict (desiring respectively higher and lower grades, less work and more work) while faculty interests may lie between.

At selective colleges, students may have both practical (jobs, internships, graduate school) and psychological reasons for maintaining high grades. Their self-worth may be connected to being recognized as excellent (Blum 2009; Long and Moore 2013). In such cases of external perfectionism, high-achieving students may even sabotage classmates when competition is fierce, cut corners on writing, recirculate earlier work, or generally find means of accomplishing the goal of *high grades* while minimizing the time and effort required. Some research shows higher levels of cheating and plagiarism in high-achieving students than in struggling students (Demerath 2009).

At the same time, the goal of college is increasingly spoken of in terms of *completion* (Phillips and Horowitz 2014). This involves amassing a number of *credits* or *Carnegie units*, even though educators including the Carnegie Foundation itself (Carnegie Foundation 2012), where the concept originated in 1906, recognize the limitations and drawbacks of using the measure of *time* to assess educational accomplishment (Silva 2013). Still, the discourse of completion puts pressure on students to find whatever tactics are effective to accomplish this goal.

Some researchers point out the academic deficits common to many students. Students may arrive less than proficient in math, reading or writing, or science (Rose 2009). Up to 50 % of community college students enroll in at least one “developmental” (remedial) course (NCSL 2014). Though such courses confer no

academic credit, they must be paid for, and passed, before students can proceed to the courses that “count.” In such a system, while ostensibly the goal is *learning*, for many students and administrators, the goal is *passing* and *completion* (Hughes 2013; Phillips and Horowitz 2014). Completion rates are lowest among populations who are low income and the first generation in their family to attend college.

In the USA, athletics are a significant aspect of many institutions of higher education, with supporters pointing to the important lessons of discipline, teamwork, and values inculcated through participation in sports. Critics argue that athletic programs lose money, distract from the central academic mission, and lead to high rates of academic dishonesty (Sperber 2000). Students are recruited as athletes – or in the National Collegiate Athletic Association (NCAA) term, “student-athletes” – in Division I schools where students are given athletic scholarships; other students are recruited to be the fans and the audience, the consumers of branded gear, and the viewers of expensive commercials. Images of colleges often include sports facilities; tours of competitive schools almost invariably visit them. Because of the importance of sports to the college experience, nonresidential campuses often attempt to create a campus community centered on athletics.

But the cases of academic misconduct connected with high-level collegiate athletics are legendary. Many examples reveal administrative support for systematic cheating (e.g., Ganim and Sayers 2014) where perhaps underprepared and certainly highly scheduled students are awarded credits for nonexistent classes, or grades are raised without contact with faculty – all because the rewards for maintaining a high-profile athletic program are nearly irresistible. One student interviewed said explicitly, “We weren’t there for the education” (Ganim and Sayers 2014).

Lack of Interest: Classes as a Necessary Evil

Academic citation and solitary examinations are specific forms of academic practice. A good deal of the discussion about academic integrity has everything to do with the educational contexts in which it is supposed to be found. Yet for many, and perhaps most, college students, classes occupy the role of “spinach” in a conventional child’s meal, the disliked but required portion that must be consumed prior to the preferred dessert. The more people discuss “completion” and “credit-hours” and “grades,” the less is the focus on what is actually learned, whether skills or content, if indeed these are separable. Many students, perhaps especially high-achieving students, regard school as a game with the objective the accumulation of “points” (Demerath 2009). One student interviewed by Mary Grigsby stated:

Well, I don’t really like school that much. . . [the worst thing about school] is going to class, but I enjoy the other aspects of being at college. I meet new people and just going out and having fun and being free, having my own house [is nice]. I own a house and rent to friends. I live with two roommates. It’s fun to go to bars, fun to party, but actually I enjoy playing basketball, enjoy doing other sports and stuff. Oh, I watch television, clean around the house, mow the yard. (Grigsby 2009, p. 116.)

Faculty and administrators highlight classes; academic integrity concerns only classes. But for many students, these are to be completed as quickly as possible and with as little involvement as they can manage. The focus on efficiency is widespread; students are quite aware of ways for “cutting corners,” which at its extreme can lead to complete fraud such as buying papers (Tomar 2012).

But not all is a happy paradise on college campuses. Whether concerning traditional college-age students living on campus or older students commuting, students’ *lives* are often complicated and permit only limited attention to be paid to academics, especially when the academics are regarded only as a necessary evil.

The college curriculum is likely to include a range of courses that in the USA are contrasted in terms of “breadth” (distribution, general education) and “depth” (major courses). Students’ attitudes about the required courses tend to be far more negative than toward those in their chosen fields (Blum 2016), as evidenced in teaching evaluations and ethnographic research on student attitudes. With that negative attitude comes a tendency to cut corners and disregard the learning as students race to complete the requirements.

Introductory lectures about academic integrity, whether upon entry into college or in the first weeks of a course, are likely to be disregarded, because the incentives for ignoring them are also high. Also, students have a lot on their minds besides the details of their classes.

Other Aims: Competition for Attention

While college faculty are rightly focused on the academic side of college, it is clear that students have many other concerns, some simply human and others connected to the traditional developmental work of early adulthood (Arnett 2004). This has been studied from a number of angles, all focused on the question: What are students thinking about?

An ethnographic study by Michael Moffat in the late 1980s, *Coming of Age in New Jersey* (1989), showed students’ preference for easy classes, tolerance of corner-cutting, and attention directed to social relations and “fun” in contrast to attention directed to classes. The 1990 book *Educated in Romance: Women, Achievement, and College Culture* (Holland and Eisenhart 1990) aimed to understand why women who began college with interests in what are now called science, technology, engineering, and mathematics (STEM) subjects ended up abandoning those plans in great numbers. Their study showed the dominant power of appearing attractive and available for romance and the inability of academic achievement to compete with these other social desiderata. Though the book is now several decades old, and the gender balance on college campuses has shifted to reveal a preponderance of women almost everywhere, their book demonstrated persuasively that many considerations beyond the academic were involved in students’ approaches to their academic work.

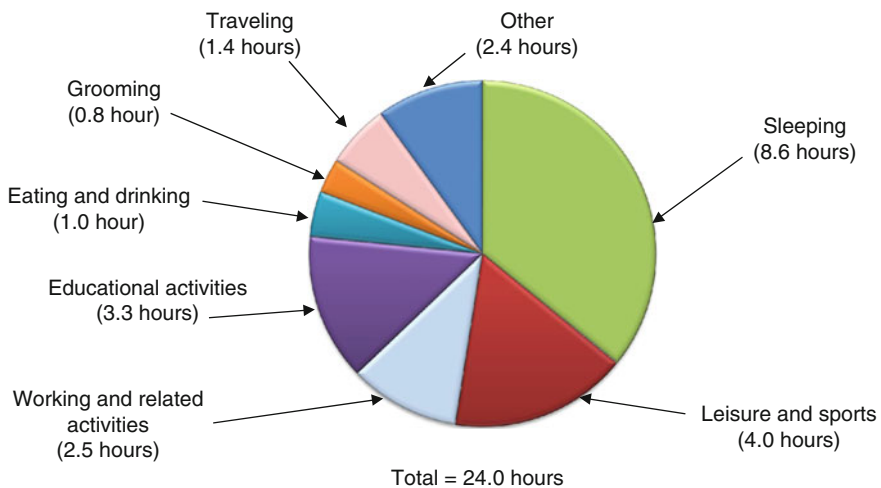
The more recent *My Freshman Year* (Nathan 2005) shows students strategizing about “balancing” good grades, the demands on their social lives, career preparation, and other needs. Focus on success has been regarded as needed in neoliberal

individual-centered economies. And *“I Love Learning; I Hate School”*: An Anthropology of College (Blum 2016) shows students’ explicit evaluation of the various elements in their lives, with academics only one of many foci.

Time

Students today, like non-students, perceive themselves as *busy*. They have their classes, their jobs, friends, family, nonacademic school activities (the vaunted co-curriculum that is so important to college campuses), other activities, nonstop digital communication, fitness, health challenges, and leisure. This contrasts completely with the German romantic ideal of *freedom and solitude* that were to enable the creation of knowledge – the environment in which the ideals of academic integrity were forged.

Researchers lament the limited amount of time students spend on classes (Arum and Roksa 2011), but colleges simultaneously reward them for their many activities (Karabel 2005). Highly selective schools require evidence of “involvement,” and employers increasingly seek this as well, taking into account information far beyond students’ diligent acceptance of class obligations. Clubs, volunteering, service learning, service beyond learning, self-branding, and more all compete with classes for time and attention. High achievers must know how to balance or at least appear to balance all these activities (Deresiewicz 2014); “time management” is a primary skill now taught in middle schools.



NOTE: Data include individuals, ages 15 to 49, who were enrolled full-time at a university or college. Data include non-holiday weekdays and are averages for 2009 -13.

Fig. 3 Time use on an average weekday for full-time university and college students (Source: Bureau of Labor Statistics, American Time Use Survey)

According to the US Bureau of Labor Statistics, full-time college students on average report that they spend 3.3 h each weekday on educational activities (see Fig. 3). Clearly, “educational activities,” which include both attending classes and preparation for classes, occupy some portion of students’ lives, but they exceed “working and related activities” (2.5 h a day) only slightly and are lower than “leisure and sport” (4.0) by some degree as well. The survey did not include time use on weekends.

On traditional residential campuses, a significant portion of students’ time is spent in outside activities (Tenhouse 2014) – encompassing everything from running real-world nonprofits to performing in musicals to working as virtually professional athletes (Sperber 2000) to playing video games and drinking games (Seaman 2005). Many students work, many of them full time.

Interviews with students (Blum 2016) show them, like so many in the society around them, frequently acknowledging stress because of the multiple demands on their time. The highest-achieving students, like the “organization kids” profiled by David Brooks in 2001, are often the busiest and the most involved in multiple college-connected activities. While these are the students celebrated in press releases and announcements about accomplishments (Urciuoli 2014), they may be tempted to skirt regulations regarding academic integrity (McCabe et al. 2012, p. 84) as they engage in other pursuits.

Temptations

The many pleasures of campus life – parties, relationships, athletics, and clubs – compete with academics for time, energy, and attention. In many cases students are adept at meeting their course requirements with a minimal amount of work. Term paper mills advertise this, depicting students lounging by a pool or drinking in leisure. Dave Tomar (2012) writes of his decade of ghost-writing student papers, motivated both by the easy money and by resentment of his own depersonalized college experience. Fraternities and sororities are regarded positively for providing a close-knit community that supports involvement and philanthropic activities, often reminding students of their social and academic obligations. At the same time, they may also enable drunken socializing and irresponsible sexual activity, and the provision of resources such as test banks and paper banks that may facilitate academic dishonesty (Flanagan 2014).

Students’ Roles and Identities

On traditional campuses, students have a diverse set of orientations. Mary Grigsby (2009) profiled five “ideal types” of students’ cultural orientation: careerist (focused on instrumentalist preparation for future jobs), credentialist (focused on earning a degree), collegiate (focused on the social aspects of college and often “resistant to academic demands” (p. 94)), alternative (focused on personal interests and often aloof from college life), and academic (focused on learning, classes, and intellectual pursuits). Milton et al. (1986) divide students into “learning-oriented”

and “grade-oriented” (in terms of their attitudes toward academics). Students may be focused on academics; they may be motivated by fun; they may be mentally challenged; they may have family and economic worries. It is impossible to generalize about students except to say that those who truly embrace the norms of academic integrity and who attend to these values from a positive embrace rather than negative fear of punishment are likely to be few.

But student diversity goes far beyond these five types of students. Some come to campus simply for their classes and disappear. Others are half student, half “adult.” For some their role as student dominates; others have additional identities. People who are “students” in the classroom, subject to policies and following a curriculum, may also be parents, employees, coaches, ministers, health care providers, and more in their lives beyond school.

While one traditional aspect of college has been fostering the adulthood of college students, many of the students now enrolled are already adults in substantive ways. There may be a bifurcate distribution: the irresponsible coddled students we hear about from some (Deresiewicz 2014) and the beleaguered overworked adults we rarely hear about (Rose 2009). While the *New York Times* focuses on the shock of millennials moving back home (Arnett 2004; Henig and Henig 2012), working-class students may live with their own children, parents, aunts, grandparents, and various categories of roommates. Many are parents. The time and attention needed by their own children are obviously in direct competition with that required by demands of attending classes and labs, participating in group projects, studying for examinations, writing papers, and the like.

But other factors as well pull students’ attention from academic matters.

Relationships, Gender, and Sexuality

As mentioned above, about 72.5 % of college students are between ages 18 and 24, the period referred to by Jeffrey Jensen Arnett as “emerging adulthood,” though the period can continue beyond this age. This period is characterized by exploration of many aspects of identity, including sexuality and gender. Psychologists and sexologists concur that this aspect of people’s lives can dominate attention, and a recent book, *Sex in College* (McAnulty 2012), reports on research on this topic.

As with all people, relationships – affective, social, physical, and romantic – play central roles in college students’ lives, but given a general tendency of contemporary emerging adults to challenge convention, and the identity work of this period, lack of clarity about proper behavior can exacerbate such involvement, leading to distress and, at its worst, sexual assault. The prevalence of the “hookup culture” is only one aspect of college sexual relationships. “By the time most men and women finish their first year of college, they have fallen in love at least once and have experienced their first ‘serious’ romantic relationship” (Regan 2012, p. 119, quoting Regan et al. 2004). And while most believe that ideally love and sex should be intimately connected, attitudes toward casual sexual activity separate from love have become more permissive.

Independence from family, college campus diversity, and an environment with a high amount of alcohol and other illicit substances lead to exploration of sexual practices, identity, and orientation. Beyond heterosexual practices, many students explore both their sexual orientation and their gender identity during college. In a survey of college students (the USA and Canada), while only about 3 % identified as homosexual or bisexual, 15 % acknowledged attraction to both genders and 9 % had partners of both genders (Kauth and Bradford 2012, p. 172, quoting Ellis et al. 2005).

Students “come out” as gay, lesbian, bisexual, pansexual, and queer at earlier ages, but a common time for doing so is in college. Courses may provide a critical perspective on gender and sexuality, and students who may have been exploring their own identity may for the first time enjoy the support they get from fellow students. Both sexual orientation and gender identity are increasingly questioned, leading to profound self-examination.

Gender identity is increasingly fluid, with categories such as *transgender*, *gender fluid*, and *genderqueer*, a rejection of the binary between *female* and *male* as the only available gender identities. Such intense exploration may lead to a great deal of reading and conversing about this topic. Sometimes, this intersects with academic subjects; sometimes, it is simply another time-consuming focus.

Campuses vary in terms of their attitudes and climates toward nonnormative genders and sexual orientations (Kauth and Bradford 2012; Wright and Bonita 2012). Those who consider themselves at odds with their setting may end up with considerable psychological and social distress. The cluster of behaviors and attitudes summed up in the term *homophobia* can lead to devastating psychological and educational results in its targets. Whether straight or lesbian, gay, bisexual, transgender, or queer (LGBTQ), sexual and romantic relationships can absorb enormous amounts of energy, time, and attention.

Further, romantic relationships frequently end, with varying amounts of emotional distress. In some 12 %–40 % of cases, *relational stalking* occurs (Regan 2012, p. 139), from moderately to extremely invasive behaviors that can lead victims to fear, anxiety and depression, sleep disturbances, illness, paranoia, and other negative results (Regan 2012, p. 141).

Whether within the context of a relationship or not, in the USA *sexual assault* afflicts almost 20 % of female and perhaps 5 % of male college students (Centers for Disease Control 2012a; Pérez-Peña 2014). The lifetime risk of sexual assault for women is greatest during college, with a peak during the first year (Calhoun et al. 2012, pp. 264–65). The more general term *sexual harassment* has been shown to afflict four out of five girls, and almost as many boys, at some point throughout their education (Sadker and Zittleman 2005, quoted in Wright and Bonita 2012, p. 192). Though all campuses prohibit it, it does occur, and can be a major source of depression and distress. Students harassed in college may lose attention or concentration or avoid classes altogether.

In 2014 the US government mandated that colleges improve their handling of this problem. Given the centrality of sexual identity and experience to any person’s

sense of well-being, the trauma of sexual assault is clearly a significant distraction from the more cognitive demands of classes and the details of proper behavior within them.

Mental Health and Mental Illness

Some evidence suggests that students, especially traditional-age college students, in the USA struggle with mental health. Depression, anxiety, compulsion, bipolar disorder, attention deficit (hyperactivity) disorder (AD(H)D), and more are diagnosed with increasing frequency on college campuses, sometimes requiring accommodation from faculty (Kadison and DiGeronimo 2004). Some evidence suggests that the increased competitive nature of the economy, evident in college admission and employment following college, increases human anxiety (Verhaeghe 2014). In this sense students seeking to get by, to maximize their own impressive appearance, are doing exactly what the culture of celebrity and competition has taught them to do. But anxiety about failure is powerful. In many competitive parts of the world, student suicide is disproportionately common.

In the USA rates of mental illness and suicide have increased between ten and twenty times over the last fifty years, from depression and anxiety to eating disorders to post-traumatic stress disorder (PTSD) and other mood disorders, though a large-scale epidemiological study showed that the prevalence for college students is the same as for their non-student peers: almost half of the population when substance abuse (alcohol, tobacco, drugs) is included (Blanco et al. 2008). Some researchers blame not individuals and biology but the specific features of our society (Levine 2013) for some of these increases. Some examine rates of mental illness and suicide at different ages (e.g., Levine 2006). Depression afflicts almost half of all college students at some point (Tartakovsky 2008; American Psychological Association 2010; Neighmond 2011; National Institute of Mental Health 2012). Suicide is the tenth most common cause of death worldwide, and millions of incomplete suicide attempts occur as well, with about 10–40 attempts for every death by suicide. It is the second most common cause of death in adolescents (Hawton and van Heeringen 2009), occurring with some regularity among college students, often at the very most selective schools, and by very high-achieving students (Suicide.org n.d.; Centers for Disease Control 2012b; Snyder 2014).

This occurs commonly in East Asia as well, where pressures for success are notorious. Tens of thousands of suicides occur among children each year. In China it is the greatest cause of death for those between 15 and 34 (Zhao 2009, p. 87) and is usually attributed to test failure or stress in schooling. It does not end with college admission, either: anthropologist Susanne Bregnbæk also revealed the “public secret” of suicides among college students at elite Chinese universities. She attributes it to a conflict, a double bind, between the older obligation to repay families’ investment by succeeding and a newer “ethos of self-actualisation or self-realisation” being inculcated through the newer discourse of “education for quality” (*suzhi jiaoyu*) (Bregnbæk 2011, p. 25).

As in China, South Korean high school is grueling. There is virtually no release from the pressures of studying from morning until sleep. Staff members bring food into

classrooms so students do not have to waste time going back and forth. Students do not have jobs and rarely are permitted outside activities. Everything is focused on the all-important entrance examinations. Increases in the rate of suicide in the 1990s have led to much soul-searching among Koreans (Kim and Park 2014).

Struggles with mental illness are exacerbated by stress connected with academic performance, which is in turn affected by the distraction of mental illness especially in students living on campuses where their social support is primarily peers rather than family. The absorbing nature of such all-consuming struggles can make norms of academic integrity seem completely remote and irrelevant.

Conclusions

While norms of academic integrity are the law of the academic land, students enter this land only partially. It is helpful for faculty to know something about the land beyond the borders, the air the students bring with them, if they wish to communicate more effectively about the norms that may strike students as unfamiliar, bizarre, irrelevant, or even wrong. This is not to argue that enforcing such norms is impossible or valueless; nor is it to argue that students should be free to disregard these norms. It is rather to argue that effective communication requires knowing something about both communicative partners.

This chapter has focused on the broader social contexts within which students enter institutions of higher education of all types and on the specific forces operating in their full lives as *people* beyond their roles as *students*. The requirements of academic integrity come from distant others – teachers, deans, and workshops – while the pressing everyday concerns of work, health, family, relationships, economy, and leisure may dominate the attention of many of the diverse students of all ages living complicated lives in and out of institutions of higher education.

When faculty attempt to communicate their expectations for performance within the guidelines of academic integrity, it can be helpful to be aware of the forces operating against those norms as well as the professional and academic forces favoring those norms.

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Section IV

Academic Integrity Policy and Practice

Erica J. Morris

Erica J. Morris

In the field of academic integrity, it is established that the design and implementation of academic integrity policy is vital in affecting organizational change. Furthermore, there is consensus that for sustainable change to occur within an institution – including the development of a culture of academic integrity – policy enhancement is one of a number of key elements of an effective institutional academic integrity strategy. In essence, research and case studies have highlighted how institutions can enhance policy and practice through interconnected developments and activities, including engaging both staff and students in academic integrity education. The chapters in this section build on perspectives and investigations in the field to provide conceptual frameworks and evidence-informed recommendations for advancing academic integrity policy and practice, leading to change across an organization.

In the ► [Chap. 29, “Start Them Early and Right: Creating a Culture of Academic Integrity in Elementary Schools”](#), Guofang Wan and Michael Scott look at the issue of academic integrity in elementary schools, stressing an approach that is educative (rather than punitive) and that entails building students’ skills in digital and information literacy. As part of this approach, it is recognized that teachers have a significant part to play as role models, so that teacher education programs should involve a consideration of academic integrity education. In these early years, there are opportunities for teachers to integrate the learning of digital and information literacy in subjects, such as science, and by drawing on a variety of resources, to talk with students about plagiarism and the use of digital sources.

David Wangaard, in the ► [Chap. 30, “Practices to Support Developing Academic Integrity in Secondary School Students”](#), examines research to identify policies and teaching approaches. With regard to the work of the International Center for Academic Integrity, Wangaard emphasizes how policy should be based

E.J. Morris (✉)

Anglia Learning and Teaching, Anglia Ruskin University, Cambridge, Cambridgeshire, UK
e-mail: erica.morris@anglia.ac.uk

on ethical values that are made explicit for staff and students (e.g., honesty, trust, respect). The chapter provides a set of recommendations to promote and develop student academic integrity in school settings, including creating mastery-learning environments and honor codes. In line with these recommendations, a conceptual model is proposed, “Achieving with Integrity,” to indicate areas of focus for a culture in support of academic integrity: community (with regard to shared responsibility), core values (e.g., respect, honesty), commitments (i.e., honor policies or codes), and curriculum (e.g., mastery-oriented teaching and learning).

In the ► [Chap. 31, “Developing a Sustainable Holistic Institutional Approach: Dealing with Realities “on the Ground” When Implementing an Academic Integrity Policy”](#), Erica J. Morris and Jude Carroll are concerned with realities “on the ground,” and the issues that emerge in implementing policy, suggesting solutions to help ensure a holistic approach is sustainable in the long term. Such realities include the varied understandings of academic integrity issues among staff, and how policy and procedures may not be consistently applied across an institution, faculty, or department. Building on established recommendations, it is highlighted how institutional change requires commitment and support from a range of staff roles, particularly senior managers; interconnected strategies designed to enhance understanding of academic integrity issues among staff and students; and regular review of policy.

Tracey Bretag and Saadia Mahmud, in the ► [Chap. 32, “A Conceptual Framework for Implementing Exemplary Academic Integrity Policy in Australian Higher Education”](#), consolidate research to highlight the core elements of exemplary policy (access, approach, responsibility, support, detail) identified through an analysis of institutional policies, and which provide the underpinning for the proposed framework. At the heart of the framework is the imperative to develop a culture of academic integrity, and through an in-depth consideration of exemplary institutional policy, key components have been identified as contributing to this culture, including the value of academic integrity champions within an institution, academic integrity education for staff and students, and the use of robust decision-making systems. This framework can be used to inform institutional strategy, and how policy and practice can be effectively aligned in higher education settings.

In the ► [Chap. 33, “Educational Responses to Academic Integrity”](#), Julianne East focuses on enhancing practice, discussing academic integrity education with regard to the diversity of learning needs within a student body and the wider context of this “digital age.” In their transition to learning in a higher education institution, students are to grasp an understanding of the principles of academic integrity and the skills associated with good academic practice. East considers how academic integrity modules can be used to introduce students to these principles and be designed in ways that are engaging for students, such as through game-based learning. It is also emphasized how students need opportunities to acquire the academic practices and conventions of their subject or discipline. It is here that the relevance of such practices is apparent, in which academic integrity education is embedded in curriculum that is particularly meaningful to a student.

These chapters offer valuable strategies, frameworks, and recommendations for educational institutions so that they can continue to enhance academic integrity

policy and practice. The chapters reflect contemporary thinking in the field of academic integrity, with three themes emerging. Firstly, the creation and review of policy should be a collaborative endeavor involving stakeholders from across an institution, with working groups set up to advance strategies, and designated roles and responsibilities relating to, for example, managing cases. Secondly, there should be an educational emphasis in an institutional approach aligned to policy that is focused on academic integrity and education (rather than student academic misconduct and “punishment”). Thirdly, the development of an institutional approach for promoting academic integrity within an institution requires commitment, resource, and time to mature.

Start Them Early and Right: Creating a Culture of Academic Integrity in Elementary Schools

29

Guofang Wan and Michael R. Scott

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Abstract

Children today live their lives online, which makes information literacy a topic of consideration even in elementary grades. If plagiarism is not addressed in information literacy education, then it may become a problem, even with the youngest children. The purpose of the chapter is to suggest teaching information literacy systematically in elementary schools to help prevent plagiarism later in life. Two major approaches are identified in dealing with plagiarism in elementary schools: legislation and education. While some schools focus on setting up rules that guard and penalize plagiarism, others focus on teaching children why plagiarism is wrong and how to avoid it. Ideas and resources for teachers to use in their classroom are provided. Appropriate instruction in information literacy to prevent plagiarism can be integrated in elementary classes, and more research on plagiarism prevention education in an elementary school context will be beneficial.

“Genius borrows nobly” – Ralph Waldo Emerson

G. Wan (✉) • M.R. Scott
School of Education, Virginia Commonwealth University, Richmond, VA, USA
e-mail: gwan@vcu.edu; scottmr2@vcu.edu

Introduction

In an ever-changing world, children live technology-saturated lives, growing up surrounded by smartphones, computers, tablets, Wi-Fi, and new gadgets that emerge every day. A national study (Common Sense Media 2013) on American children aged zero to eight reported that 63 % of American households with children 8 years old or younger own smartphones and 40 % own tablet computers. Children 5–8 years old spent an average of 2.21 h a day with screen media in 2013 (Common Sense Media 2013). Life for young children in the United Kingdom reflects a similar trend. Twenty-seven percent (2.1 million) of British children under 8 years old now have handheld computers (uSwitch.com 2014). “Children in Britain really are early adopters, with nearly 4 million UK techy tots first mastering touchscreen tablets and smartphones aged three years or younger” (uSwitch.com 2014, para. 2). Some 48 % of British school children take a mobile phone to school (Griffiths 2014).

The early adoption of technology by young children has not only changed the way they spend time, play, and interact with others but also has changed the way they learn and use information. Children take virtual tours around the world even before they set foot in their own neighborhood. For this generation, information is anywhere and anytime at their fingertips. Based on the Pew Research Center’s Internet & American Life Project (Raine 2014), 76 % of teachers believe that the Internet enables students to have access to a wider range of information than otherwise available, while equal numbers of teachers (76 %) believe that the Internet search engines condition students to expect to find information fast and easily. With current “intelligence” being based on such networks (Ratner 1997, as cited in Raine 2014), when the need arises, instead of research, people search and thus have coined phrases such as “Google it” and “use Siri” (a voice-activated search application) to get access to collective information online.

Living in a “wired world” of such powerful convenience and efficiency, no other generation has ever imagined nor experienced such phenomenon. As every new invention, the digital world has its own Yin (阴) and Yang (阳). While the positive and educational impacts of the use of technologies on children’s development and behaviors are observed (Plowman and McPake 2013), pessimists see a series of negative outcomes (Raine 2014), such as unethical behaviors in using online information, including plagiarism. What is more, access to the Internet makes copying and pasting so much easier for students.

Plagiarism has become an issue of rising importance with scandals and allegations of this act affecting politicians, elections, jobs of college administrators and professors, and degree-granting institutions. Furthermore, adolescents and college students are often the focus of researchers and the media concerning plagiarism. The issue also affects young children in elementary grades. The controversy over a federal government-sponsored national Junior Duck Stamp Contest involved a 6-year-old girl who was accused of plagiarism (Dinan 2013; Miller 2013) and later proved to be innocent. With the newly acquired wealth of information from technology, the public is not always prepared, nor are they ready to handle the

overflow of information properly. It is not fair to expect adults, let alone children to navigate the new wealth of information without proper training and guidance. The question becomes: How can schools create a culture of academic integrity to prevent plagiarism among children?

One school division has an academic integrity policy that states:

With the convenience of technology allowing individuals to transfer, copy, and digitize learning materials faster and easier than ever, understanding copyright law becomes even more important. We have an obligation to practice integrity and trustworthiness. All of us should honor the law when it comes to fair use and copyright and in so doing protect ourselves from legal liability. (Kent School District n.d.)

If students are educated through an information literacy curriculum about how to interact with online information ethically and legally, and if they grow up in a culture of ethical use of information, potential behaviors of plagiarism may be prevented.

As the majority of plagiarism studies conducted are about secondary and college classrooms, this study found limited research addressing plagiarism in elementary schools. In order to help schools and teachers build and create a culture of academic integrity among young children, existing literature and practices on teaching online ethical behaviors in elementary schools are reviewed. The review is especially related to teaching information literacy as a means to promote academic integrity and anti-plagiarism, as well as examining models, curriculum, and policies on preventing plagiarism in elementary schools.

The following describes some key terms that we refer to in the chapter: *Academic integrity* refers to commitments to six fundamental core values: honesty, trust, fairness, respect, responsibility, and courage in academic communities (Fishman 2013; MIT n.d.).

Cheating is a broader term than plagiarism. It may include copying from textbooks during examinations and lying about it, while plagiarism is limited to using other's ideas without acknowledging it. Cheating is a covert and deliberate way to break a rule in order to gain an advantage (Green 2004).

Digital plagiarism refers to unethical/illegal use of digital information.

Digital citizenship, "the self-monitored habits that sustain and improve the digital communities you enjoy or depend on" (Heick 2013, para. 7).

Information literacy, as an important twenty-first-century learning skill, refers to accessing and evaluating information; the use and management of information and applying a fundamental understanding of the ethical/legal issues surrounding the access and use of information. It addresses anti-plagiarism skills.

Plagiarism occurs when someone uses another's words, ideas, assertions, data, or figures and does not acknowledge that he/she has done so (MIT n.d.). Plagiarism is an action that breaches the values of academic integrity and forms unethical behaviors that go against values of academic integrity. When students are committed to fundamental values of academic integrity as taught through

information literacy lessons and follow guidelines on ethical use of information online, plagiarism may be avoided.

With anti-plagiarism as a goal, academic integrity forms the basic values, and information literacy becomes a tool that leads to the ethical use of information.

Current Research

According to a survey among 23,000 US high school students, Josephson Institute of Ethics (2010, 2012) found 59 % of students admitted they had cheated on an exam in 2010, and the rate dropped to 51 % in 2012. While 34 % of students copied an Internet document for a classroom assignment in 2010, only 32 % reported doing so in 2012. Results showed that most young people feel that ethics and character are important, but they expressed very cynical attitudes about whether a person can be ethical and succeed (Josephson Institute of Ethics 2010, 2012). The connection between plagiarism and the Internet has also been echoed by other studies. One such study was undertaken at middle school level (Ma et al. 2007). The Internet provides a vast amount of information as well as opportunities for easy copying and pasting of other's work. Even though the rate of plagiarism seems to have dropped according to a study by the Josephson Institute of Ethics (2010, 2012), plagiarism still occurs more often than before and in different ways. With the rise of using computers in academic settings, digital plagiarism is at an all time high among students according to a survey of college presidents (Parker et al. 2011). These college presidents believe that plagiarism has increased due to the easy access to information provided by computers and the Internet.

As plagiarism and lack of academic integrity are increasing at the high school and college levels, there have been calls (Mitchell 2007; Lynch 2014) to stem plagiarism early in elementary school and to teach intellectual property through the development of information literacy skills in the primary grades. However, various questions arise, including at what age children are able to grasp the concepts relating to plagiarism.

For young children to develop the idea that plagiarism is wrong, some complex thinking is required. Children need to understand that others create and own ideas, such as stories, jokes, and works of art the same way as their bikes and toys, and it is wrong to take others' ideas without their permissions (Olson and Shaw 2011). Olson and Shaw (2011) provided evidence that children as young as 5 years old have developed some understanding of the concepts relating to plagiarism and showed dislike for "copycats." Children at the age of five understand physical object ownership transfers and apply the same rules to idea ownership (Blake and Harris 2009; Friedman and Neary 2008; Shaw et al. 2013). Yang et al. (2014) compared children from 3 to 6 years old from the United States, Mexico, and China and found that children from cultures that place different values on the protection of ideas nevertheless develop similar concerns about plagiarism at the age of five as "No one likes a copycat" (p. 111). Children as young as 6 years old disapprove of

“plagiarizers” as adults do and claim to dislike plagiarism for the reason that it negatively affects one’s reputation (Shaw and Olson 2014; Shaw et al. 2013; Goodenough and Decker 2009). These studies further demonstrated the reason why children dislike copycats: they steal ideas from the people who create the original ideas.

Studies on the development of children’s cheating behavior and its cognitive correlates shed light on why and how plagiarism happens among children (Ding et al. 2014). Cheating behavior begins during preschool years (Lewis et al. 1989) with 3-year-olds engaging in cheating practices and peeking at a toy when left alone and instructed not to do so (Talwar and Lee 2002). Children’s cheating behavior has been found to develop with age (Evans et al. 2011). When left alone in a room and asked not to peek at a cup, 5-year-olds tended to peek more than 3- and 4-year-olds (Evans et al. 2011). However, studies also suggested a developmental trend of decrease in cheating behaviors from late childhood (8- to 11-year-olds) to early adolescence (11- to 16-year-olds) (Talwar et al. 2007; Evens and Lee 2011; Ding et al. 2014). Preschoolers may be aware of moral rules about cheating, but they have difficulty in remembering and internalizing them when faced with the temptation to cheat, and older children who may have better working memory are able to resist cheating successfully. Thus, one’s ability to resist cheating depends on both inhibitory control and working memory (Ding et al. 2014). Previous studies reviewed indicate that older children, more advanced developmentally than younger children, with proper guidance and training, will be able to follow rules of academic integrity better than younger children.

Research shows that elementary school students’ general awareness about unethical behaviors, such as cyber crimes and plagiarism, is fairly high, and this may be attributed to relevant education offered in schools (Baruchson-Arbib and Yaari 2004; Çelen and Seferoğlu 2013; Ma et al. 2007). Unethical behaviors, such as plagiarism, were mainly caused by a lack of ethical and legal knowledge in regard to academic integrity (Çelen and Seferoğlu 2013; Ma et al. 2007) and by the assumption that the Internet is a public domain and information online is free (Baruchson-Arbib and Yaari 2004). The lesson learned from this line of research is that it is pivotal to educate students about academic integrity and to curb plagiarism early on.

Elementary school students develop and learn from families, schools, peer groups, social media, and mass media, and they are among the most affected groups by popular culture, including new technology (Çelen and Seferoğlu 2013). A study undertaken at the middle school level showed that peer culture, websites, pressure to achieve, lack of serious consequences, and lack of understanding of the concept of plagiarism contributed to the increase in academic cheating among children (Wan and Gut 2008). Academic cheating can happen when children are under pressure to achieve by families, when there is a lack of education on the concept of plagiarism, and when there is a lack of consequences when academic cheating occurs. It is important to allow children to develop in a school environment where academic integrity is highly respected and practiced. What is more, since teachers are role models for students, it is also important for higher education institutions to

provide prospective teachers with relevant training about teaching elementary students ethics and ethical behaviors online (Çelen and Seferoğlu 2013).

Although this review did not yield any scholarly research exploring the impact or effectiveness of current policies, classroom practices, or curriculum in teaching academic integrity in elementary grades, it did identify the following materials that aim to teach children academic integrity: three handbooks (Davis et al. 2011; Harris 2002; Lathrop and Foss 2005); a few children's picture books (Fox 2010; Fox and Downey 2010); several handbooks and articles published by various organizations (Josephson Institute of Ethics; Josephson and Mertz 2004); manuals and strategies by school districts and home schools (Kent School District n.d.; Richman and Richman 2002), by school libraries (Oregon School Library Information System n.d.; Boston Public Schools Library and Media Services n.d.; St. Francis Xavier n.d.), and by individuals (Harris 2004; Alilock and Smith 2007); websites (Story-Huffman n.d.; Education World 2002; Plagiarism.org 2014) and software companies (Turnitin 2014; iThenticate 2014) providing curriculum, instructional ideas, and practices on teaching academic integrity; and tools to promote anti-plagiarism efforts in elementary schools. Furthermore, while some of these resources are not created for elementary children, they can be adopted and used with young children. Using these tools to teach concepts relating to copyright, the proper use of digital information and academic integrity as part of information literacy skills helps to develop children into becoming critical, intelligent, and mature media users. Technology has brought unforeseen opportunities but also opened doors for digital plagiarism. Students have developed a lax attitude toward academic integrity in the digital age (Harden 2010; Gabriel 2010) as "many students simply do not grasp that using words they did not write is a serious misdeed" (Gabriel 2010, para. 5). Unfortunately, research does not indicate the abovementioned skills of information literacy being systematically addressed in schools, especially in elementary schools.

To Legislate or to Educate?

Ways to respond to the myriad of issues that accompany life in a digitally connected world include legislation and education. This is a choice between courtroom and classroom. An old proverb goes, "Rules are made to be broken." School rules, in their essence, challenge students to break them, and they are subsequently backed up with punishments when broken. When students follow the rules, it does not mean they agree with them, nor understand them. When students break the rules, they take the consequences. When people observe rules and laws, it is not always due to the fact that they are aware of the importance, but often it is because they are intimidated by the punishments or attracted by the rewards. When need appears and when need outweighs the consequences, rules and laws will be broken. Teachers understand it is not fair to expect children to do something that they have not been taught and punish them when they do not do it right. It would be more appropriate for teachers to regard student plagiarism as

“teachable moments” for skills to avoid plagiarism rather than executing the standardized punishment. It would be more effective to take the opportunity to educate a student on why they should maintain the tenets of academic integrity in their work.

What is more, legislation on plagiarism in schools assumes that students are plagiarizers, and *Turnitin* is promoted in schools as a policing, rather than teaching, agent. Bailey (2010) stated that “zero tolerance” policies on plagiarism in schools, though well intended, can create a climate of fear among students and a desire to challenge the system, including zero tolerance policies and text-matching tools, which checks for plagiarism. Instead of properly teaching students to not plagiarize, many people have instead turned “a blind eye” to the situation, causing an accidental “plagiarism war” (Bailey 2010). As a result, this will not lead to positive learning environments in schools or to trusting relationships between teachers and students.

Rutledge (2010), a media psychologist, believed that both lawsuits and regulation regarding plagiarism wasted resources and did not effect positive change. Similarly, Wan and Gut (2008) believed that “media literacy is more effective than top-down government controls and legislations. By teaching children [information] literacy skills, teachers provide them with life-long learning and living skills that are needed for the 21st century.”

What schools need are information literate students and not information illiterate legislations. The approach “educating” takes the humanistic perspective that believes children are by nature good, and the culture and environment they live in help shape who they are (Rogers 1982). Children will choose to do the right thing when they understand the reason and know how. Once children understand that plagiarism is wrong and have the understanding and tools to use and cite sources properly, they will be less apt to copy material.

The abovementioned two philosophical perspectives, to legislate or to educate, will lead to different approaches to dealing with plagiarism in schools. One is to formulate school rules and regulations that enable teachers and administrators to check students and penalize them if plagiarism is committed, and the other one is to teach elementary students the six values of academic integrity (Fishman 2013) in general, explain what is plagiarism, why it is important not to plagiarize, what copyright laws are, and how to write and do research by citing and giving credit to authors properly. As it is very important to teach academic integrity and anti-plagiarism skills in elementary schools, there exist resources that educate students on the importance of academic integrity, albeit a small quantity.

Current Practices and Resources

Many school divisions have policies in place that legislate on plagiarism. A student handbook lists in a series of prohibited activities, “Plagiarism includes using or copying the language, structure, idea, and/or thought of another and representing it

as one's own original work" (Henrico County Schools 2014). Following this is information on consequences if such rules are broken, starting with a conference and leading to expulsion from school. While this is just one example, many school districts have similar policies on plagiarism and cheating but offer little curriculum on how to deter students from performing such acts (Lathrop and Foss 2005). Lathrop and Foss (2005) believe that legislation is less effective than education to prevent students from plagiarizing, as students generally do not see why plagiarizing is wrong. When students are rarely educated on the topic, when the digital age has facilitated plagiarism by making cut and paste information easily as their own, and when students do not inherently see the consequences, it is natural that plagiarism would occur among students. While many current policies and practices focus on legislating and subsequently penalizing those committing plagiarism, some resources have been established to assist teachers and parents to educate their elementary school-aged children regarding the perils of committing such torts.

As examined above, most discussion regarding plagiarism in the elementary school setting revolves around policies condemning plagiarism. A stronger emphasis on educating students about the values of academic integrity and proper information literacy skills is necessary to avoid harsh penalties for acts when students are unlikely to understand the problem at hand (Fishman 2013). In order to teach students anti-plagiarism skills, a variety of websites and books have been released that focus on educating students about why it is unethical to plagiarize and how to prevent plagiarism. By starting students early in information literacy education and fostering understanding of why plagiarism is unethical, we may help prevent serious issues of plagiarism later in students' lives. Some of the resources, currently available for elementary school teachers and students regarding academic integrity and information literacy, will be effective when used in the classroom; some will work well when students learn about anti-plagiarism skills on their own; some will provide opportunities for students to learn through games and activities; and others will lend themselves well for teachers to integrate the discussion of anti-plagiarism into curriculum. The following chart summarizes this analysis (Table 1).

The following subsections describe the available resources in more detail and provide ideas for integrating them in classroom teaching.

Websites. Several websites have been established to help teachers introduce concepts of digital citizenship and prevent plagiarism.

The Big6 (2014) is a resource prepared by information studies experts that helps teachers plan lessons regarding fostering information and technology skills (Big6 2014). The authors of Big6 argue for education about plagiarism early and provide resources to do so effectively. Through education, Big6 (2014) believes that effective habit building will reduce instances of academic dishonesty. They offer a series of free resources, including checklists for evaluating sources. In one checklist, Big6 reminds students to consider currency, appropriateness, authority, reliability, and sustainability in evaluating the sources they use in research (Winningham 2009). With Big6 stage 4, teachers design assignments that help

Table 1 Features of resources

Resource	Classroom use	Self-learning	Interactive	Resource for curriculum integration
Big6 (website)	6-step lesson ideas; information literacy skills; plagiarism	Checklists for evaluating sources		Could be used for curriculum integration
KidsHealth (website)		Academic integrity; define plagiarism; cite properly via listening rather than reading		
Copyright Kids (website)		Pages of reading on how to cite and copyright work	Self-quiz to test knowledge	
St. Francis Xavier (website)	Instructional modules for teaching academic integrity	Introduces plagiarism;	Linked resources to games	Could be used for curriculum integration
<i>Plagiarism! Plagiarism!: 25 Fun Games and Activities to Teach Documenting and Sourcing Skills to Students</i> (book)	Game ideas for teachers to reproduce and play with their students		Through games and activities	Would work well for curriculum integration
<i>Guiding Students from Cheating and Plagiarism to Honesty and Integrity</i> (book)	Tools to teach academic integrity (lessons, ideas, reproducible worksheets)			Could be used for curriculum integration
<i>Cheating in School: What We Know and What We Can Do</i> (book)	Helps teachers understand a student culture behind cheating and plagiarism, as well as ways to combat it		Create an integrity plan	
<i>When Marion Copied: Learning about Plagiarism</i> (picture book)		Students learn through reading the story		Would work well for curriculum integration
<i>But I Read It on the Internet!</i> (picture book)		Students learn through reading the story		Would work well for curriculum integration
<i>The Pirates of Plagiarism</i> (picture book)		Students learn through reading the story		Would work well for curriculum integration

young children understand the ethical use of information, note-taking, proper paraphrasing, and sourcing.

KidsHealth (Dowshen 2014) is a website that provides resources for kids and parents about different topics ranging from physical health to academic integrity. Using the basis of plagiarism as a pitfall to emotional health, this website includes information on what plagiarism is and why it is bad and gives examples in a kid-friendly format. Allowing young children to listen instead of reading the article, the website explains that since plagiarism occurs when someone does not give credit to someone for ideas that are not his/her own, it is a form of cheating (Dowshen 2014). While there is not a lot of interactivity, it does provide useful information that can help children begin to think about putting text into their own words and citing other people's ideas.

Copyright Kids (2007) uses a playful format to teach children about the need to respect copyright. It allows students to explore academic integrity, how to cite, and how to copyright their own work through different web pages. It features an interactive quiz to allow students to test their knowledge that they learned on this website, specifically related to key terms like fair use and copyright.

The faculty of St. Francis Xavier (n.d.), a private school, offers a wiki page for students to find resources related to avoiding plagiarism. This includes an introduction of the topic, as well as a variety of linked resources, such as games and instructional modules, to help their elementary students avoid plagiarism in their classes.

Books. In addition to web resources, several children's books have been published that can aid teachers in educating their students about the appropriate process of using sources in order to avoid plagiarism.

When Marion Copied: Learning about Plagiarism (Berg 2006) tells the story of Marion to present the consequences of plagiarizing in a nonthreatening way. This picture book instructs elementary school students on why plagiarizing is not honest and also addresses ways to use sources appropriately. There is a resource guide to help teachers use this book in different grade levels. For example, students in the primary grades should be taught to recognize that all written sources have an author who should be credited.

But I Read It on the Internet! In an age where technology is becoming one of the primary sources for locating information, Toni Buzzeo (2013) presents a picture book on locating sources. She teaches students that the Internet is a valuable source for finding information but also that it is not appropriate to simply copy and paste. Buzzeo uses this text to teach students about how to put information in their own words and to cite their sources.

The Pirates of Plagiarism. Using a humorous approach to discussing plagiarism, Kathleen Fox and Lisa Downey (2010) explore how plagiarizing is like being a pirate; it is also stealing. Through this fictional story, children learn how to navigate and discover the "treasures of the library" without stealing them. An accompanying website has been created to assist teachers with lesson plans that they can use in tandem with this book, which can be found at <http://www.thepiratesofplagiarism.com/>.

One way of using this picture book is to design an interdisciplinary lesson on plagiarism including reading and another subject area, such as mathematics. The accompanying website offers discussion questions, such as: “How is plagiarism similar to piracy?” “Why is the library compared to a treasure box?” “How would you feel if someone steals your treasure?” Teachers can then incorporate other content areas in order to show that academic integrity is important in more than just reading and writing. In addition, teachers could ask students to compile a *Dos and Don'ts List on Plagiarism* based on the conversations in the book between the students doing research in the library and the pirates. This list reinforces proper citing and crediting while using other's ideas.

Additional books have been published to aid teachers in policies and practices regarding plagiarism.

Plagiarism! Plagiarism!: 25 Fun Games and Activities to Teach Documenting and Sourcing Skills to Students (Fox 2010). This book is a resource for teachers and librarians that provides interactive ideas and plans to discuss research skills and avoid plagiarism. For example, students could be instructed to look up information, give some information that was incorrect, not cite their source, and have a different student try to find the incorrect information. Without a citation, students will learn that this is a feat.

Guiding Students from Cheating and Plagiarism to Honesty and Integrity. Ann Lathrop and Kathleen Foss (2005) examine the culture of schools and promote ideas that will help schools, teachers, and librarians find ways to help students avoid plagiarism in early education. This resource provides lessons, ideas, and reproducible worksheets to educate students on the ideas. The authors recommend that librarians are key in teaching academic integrity and can work with teachers to create learning opportunities for students that help them learn skills in information literacy.

Cheating in School: What We Know and What We Can Do. Stephen Davis, Patrick Drinan, and Tricia Gallant (2011) explore the nature of cheating in schools from elementary to post-secondary levels. These authors pose theoretical questions about why students cheat in later grades, such as an overbearing need to achieve, but they also offer potential solutions, such as having meetings with all stakeholders, including students, to create and implement an integrity plan. While this resource is geared toward older students, Davis et al. (2011) promote a change in culture, which could be fostered in early grades as well.

While not exhaustive, these resources provide a good series of ideas for teachers and librarians to help students navigate the research process in order to be good digital citizens. Nevertheless, more research on the issue of plagiarism and more resources created specifically for elementary school students are needed. Rather than imposing harsh policies, school districts should focus on curriculum planning and supporting teachers in delivering instruction on academic integrity. While there is a need for some legislation, a greater emphasis on education relating to academic integrity and information literacy is critical in order to change the academic culture.

Conclusion

Information literacy includes lifelong skills that should be taught early in a student's academic career. This can be achieved partially by incorporating discussion in classrooms and by students practicing through games and hands-on learning activities. As technology is going to stay and affect everyone's life, the issue of plagiarism is very relevant and important for young children. Since young children are fully capable of grasping the concept of plagiarism, it is vital to create awareness of, and a culture of, academic integrity. This way, educators may help students avoid many potential plagiarism issues.

Educating children rather than penalizing them in the case of plagiarism will create a school culture that values intellectual property and academic integrity. Adults should model and practice academic integrity, as well as provide direct instruction to children on how to research and use information with proper citation. To do this, school leaders and administrators should make sure that professional development opportunities will mean that teachers can address academic integrity in elementary schools.

It is recommended that teachers introduce the concepts relating to plagiarism in ways that "speak to" young children and take any teachable moments to address academic integrity. Information literacy skills do not need to be taught as a separate subject or addressed as an after-school activity or event. The best way is to integrate the instruction in various subjects, especially in interdisciplinary lessons where possible, as well as in technology instruction and library uses. Future research is needed to examine the effectiveness of various programs that help young students understand the values of academic integrity and learn ways to avoid plagiarism and to explore the long-term impact of educating young children about the issue of plagiarism. For example, an implementation of a longitudinal study to explore the effects of early academic integrity education on students' academic careers would prove helpful for promoting such curriculum.

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Practices to Support Developing Academic Integrity in Secondary School Students

30

David B. Wangaard

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Abstract

A review of the literature is provided to guide policy and practices in support of developing academic integrity in high school students. Guided by research results in secondary schools and colleges, best practices that support academic integrity are outlined to include – encouraging specific characteristics of teacher competence, creating mastery learning environments, writing honor codes within an honor system, implementing classroom practices to resist cheating, strengthening student moral identity, and working in a collaborative team to advance a school culture in support of academic integrity.

D.B. Wangaard (✉)
The School for Ethical Education, Milford, CT, USA
e-mail: dwangaard@ethicsed.org

Introduction

We have all heard a student say something similar to, “Do you want me to tell you what you want to hear, or do you want me to tell you the truth?” What is surprising about this particular quote is that it comes from a 6-year old responding to a father’s inquiry into students cheating at her school (Weissbourd 2012, p. 1). Disturbingly, the rest of the story with this child was her classmate’s observation that everyone was cheating in their elementary school. And while we might want to hear that progress is being made to improve academic integrity in schools, the “truth” is definitely more challenging.

Cheating in school should not surprise anyone working in secondary schools. While the focus of this chapter is predominantly on North American research and schools, readers will recognize the Handbook includes a broader lens with international perspectives in Section 1, “Defining Academic Integrity: International Perspectives” and a review of contextual factors that impact academic integrity in Section 3, “Contextual Factors Which Impact on Academic Integrity”. With that in mind, the research from many sources and over three decades has informed us that when high school students are surveyed about academic dishonesty that only a small minority of students have not self-reported cheating in one fashion or other (Josephson 2010; McCabe 1999, 2001; McCabe et al. 2012; McCabe and Stephens 2006; Schab 1991). The students themselves recognize the problem, and one student has commented, “I don’t think that academic integrity is really enforced. Students cheat, and they don’t get caught. I wish that the school had a program or something that would help prevent cheating” (Stephens and Wangaard 2013, p. 174).

Some recognize a sense of moral engagement is taking place when “adolescents decide to cheat because they assume that schools are inherently unfair and teachers will discriminate against them. . .” (Thorkildsen et al. 2007, p. 174). Similarly Alfie Kohn suggests, “Cheating could be seen as a rational choice in a culture of warped values” (Kohn 2007, p. xiv). If cheating can be viewed as a moral or rational response in the current culture, what are secondary educators to do to reverse this condition?

The challenge is clearly larger than simply overcoming students’ propensity to cheat. There is a challenge in our school culture, and some would suggest in the US national culture, where our own colleagues can express indifference to the problem. Their indifference may be a cover for a greater concern about repercussions from taking any actions in resistance to academic dishonesty. Avoiding the hostility of students, their parents, and administrators (who do not look forward to mediating these types of disciplinary issues) are meaningful hurdles to overcome if the goal is to create a school culture committed to academic integrity.

McCabe et al. (2012, p. 3) clearly state the reasons our profession should be concerned about the challenge of academic dishonesty. They observe,

“When people ask us, why we care so much about academic integrity when the world is gripped by bigger problems, we find this question perplexing. It challenges a view that we

take for granted: that academic integrity matters a lot, especially when viewed as a barometer of the general ethical inclinations of the rising generation. We view academic integrity as a harbinger of things to come, a reflection of the general mores that society is passing on to the next generation. We can think of at least six reasons why we should care about academic integrity: (1) integrity is the cornerstone of academia, (2) cheating is widespread and on the rise, (3) the [high school and] college years are a critical period for ethical development, (4) . . . students face significant pressures to cheat, (5) students are being taught that cheating is acceptable, and (6) today's . . . students represent tomorrow's leaders."

There is a great need to take action in high schools in support of academic integrity. The goal of this chapter is to examine what current research suggests will increase students' commitment to act with integrity, identify policies and teaching practices that support integrity and outline a strategy to advance a culture of academic integrity school wide.

What the Research Tells Us

While the focus of this chapter is on secondary schools, there is much that can be gleaned from the research that points to good practice in colleges and thus research from post secondary schools will also be in this review. There will be no specific reference to correlational coefficients or levels of statistical significance noted in this summary. The purpose here is to point us in a direction that leads to faculty and student behaviors that support academic integrity and less student cheating.

Pedagogical and social competence of teachers to function well in their classroom is one theme that emerges from the research on cheating. Students cheat less when teachers are able to organize relevant lessons with enthusiasm for their academic content. Teacher enthusiasm should also include a demonstration of concern for students' ability to learn and the fairness of student assessment (Anderman et al. 2007). The positive effect of teachers demonstrating concern for students would be consistent with research that notes caring classroom environments and appropriate positive relationships between teachers and students are positively correlated to prosocial behavior (Narvaez and Lapsley 2009). Conversely, where students report being alienated by uncaring or unfair teachers the reports of cheating increase (Calabrese and Cochran 1990; McCabe (1999); Stephens 2005). A related theme is that of teachers' permissiveness in relation to cheating. Teachers who show a lack of concern or are lenient in their class administration in regards to cheating lead to reports of more student cheating (Shu et al. 2011).

A second research theme recognizes that student cheating can be lower in mastery learning environments as opposed to students in performance-learning environments (Anderman 2007; Stephens 2005; Stephens and Gehlbach 2007). Mastery learning environments are described as highlighting the goal of authentic student mastery of subject material, which in general notes a higher level of student engagement and goal setting for their own learning. This is contrasted to a performance-learning environment where students primarily seek personal

recognition through letter grades, GPA, or public attribution. Students in performance-learning environments view their end goal as their prestige or opening the next door of education, which allows them to diminish the importance of any unethical strategies they use to achieve those goals.

A third theme in the research indicates that well-implemented honor codes can result in less student cheating (Broussard and Golson 2000; McCabe et al. 2012; McCabe and Trevino 2002). Honor codes come in many forms and typically summarize a school's honor policy, highlight core values to be upheld in relation to academic integrity, and affirm students' commitment to uphold the code. Traditional honor codes are defined to include student obligation to report peers and require students to self-govern in unsupervised exams. The expectation and reality of student reporting on peers is extremely rare in public schools as of this writing. The result has been the development of "modified honor codes," which some consider only aspirational in nature and do not require peer report of cheating (self or others).

Research also points out that honor codes that do not originate from the school culture do not reduce student cheating (McCabe et al. 1999; Roig and Marks 2006). Honor codes that represent a school culture of integrity seem to have a reciprocal relationship to that culture. The culture represented by the school administration, faculty, and students creates the honor code and the honor code reinforces the culture to remain vigilant in its protection of academic integrity.

Student use of rationalizations (moral neutralizers) is a theme that research has shown results in higher levels of student cheating (Brown et al. 2011; Murdock and Stephens 2007; Spear and Miller 2012; Stephens 2004). One classification for rationalizations is adapted from Murdock and Stephens and includes three types for descriptive purposes – (1) Externalizing Blame: This is a displacement of responsibility and seeking to place the blame on others (teachers) or circumstances (there was no time to study); (2) Minimizing the Wrong: This diminishes the behavior (I didn't kill anyone) or claims no harm was done (This was a victimless action); (3) Alternative Moral Claim: This elevates a personal value system (I had to do this to keep my scholarship) or loyalty (I did this to help my friend) above a community value system, which should include a focus on fairness to the school community (other students and teachers) (Murdock and Stephens 2007). The choice to use rationalizations to support cheating is seen as a method to ease one's conscience in the face of a recognized moral compromise. Thus, the more clearly formed the rationalization e.g., *the teacher was incompetent*, the more easily a student is able to avoid a personal moral conflict if they choose to cheat.

Witnessing peers cheat or recognizing peer approval of cheating is a fifth research theme, and it correlates to increased student cheating behavior (Gino et al. 2009; McCabe et al. 1999; Shu et al. 2011; Stephens et al. 2007). Students' acknowledging that cheating is widespread and normative in school has a corrosive effect on their own decisions. Observing others cheat can become one of the supporting rationalizations just noted (Externalizing Blame) in a student's choice to compromise their integrity and participate in cheating. Environments where students see and accept the norm of cheating and its associated rationalizations

also support a measurable cheating attitude that is also correlated to higher levels of student cheating (Murdock and Stephens 2007).

Moral identity is a final research theme to be considered here and the role it appears to play in lowering student cheating behavior. One definition of moral identity is provided by Wowra, “. . .as a psychological structure that incorporates the prescriptive and universal ideals of justice, fairness, and beneficence into the self-concept” (Wowra 2007, p. 305). Students with stronger moral identities are more focused on their commitment to integrity than to what others might say about them. A strong moral identity is suggested to narrow the judgment-action gap that is typically displayed by students when they state a belief in a value, but then fail to demonstrate that value with the possible use of a rationalization. When moral identity is high, it appears to reduce the use of rationalizations (Narvaez and Lapsley 2009). Moral identity is a construct that is acknowledged to be challenging to measure, but where researchers suggest it has been measured, or a similar commitment to moral beliefs, it is often cited as a protective factor against cheating (O’Rourke et al. 2010; Olafson et al. 2013; Stephens 2004; Wowra 2007).

Recognizing that peers are cheating encourages the observers to cheat; however, a strong moral identity has been revealed to resist that tendency. “For example, direct knowledge [of cheating] has little effect on the cheating behavior of someone very morally opposed to cheating. However, direct knowledge of others cheating has a much bigger impact on the behavior of someone with a high cheating valence attitude, indicating that they are less opposed to cheating. This implies that moral considerations outweigh social ones for our participants with strongly held beliefs, but they are more susceptible to social pressure as those beliefs waver” (O’Rourke et al. 2010, p. 60).

Expanding on the number of values Wowra used to define moral identity, Staats and colleagues report, “Some students do not cheat. Students high in measures of bravery, honesty, and empathy, our defining characteristics of heroism, report less past cheating than other students. These student heroes also reported that they would feel more guilt if they cheated and also reported less intent to cheat in the future than non heroes” (Staats et al. 2009, p. 171). While all of the research findings noted here can guide us in the development of policies and best teaching practices, it is the formation of moral identity that appears to have the most potential to support student choices to act with integrity.

Policies in Support of Integrity

A high school student in Connecticut recently observed, “I would like to see a clearer [academic integrity] policy and I would like it to be enforced” (Stephens and Wangaard 2013, p. 174). This sentiment was expressed as the most often stated theme by high school students in this study in the northeast United States. Students expressed their frustration with the adult community’s lack of commitment to academic integrity. Cizek acknowledges the cause of students’ frustration and notes, “The problem of cheating is only increasing, that virtually nothing is being

done currently about the problem and students know that too...” (Cizek 2003, p. 117). A chapter in this section of the handbook highlights exemplary academic integrity policy and no attempt will be made here to replicate that content; however, a few points of policy focus will be made to align with the research just cited and highlight policy resources.

Academic integrity policy should be recognized as more than the fences or boundaries that define acceptable behavior. There should be a motivational factor in good policy. What is needed is an inspirational quality that points us to higher expectations and in the case of academic integrity; it can point us to core ethical values that support the community’s moral identity. Policy should support the school’s moral identity to help resist ethical compromise. As noted by Horacek (2009), “Policies tell students not to cheat, plagiarize, or falsify data. What students need to know is that we expect them to aim far higher: their aim should be to get it right. Students reach intellectual adulthood when they feel a personal obligation to get it right in their work – and when the importance of getting it right contributes to the motivation for their effort” (Horacek 2009, p. 16). Horacek’s reference to “getting it right” is a working classroom definition for acting with integrity.

Clearly defined ethical values should be the basis for effective policy. The International Center for Academic Integrity at Clemson University has completed an excellent publication *The Fundamental Values of Academic Integrity*, to help schools identify ethical values for their policies. Those values are – honesty, trust, respect, fairness, responsibility, and courage (International Center for Academic Integrity 2012). This list of six values and how their definitions support an academic integrity policy are outlined on the Center’s website at www.academicintegrity.org. Focusing students on core values in support of academic integrity within any policy offers an opportunity to clearly claim an ethical position for the policy and explain how values can help the individual student and school community succeed together.

Other resources to support policy development can be found in the work of Roberts as he describes the justification and specific policies and procedures for a well developed honor policy with a focus on independent schools (Roberts 2013). For public schools there is an example honor policy synthesized from the review of 93 school policies as discovered on school websites (Wangaard and Stephens 2011). This list was ultimately sorted down to 33 school policies that included definitions of cheating and published integrity codes. All of the resources referenced here are available to help guide school leaders to create an aspirational honor policy.

One procedure that should be added to any academic integrity policy is the identification of strategies to manage the calendar placement of major projects and exams. This procedural suggestion is in response to the almost universal student complaint that schools fail to regulate how large projects and exams are often scheduled in narrow time frames. The time pressure and the resulting academic pressure can create a student perception of an uncaring and unfair school system. As noted earlier, this is a clear theme that results in more students cheating. Time management is a big enough issue for most adolescents without the unnecessary complications imposed by teachers who are unaware of the project or exam schedules of their colleagues. High school leaders should look to the example of

those in post secondary education that arrange for exam weeks that segregate subject exam periods and due dates for major projects.

A second policy recommendation is suggested to help unify the school around one or at most two citation guidelines. This policy is recognized in universities where the science departments identify a standard like the American Psychological Association (APA) guidelines and the humanities departments select Modern Language Association (MLA) for students to use in the formatting of their papers and citations. This is a simple administrative step (not universally practiced) to help standardize a high school student's understanding and practice with the complicated rules and protocols for citation. Identifying one citation standard can lead to the creation of local or online resource links published on the school website for students to use as they begin their research and seek to properly cite references in their notes. Minus this clarity, and if different teachers require different citation protocols, the students can sometimes rightly claim, "I didn't understand the format method" in response to accusations of inaccurate citations.

Recommendations to Advance Student Academic Integrity

The following recommendations will be organized in parallel fashion to the research based themes that have been identified to support or resist academic dishonesty. Some recommendations can be easily implemented while others require their own chapter or book to be adequately described. Thus, it is with the caveat that meaningful follow-up may be necessary to fully understand and implement some of the recommendations that follow. The recommendations include promoting teacher competence in support of academic integrity, advancing strategies to create mastery learning environments, creating an honor code within an honor system, exposing rationalizations, implementing ideas to resist student cheating, developing student moral identity, and creating a culture of academic integrity.

Promoting Teacher Competence

Teaching is an art that individuals can enhance with skills learned through effective professional development. Professional development through preservice education or postcertification programs is often lacking when it comes to instructing teachers as moral educators (Cummings et al. 2007; Zdenek and Schochor 2007). Teachers can learn to organize lessons well, engage their students in the pursuit of rich meaning, sustain an ethical learning environment, and promote student growth; however, it is recognized that either through poor professional preparation or the wear and tear that burns out some good professionals, that some teachers fail in any number of competency areas and struggle in their pursuit to educate students.

Appropriate supervision must be involved to help teachers recognize gaps in their ability to teach. And teachers themselves should have enough self-awareness to recognize if lessons are not working well or they are not connecting with their

students. In regards to the general competencies that encourage student academic integrity, clear and relevant lesson planning, enthusiasm in instruction, demonstrating care and fairness to their students along with authentic support for academic integrity could all be developed and sustained through relevant professional development and collaboration with a mentoring teacher.

One area for possible professional development is noted by Cummings and colleagues who recognize the historical gap in moral reasoning that is evidenced in preservice teachers (Cummings et al. 2007). This gap represents a critical professional inadequacy if the goal is to promote student moral reasoning and subsequently less cheating. They point out that moral reasoning can be improved through the experience of a number of learning strategies that include social role playing, discussion of moral dilemmas (with or without an understanding of Kohlberg's theory of moral development), and the development of skills in logic and justice operations to be applied in the discussion of moral dilemmas. All of these skills should be learned by teachers who will be able to teach and practice them with their own students.

Internationally respected character educator Thomas Lickona, recently summarized the major lessons he has learned in his career to support teaching with a focus on moral and character development. Recalling early in his career he was warned not to use didactic instruction, Lickona was surprised to learn in his own research that direct instruction did have its place in moral education. "Two decades later, when I wrote *Educating for Character*, I tried to honor both direct moral teaching and indirect, experienced-based methods of character education and to show how effective teachers and schools make wise use of both" (Lickona 2014, p. 2). This continues to be a debated topic to this day and Lickona's advice suggests balanced approaches are best used when taking into consideration the age of students and their cognitive and moral development. Teachers pursuing their own professional development should include a study of these two teaching strategies and how to apply them with their students. Lickona also recognized the value of learning how to apply democratic principles to the process of class administration and encouraged the prioritization of student leadership and choice making whenever it could be applied.

Advancing Mastery Learning Environments

Students tend to cheat less in classes where teachers support a mastery learning environment (Anderman 2007). Mastery learning is defined here as encouraging student engagement in setting relevant learning goals, student self assessment and regulation as to their progress toward goals, careful student analysis of texts, and arguments where they can cite textual evidence for drawing conclusions, practice with skills or procedures until the skills are understood and mastered (Narvaez 2010; Stephens and Gehlbach 2007). Mastery learning environments are contrasted with performance-goal environments where students are primarily motivated by

extrinsic rewards, learning is mainly a stepping stone to what happens after graduation and learning is not valued for its own worth, but is seen in terms of GPAs and class ranking.

A teacher's choice to create a mastery-learning environment in a sea of performance goals is an understandable challenge. Revising lesson plans to encourage student choices, creating rubrics to measure progress against mastery standards and having the opportunity to implement formative assessments and alternative or enrichment learning experiences requires commitment and time. However, every teacher can choose to move their own class teaching strategies to be more inclusive of student choice, goal setting, and student reflection on their progress. These are choices to move to a more mastery learning environment and an environment where students prefer learning over cheating to earn status.

Creating Honor Codes within an Honor System

An honor code is recognized to be only as robust as the community support for the code. Thus, while no one suggests that the creation of an honor code apart from the school's existing culture will reduce student cheating, it is suggested that the process to write a code (traditional or modified as describe earlier) within a community that embraces its honor system has shown a positive correlation to less student cheating (Broussard and Golson 2000; McCabe et al. 2012; McCabe and Trevino 2002; Shu et al. 2011).

It is widely recognized that creating an honor code within an honor system is a time intensive process. McCabe and his colleagues note, "Honor codes require a great deal of patience and attention, and they take time to truly become part of an institution's tradition" (McCabe et al. 2012, p. 29). To become part of the institution's tradition, the writing of an honor code requires the participation of the whole school community. The process should include drafting, seeking approval of drafts and then disseminating, teaching, and enforcing the code.

The time demand for this process may be one reason why school leaders balk at taking on the challenge of academic integrity. The public is not pushing for change, academic integrity is not measured on standardized tests and the complexity of seeking cultural change is a daunting task. McCabe and colleagues provide a summative insight into this dilemma regarding their observation of the difficulty to have public high schools participate in a student academic integrity survey. They note, "...we quickly learned how difficult it would be to get public schools, in general, to participate in our survey process. It seemed that individual teachers were afraid of what the principal might say if they helped us, while principals generally felt they needed to get the superintendents' permission to do our survey. The typical response from the superintendents was that they would not proceed without approval from the Board of Education, and they already had too many priorities in front of the board to add this to the list. We also got the feeling that fear of adverse publicity and potential problems with parents were probably the bigger

issues for most schools. Also evident was the worry that if the school did the survey and discovered there was a problem, they would have to do something about it” (McCabe et al. 2012, p. 21). Regardless of the difficulty, the task of implementing an honor code within an honor system shows great merit based on the clear research in its favor.

The International Center for Academic Integrity provides a seven-step outline to create an honor system that would support an honor code. The seven steps include: “(1) Develop and publicize clear, fair, academic integrity policies, procedures, and statement, (2) Promote positive aspects of academic integrity amongst all segments of the campus community, (3) Educate all members of the community about academic integrity standards so that expectations are well understood, (4) Practice the actions described in campus policies consistently and fairly, (5) Develop, explain, and administer equitable, transparent systems for adjudicating integrity violations, (6) Stay abreast of current developments in technology and educational practices in order to anticipate increased risks and address potential problems, and (7) Regularly assess the effectiveness of academic integrity policies, procedures and practices. Revise and revitalize as necessary to update and improve” (International Center for Academic Integrity 2012, p. 31). This type of comprehensive approach clearly requires a collaborative process with a diversity of representatives from the school community. And this process will require time. A reasonable strategic plan should consider years, not semesters for full implementation.

Exposing Rationalizations

Rationalizations or moral neutralizers have been recognized as psychological devices to help ease a person’s conscience when they act in ways that they understand violate ethical norms (Bandura 1990). Research findings note that students use rationalizations as a strategy to support cheating behavior. A list of rationalizations (Table 1) is compiled here as adapted from several authors (Murdock and Stephens 2007; Olafson et al. 2013; Sisti 2007; Whitley and Keith-Spiegel 2002) and sorted into three categories. These categories can be used to help define rationalizations and expose the use of rationalizations as excuses for academic dishonesty.

Teachers can creatively introduce the concept of rationalizations in class discussions by asking students to brainstorm all the justifications they have heard when people are confronted with an ethical failure. In summary, a student list should be similar to Table 1, and the class discussion can be guided to focus on the ethical values that are compromised when a rationalization is applied. Ethical values are suggested from the list noted earlier from the International Center for Academic Integrity. The goal of this discussion would be to focus students on the *person they want to become* and the values they want to represent as opposed to the person who easily uses rationalizations to cover up ethical failures.

Table 1 Student rationalizations for cheating as classified in three categories

Category	Student rationalization
Externalize Blame	I did not have enough time
	My parents pressured me
	The teacher did not care
	I did not know how to complete the work
	Everyone does it
	I do not respect the teacher
	There was a technology failure
Minimizing Harm	I was not interested
	I knew I would not get caught
	I do not think this is cheating
	No one is hurt
	This is only busy work
Alternative Moral Justification	I did it to help my friend
	I have to earn an A for my class ranking
	The assignment was not fair
	I enjoy beating an unfair system

Reduce Students Witnessing Peer Cheating

Cheating behavior is recognized to increase as students observe their peers cheating or recognize a social acceptance of cheating. There are a variety of small interventions as well as longer-term strategies that can be implemented by teachers to reduce the level of cheating in their own class and thus reduce the potential of witnessing peers cheat. The first is to take a proactive position in support of academic integrity in statements regarding class expectations. Every course syllabus should include a definition of academic integrity and its supporting core values, definitions of cheating behaviors and the likely consequences for violations. Role modeling academic integrity enthusiastically is essential to validating these statements and to resist student cheating (Stephens et al. 2007; Whitley and Keith-Spiegel 2002).

It is fascinating to talk with colleagues and recognize the wide understanding but often weak implementation of the traditional recommendations to reduce cheating in class that include: designing lessons to increase student engagement with clear purpose, providing comprehensive study guides and schedule exams with respect to other teachers and school events, teaching test taking strategies, using multiple forms of exams during testing, spreading students throughout a class space and removing all personal materials off desk tops and monitoring the class actively during testing (Davis et al. 2009; Strom and Strom 2007). School leaders who add this checklist to their supervision of faculty will raise the significance of academic integrity within their teachers' class administration.

For large projects and papers there are similar recommendations to reduce the pressure or temptation for students to cheat. As previously mentioned, students' poor time management creates many opportunities to form rationalizations in support of academic dishonesty. High school students can be meaningfully helped by their teachers who break projects and papers into smaller graded assignments such as project description or thesis, abstracted bibliography with proper citations, outline, draft, and revision with the submission of a final draft to a service like TurnItIn for students to directly receive an originality report (DeSena 2007; Galloway 2012; Lathrop and Foss 2005; Stephens et al. 2007; Strom and Strom 2007). DeSena (2007) notes the value of the online source of the Online Writing Lab at Purdue University (OWL) – www.owl.english.purdue.edu/handouts/research/index.html – to help guide students in citing references correctly.

Concerns for plagiarism deserve their own separate attention and set of clear definitions. Gilmore (2008) in his excellent text on plagiarism notes six types of plagiarism that students should be aware their teachers are monitoring. The six types include: 1. Making up sources, 2. Including in-text citations that are not in the bibliography (or vice versa), 3. Quoting from one source only but placing multiple in-text or bibliography citations, 4. Writing a paper with no copied material but copying the outline of another source (plagiarize an outline) without citation, 5. Allowing parents or others to heavily revise paper, 6. Self-plagiarizing by submitting your own work in multiple courses without teacher permission or citation of your earlier work.

There are also important skills in writing well that require instruction and frequent review to help students avoid cheating and these skills can include: effective note taking to maintain a clear link with a complete citation, understanding the appropriate use of quotes and how to cite them, paraphrasing that maintains the original author's meaning with citation, understanding the difference between paraphrasing and "patch writing," and the ability to compare, contrast, and synthesize the writing from multiple authors while maintaining clear citations (DeSena 2007; Galloway 2012; Menager-Beeley and Paulos 2006; Stern 2007).

Teachers are encouraged to review and reflect on these multiple check lists of good practice and self assess if they are implementing the known strategies and teaching/reviewing relevant writing skills to reduce cheating in their classroom. The next activity is suggested to provide students their own reasons to support the steps teachers may use to resist cheating in class.

Why should students not cheat? This question has not been directly addressed here from a student's viewpoint. It is a great question to ask students to begin a dialogue about academic integrity. High school students are capable of generating a fairly substantial list of reasons not to cheat. Teachers are encouraged to give students a chance at this reflection question prior to sharing the list in Table 2. Do not be discouraged if skeptical group think takes over a class and few reasons are generated. There are times where vocal students' struggling with the ethical issues in the broader culture can make this discussion complicated. Reflecting on their own list, or the one in Table 2, may help strengthen student moral awareness as we encourage choices to live ethically.

Table 2 Ten reasons not to cheat and why cheating is an ethical/moral failure that harms the individual and society (school)

Cheating harms the individual by –	Cheating harms society (school) by –
Rationalizing their cheating which leads to more cheating (in and out of academics) and compromises their own ethical/moral code,	Creating an environment of broken trust, which then limits the ability of students and students and faculty to work together meaningfully and collaboratively,
Failing to engage in the authentic learning and mastery of academic material and thus harming their own education,	Leading to more cheating and a lowering of standards as cheating becomes “normal” and the way to compete in the school culture,
Harming their reputation (they are frauds, liars and intellectual thieves) and facing consequences that can be serious,	Lowering standards which can reduce the moral authority of school leaders,
Reducing the enjoyment of accomplishments earned through genuine effort.	Forcing cheaters to depend on authentic learners because cheaters haven’t learned or mastered their own academic work and rely on the creative work of others,
	Requiring creative and honest students/ citizens to spend time and effort protecting themselves (intellectual property, ideas, writing, exam answers) from cheaters which is non productive work,
	Awarding cheaters with unearned rights/ privileges and scholarships.

The final strategy for consideration focuses on developing student moral identity through classroom activities. It is the concept of moral identity that offers great promise to “trump” other factors in determining a student’s resistance to cheating. How we understand the concept of moral identity and teach students in order to strengthen it offers much potential in support of students’ choices to act with integrity.

Developing Student Moral Identity

Supplementing the definition of moral identity (above by Wowra) recognizes that individuals with positive moral identity will take personal responsibility for moral judgments with the understanding of a moral commitment to others. Their commitment to moral action can also be informed by moral exemplars (Narvaez and Lapsley 2009). Further, Narvaez and Lapsley suggest that moral identity can be developed by repeated experience, instruction, coaching, and socialization.

Moral identity, or similar constructs, have been cited for positive associations with moral action that reduces cheating (Eisenberg 2004; Olafson et al. 2013; Staats et al. 2009; Stephens et al. 2007) and appears to have more motivational power than concern for risks (punishments) (Gordon 2014; Lau et al. 2013). And most promising, moral identity has shown the potential to be a stronger influence over students than witnessing peers cheating (O’Rourke et al. 2010) or the moral compromising

power of rationalizations (Narvaez and Lapsley 2009). Given the potential of moral identity to support students' ethical action, teachers are encouraged to consider the strategies that can help promote it in students. Three specific strategies will be described prior to a more comprehensive approach to develop moral identity within a larger process in support of student ethical functioning.

The first strategy, and often key to most modern character education programs, is the process of identifying, understanding standard definitions and aspiring to demonstrate core ethical values such as fairness, caring, responsibility, and integrity. In recent class observations, the author has noted how the students themselves can help their peers to gain improved understanding of core values like fairness as teachers facilitated guided discussion. The clear understanding of core ethical values is critically important to help students analyze ethical circumstances. Increasing student ethical awareness as they recognize the violation of core values and improving student analysis and judgment by seeking to demonstrate core values in choices is supportive of the broader goal of student ethical functioning (Stephens and Wangaard 2015 (in press)-b). Ethical functioning includes the component of moral identity where students make a personal commitment to demonstrate core values in support of ethical action. While Narvaez and Lapsley (2009) suggest there is an "automaticity" in ethical functioning for students, they also acknowledge that it can be cultivated by practice and instruction.

A second strategy to promote student moral identity is suggested in the use of democratic process within the classroom that seeks to establish fair classroom routines (Nunner-Winkler 2007; Thorkildsen et al. 2007). A democratic classroom process with students helping to determine and agree upon fair procedures and norms is suggested to increase student moral motivation as they are engaged in forming their own moral community with the responsibility to sustain it. The intentional cultivation of student moral identity along with the creation of a moral classroom community become reciprocally positive interactions.

Discussing moral cases and specifically having students reflect on their responsibility to act with integrity within their class community is suggested as a third strategy to promote moral identity (Wowra 2007). The goal would be to elevate the values of a principled moral ethic that recognize fairness, justice, and beneficence to help the community flourish as opposed to focusing only on personal values and "expediency" with a goal of maximizing personal goals and pleasure, possibly at the expense of others.

There are a variety of published works that can support a teacher's choice to include ethical case studies within their class. A most effective strategy is to look for the ethical content that exists within the scope of required courses. It is within the academic content that teachers are already teaching where the most authentic discussions can evolve and include ethical analysis and judgment. Practicing ethical analysis and judgment are supportive of students developing their moral identity. The next strategy to be presented will build upon this idea.

A comprehensive model of ethical functioning is suggested in support of a teaching strategy to develop student moral identity. The model was initially described by James Rest and further developed with colleagues as the Four

Table 3 An adaptation of Rest et al.'s Four Component Model for student moral functioning where the core questions and key concepts can guide lesson development to help students evaluate and identify action steps for ethical circumstances in school (an academic integrity case) or as applied to curricular cases in history, literature or science

	Moral awareness	Moral judgment	Moral commitment	Moral action
Core Questions	Is this a moral situation?	What should one do?	What will I do? Am I responsible?	What kind of will and skills are needed?
Key Concepts	1. State the problem 2. Notice the presence of ethical values 3. Identify all involved	4. Analyze possible actions 5. Decide what an ethical person would do 6. Explain the decision in light of ethical values	7. Decide what I would do 8. Check my integrity/expose rationalizations 9. Confirm decision and prioritize ethical values	10. Employ academic or technical skills 11. Deploy social skills 12. Exercise my ethical will
Desired Action	This is a moral situation	One should not cheat	I should not cheat	I did not cheat

Component Model (FCM) for moral functioning (Rest et al. 1999). The intent of the FCM was to build on Lawrence Kohlberg's work in moral reasoning and identify other dimensions of moral functioning that appear to support moral action. Moral identity is one of those dimensions that is associated with students' responsibility judgment and within the following description of the FCM as moral commitment.

Applications of the FCM have been described in several publications relevant to academic integrity (Davis et al. 2009; Narvaez and Lapsley 2008, 2009; Seiler et al. 2011; Stephens and Wangaard, 2015 (in press)-a; 2015 (in press)-b; You et al. 2011) and an adapted outline of the FCM is provided in Table 3. The FCM model is suggested here as a method to guide lesson development to discuss ethical questions that exist within the curriculum (or school events) and to help students develop: (1) Ethical awareness to recognize if ethical values are involved in circumstances being described (cases in literature, social studies, science, current events, or academic integrity); (2) Ethical judgments where students work with a given reasoning protocol to analyze what "an ethical person" would do; (3) Ethical commitment (related to moral identity) to ascertain if they would have a responsibility to act on their third person ethical judgment and what rationalizations should be avoided and ethical values prioritized; and (4) Ethical action to recognize what skills (moral and performance) would need to be activated to carry out an ethical commitment (Stephens and Wangaard 2015 (in press)-b).

The 12-step process outlined in Table 3 includes suggested research-based teaching practices cited in this chapter. Student moral identity can be strengthened in multiple steps of the FCM process. Moral reasoning is practiced in steps four through nine and rationalizations are exposed in step eight. A preliminary study of the process has not determined statistical changes in student ethical functioning (Stephens and Wangaard 2015 (in press)-b) but the assessment process continues at

this writing. Teachers are encouraged to learn how the core questions and key concepts described in Table 3 might provide direction to lesson plans to advance student reflection on ethical values, reasoning to produce an ethical judgment and commitment to personal values to act ethically. The steps in this modified FCM hold promise to develop student moral identity and the resulting resistance to academic dishonesty along with the broader goal of student moral functioning.

The Big Picture: Creating a Culture of Academic Integrity

Creating a culture of academic integrity in any high school requires a visionary, dedicated and courageous leadership team. Sergiovanni highlights the need for school leadership to build a compact of shared values with all community members to advance a moral school community (Sergiovanni 1996). A moral school community is not a goal that can be achieved with top down directives. Davis et al. (2009) suggest an organizing idea where school communities would choose to “brand” their school as a school of integrity. Again, this could not be authentically accomplished without the “buy in” by teachers and students.

The International Center for Academic Integrity recommendations to create a school wide honor system were highlighted earlier, and a second model is suggested here in Fig. 1 to advance a school wide culture in support of academic integrity (Wangaard and Stephens 2011). The Achieving with Integrity model is founded on the collaboration of the school community to include representatives from the student body, faculty, administration, and parents. This stakeholder group is recommended to form a permanent committee that can be identified as an Academic Integrity Committee (AIC). The role of this group is to assess and research the school’s status in regards to academic integrity and then develop and implement a strategic plan. The AIC should establish responsibilities and leadership roles and one of its first tasks is suggested to be a student and faculty survey to collect baseline data regarding beliefs, behaviors, and observations about academic integrity. Brief case studies of four AICs are described in Wangaard and Stephens (2011).

Looking clockwise from the base of Community on Fig. 1, a second focus of the Achieving with Integrity model is the identification and definition of core values to guide the AIC’s mission and any activities it might suggest to teachers. This is consistent with the research noted previously regarding the importance of helping students identify and understand ethical values that support their personal moral identity. The core values selected by the AIC should be informed by local norms and customs and the broader work published by groups like the International Center for Academic Integrity.

The third focus of Achieving with Integrity is the establishment of commitments within the school to any elements of an honor system that may be established, which could include policies, codes, pledges and honor councils. The AIC may choose to write or rewrite narratives for a school honor system. Finally, the AIC can

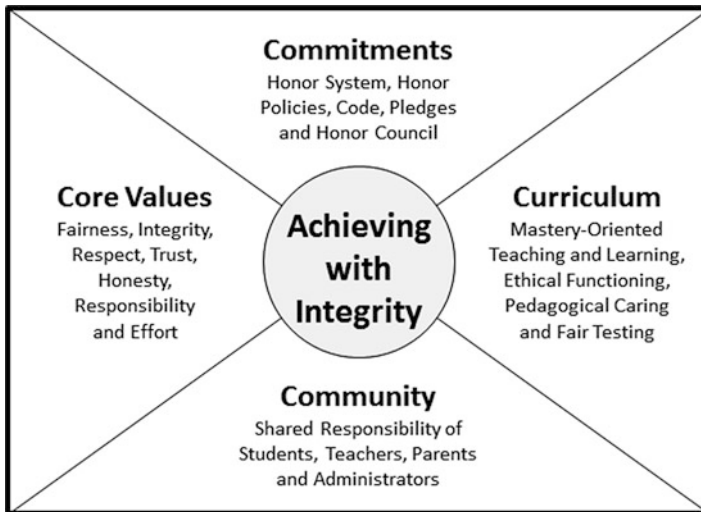


Fig. 1 A conceptual model to organize a school community to advance a culture in support of academic integrity (Modified from Wangaard and Stephens (2011) *Creating a Culture of Academic Integrity* with permission. Copyright © 2011 by Search Institute[®], Minneapolis, MN. All rights reserved)

become a source of professional development information for teachers as it supports curriculum review and the dissemination of practices that research describes as leading to improved student ethical awareness, judgment, commitment, and behavior in favor of academic integrity.

Thomas Lickona popularized for character educators the recognition of teaching to the whole child which included three domains he described as – cognitive (head-knowledge of the good), affective (heart-love of the good) and behavioral (hand-do the good). In concluding this chapter, it is suggested that what is needed is more “heart-love of the good” to make progress in creating school cultures in support of academic integrity.

While we have knowledge of the good (what defines academic integrity and why it is important) and understand what teaching behaviors and school policies help us to do the good (how to teach and create a culture in support of academic integrity), the catalyzing factor that must be energized is centered in the heart of our school communities and its love of the good. Administrators, faculty, and students need to form a core of constituents representing those who love the good of academic integrity enough to act upon it. This will require persistent leadership. Love of the good as represented by academic integrity seems quite counter cultural at this time and is not directly measured on any standardized test or mentioned in the US Common Core Standards. It is hoped we can find those with the heart, courage, and effective leadership ability to move the agenda of academic integrity forward with the resources of this handbook.

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Developing a Sustainable Holistic Institutional Approach: Dealing with Realities “on the Ground” When Implementing an Academic Integrity Policy

Erica J. Morris and Jude Carroll

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Abstract

This chapter revisits the development of a holistic institutional approach for enhancing policy and practice related to academic integrity in higher education institutions. It draws on research and on the extensive practical experience of the authors to identify key issues, which may undermine the effective implementation of policy. The aims are to suggest remedies for impediments to implementation, to establish good practice, and to share lessons from institutional academic integrity initiatives. First, we review how variations in understanding of academic integrity issues among staff can impact on how consistently a policy is used. We then discuss how policy can be regularly reviewed and “kept alive” through working with staff and students, and finally, we discuss how to help stakeholders recognize that there are no “quick fixes” to addressing the issue of student academic misconduct. Institutional change requires commitment and resources from many people, especially from university senior managers, and

E.J. Morris (✉)

Anglia Learning and Teaching, Anglia Ruskin University, Cambridge, Cambridgeshire, UK
e-mail: erica.morris@anglia.ac.uk

J. Carroll

Independent Educational Development Consultant, Formerly at Oxford Brookes University, Oxford, Oxfordshire, UK
e-mail: jude@judecarroll.co.uk

connected strategies involving staff and students over a significant time period. The chapter concludes with recommendations on how shared understanding, active involvement, and long-term thinking might be achieved.

Introduction

Decisions about policy implementation usually sit within a wider set of requirements and codes. In the UK, requirements for assuring academic integrity are stated by the Quality Assurance Agency (QAA), an independent body that safeguards and advises on standards in higher education. For UK decision-makers, the QAA *Quality Code* provides indicators of sound practice across a range of matters impacting on quality for students. In the part of the *Code* that concerns assessment, the QAA indicator suggests:

Higher education providers operate processes for preventing, identifying, investigating and responding to unacceptable academic practice. (QAA 2013, p. 23)

Readers outside the UK could seek out their relevant codes and quality assurance requirements as these often set the parameters for action and can give impetus to attempts to enhance practice. The discussion here is shaped by the authors' accumulated experience of working with educational institutions, largely but not exclusively in Anglo-Western universities, and readers based in other contexts may need to reshape or modify suggestions in the light of their own circumstances.

In most higher education contexts, a holistic approach to academic integrity has several goals, many focused on encouraging scholarly behavior in students and supporting underpinning values of honesty and integrity across the university community. However, in line with QAA requirements above, an important goal must be creating a framework of fair and transparent procedures to manage unacceptable academic practice in students. This, in turn, can also enhance students' learning by encouraging assessment *for* learning and by supporting the development of students' academic skills (Carroll 2007; Macdonald and Carroll 2006; Morris et al. 2010a). A holistic approach must also be developed with regard to institutional context, particularly in terms of a diverse student body (whether predominately studying full-time or part-time or campus-based, online, or distance learners). But a framework cannot in itself achieve these goals – those implementing it need to be engaged and well resourced. Each context will have its particular pressures and priorities, but in general, several issues seem to be especially likely to block or slow down the implementation and uptake of academic integrity policy. This chapter focuses on three clusters of issues that have implications for, and may undermine, the effective implementation of policies and procedures for supporting academic integrity and for managing academic misconduct. The issues selected are as follows:

- The varied understanding of academic integrity issues among staff expected to have a role to play in implementing policy. This varied understanding can be accompanied by differences in staff preferences and willingness to get involved in managing such issues. It can also mean variations in how staff deal with breaches of academic regulations.
- The tendency for academic integrity policy to stay “on the shelf,” and the associated challenges of ensuring that policy is regularly reviewed and embedded within an institution (or faculty or department).
- The need for stakeholders to recognize that there are no straightforward solutions or “quick fixes” to address the issue of student academic misconduct. Instead, implementing a holistic approach requires resources to be committed by the university or college and significant time for institutional development and change to occur.

Engaging Staff and Developing Their Shared Understanding

Throughout the research and good practice literature on academic integrity, there has been a particular focus on students – on the varied reasons why they might plagiarize – whether they are aware of institutional policy and how their academic skills need to be acquired and honed (see, e.g., Sutherland-Smith 2008; Power 2009; Bretag et al. 2013). However, one of the significant facets of achieving a holistic approach is to focus on what staff are doing. Are teachers, administrators, and senior managers engaged with the issues? Are they aware of what the policy says they should do, and do they understand it? Most importantly, are staff willing to become involved? In relation to staff, studies document variation in how these questions are answered, and the authors’ anecdotal experience confirms that diversity in understanding and willingness to engage is widespread (see, e.g., de Jager and Brown 2010; Glendinning 2013, 2014). Inconsistency is also common in how people follow procedure and in decision-making, such as deciding which penalty to apply. Studies documenting variation include Tennant and Duggan (2008), de Jager and Brown (2010), Martin and van Haeringen (2011), and Williams et al. (2012).

Of course, diversity is inevitable in any body of teaching staff, even when prior educational experience and achievement may appear similar. Teaching staff will bring their own prior conceptions as well as their attitudes and beliefs about student learning and about cheating, plagiarism, and collusion. These beliefs, in turn, are likely to affect how staff react when encountering unacceptable behavior in students. Some may not recognize the issue as an “issue,” perhaps treating problems in novice academic writers as better left alone or assuming that students will somehow master academic writing skills later in their program of study. Some may think that existing policy for a minor offense is too harsh or that those for more serious offenses might not be easy to justify if challenged. Some, perhaps many, ignore a presenting issue because they are not clear of the procedure or think that it is overcomplicated or takes too much of their time (e.g., too much “form filling” or

too much investigation). These are not just minor complaints since teaching staff typically have a range of professional commitments, with challenges in managing competing priorities, pursuing their research, and leading or teaching on programs with large cohorts of students (Morris et al. 2010a, b).

Most of us who work in higher education have heard comments like those above, but there are also studies of staff perceptions, conducted over more than a decade. In 2005, McCabe in the USA found that 40 % of teachers responding to his extensive questionnaires admitted overlooking cases (McCabe 2005). In 2012, Williams and colleagues surveyed academics, again in the USA, on their perceptions of academic integrity and on how they dealt with cases and found that 18 % indicated that they had “ignored suspected incidents of cheating” (p. 16). The respondents’ reasons for overlooking cheating included insufficient evidence, that the incidence was viewed as relatively minor and/or belief that students would eventually be punished for such breaches by someone else (Williams et al. 2012). A study in Canada on the same issues (Zivcakova et al. 2012) interviewed faculty who had concerns that there was a lack of consistent guidelines and lack of support for those managing particular issues of student misconduct. Their apparent discontent with policy led some “to deal with misconduct on their own” (p. 36) and justified their individualized treatment with a range of explanations: sympathies for students (e.g., they should not be failed for their poor judgment) and the significant time it could take to follow through a case. These findings echo those reported by Carroll and Appleton (2005) in the UK and Martin and van Haeringen (2011) in Australia. They all show lack of a shared understanding, coupled with inconsistent individual reactions, plus little confidence in existing policy resulting in patchy or inconsistent application of policy and procedures.

To address these types of issues, it is important to hear and empathize with staff concerns, starting with their worries about time demands and about uncertainty in following procedures. It is important to think widely about who might need education, support, and interventions. The following groups are often significant:

- **Senior staff** who need to mandate writing a policy and taking it through institutional endorsement. They typically need information about the issues, data on local circumstances, guidance on their legal responsibilities, and reminders of where practice has been successful elsewhere.
- **Professional staff** who might develop procedures and create documentation. They typically ask about how documents need to be worded, how to create standardized proformas, and record keeping requirements.
- **Academic support staff** who help students to acquire skills in information literacy and writing. Their needs often include ways to collaborate with and to feed into academic processes.
- **Quality assurance specialists** who may monitor and adjust arrangements in light of experience. As with senior managers, these specialists often need information, or referral to others’ good practice. For example, in the UK the Office of the Independent Adjudicator has a significant role to play in students’

complaints about their treatment, with a significant number being complaints about managing unacceptable academic practice.

- **Teaching staff** who clearly have a role at all stages of learning and assessment, from identification of cases through referral and, in many cases, taking action on cases judged “not serious” through reducing marks and/or the award of academic credit. The next section on professional development lists actions and activities designed to address the needs of this important group.

Staff engagement in the groups mentioned above – in all these groups – is important because the actions of one group influence the choices of others. Misunderstanding by members of one or more of these groups can negatively influence decisions for the institution as a whole. For example, if senior managers misunderstand the range and frequency of breaches of academic regulations, perhaps assuming that all plagiarism is cheating, or that misconduct in year one is not important, then educational responses for minor forms of inadvertent plagiarism will be problematic. Yet, as explained elsewhere in this section, having a range of penalties calibrated to the severity of cases is vital for fair and sustainable treatment. If support staff misunderstand their importance in rethinking and changing assessment practice, then they may not challenge teachers who set assignments that make finding and faking answers more likely. If teachers are unaware of quality assurance requirements, they are unlikely to change their practices and so on. However, education and awareness raising are insufficient if interventions fail to address the issues that staff give for avoiding engagement. In particular, attention needs to be paid to concerns about overly complex processes and about demands on staff time.

Staff are demotivated to deal with a potential case of academic misconduct (even for a relatively minor form of student plagiarism) if they believe taking action will demand a significant amount of time. A positive and effective response to this has included rethinking how cases are managed and to remove the burden at an early stage from those identifying a breach. One mechanism for doing this is to appoint specialist officers for academic integrity within a university unit or department. Specialists can have a role in raising awareness of the issue of plagiarism and related forms of unacceptable practice and, in addition, can have a remit to support and “run” an academic (mis)conduct procedure. For example, there are UK universities that have introduced a system of academic conduct officers, who are academic or teaching staff with formal responsibility for investigating and managing cases (Carroll 2014; Macdonald and Carroll 2006; Morris and Carroll 2011). One of the advantages of such a system is that these officers usually work at the level of the department, so they develop an understanding of academic integrity issues in the context of cognate subjects or disciplines. Such a role might also open up opportunities to feed into policy review and to disseminate good practice on assessment design at the local (departmental) or wider institutional level as described later in this chapter. Zivcakova et al. (2012) found that staff “comfort level with academic integrity issues” (p. 30) was rated “high” by a majority, with one reason being the advice and support received from faculty-based academic integrity advisors.

Another initiative, which might have the positive benefit of improving staff engagement, is to address issues where staff are especially worried about inconsistency, with a frequent choice being variable use of so-called plagiarism “detection” tools. Text-matching tools, such as *Turnitin*, are increasingly used within universities and colleges to aid the identification of material that might have been copied from a published or previously submitted source. Such tools can also be used as part of the assignment marking process, and if a potential incidence of plagiarism or collusion is found, then the relevant aspects of the originality report can be used as supporting evidence in taking a case forward. Whether and how staff effectively use a text-matching tool is likely to be affected by their understanding of academic integrity issues, their experience of designing and marking assessments, and their knowledge of the potential and limitations of the tool. A survey by de Jager and Brown (2010) reports the standard reasons for not using *Turnitin*, that is, difficulties in using the system and concerns about it taking too much time, as well as its irrelevance in assessment tasks that are not text based. Myths or “rules of thumb” about *Turnitin* are commonplace and can lead to problematic variation in how staff use the tool and assess student work. Among staff groups, there can be informally agreed or understood percentage thresholds (indicated through originality reports), which are used as a primary indicator to look more carefully at an assignment (although a particular percentage threshold may or may not necessarily entail significant instances of copied material).

To raise awareness of the issues and to move toward consistent use, institutional policy and guidelines on employing such tools in the assessment process are therefore vital. One case study on the use of *Turnitin* at a UK university provides examples of what might be included: how policy outlined that students should be informed of its planned use and how it should be used to assess all student work for an assignment (e.g., not for particular individuals) and should be employed formatively and summatively (Graham-Matheson and Starr 2013). Interestingly, program leaders could, however, decide on other aspects of usage, such as whether students could see originality reports for their assignments and how many times a student could submit drafts for formative purposes; it was found that staff interviewees pointed to the importance of moving to more consistency in employing *Turnitin* at an institutional level by, for example, specifying whether students can see originality reports or submit a number of drafts (Graham-Matheson and Starr 2013).

Once it is agreed what the particular expectations are, then stating them helps to ensure parity and fairness in considering student work (Morris and Carroll 2011). Guidelines need to be specific in highlighting how staff might uncover potential incidences of unacceptable academic practice as part of the marking process. Guidance could also be given on how a text-matching tool might be used formatively as part of the learning process. Policy should specify the rationale for using a text-matching tool and how it should be used by staff and students (Morris and Carroll 2011). Clearly, staff development strategies are essential in ensuring that educators have opportunities to acquire good practice in the use of text-matching tools as part of the process of assessing student work, including how such tools can be used by students to improve their academic writing skills. The importance of

changing assessment practices and redesigning assessment to address academic integrity issues is considered in detail in ► [Chap. 70, “Academic Integrity: A Teaching and Learning Approach”](#) (Section 10 of this handbook).

A second common area for concern about inconsistency and lack of engagement with procedures is around decision-making as to the relative seriousness of an incident. One way to address this is through creating frameworks and decision-making tools, such as those developed by Yeo and Chien (2007) in one Australian university. These guidelines for deciding severity and then for allocating a penalty can be used by teaching staff to form judgements relating to a particular case. They tested the use of four criteria to define three levels of seriousness of plagiarism (equivalent to incidences that might be described as “minor,” “moderate,” or “major”). The criteria included: the experience of the student, the form or nature of the plagiarism, the extent of the plagiarism, and the intent of the student. What is evident here is that criteria that might be implicitly used by staff (but possibly with variation) is made explicit. The framework can serve as a guide for referral to, for example, a faculty or university panel if the case is seen as sufficiently serious. Findings from the testing of this framework indicated that participants thought the tool aided their decision-making and that pairs of academics using the tool together could be beneficial in terms of achieving consistency (Yeo and Chien 2007). This development has clearly influenced how others now manage cases, as explained later in this chapter in relation to another Australian university, Griffith which uses an adapted version in determining the seriousness of a breach of academic integrity (Griffith 2011).

In summary, thinking that everyone will be willing to engage, that everyone holds similar views, and that encouraging engagement will be straightforward are all unlikely to be beliefs that encourage effective implementation of policy. On the other hand, addressing concerns about inconsistency and about time demands by taking practical steps, such as those described above, can encourage and support moves toward a more positive outcome.

Bringing Policy to Life

Policy may be existent, but may sit on the shelf, neither used nor consistently applied within a higher education institution or departmental unit. Findings from a recent large-scale survey investigating the effectiveness of institutional academic integrity policies in European countries have indicated that although institutions had policies in place, these were not necessarily consistently used (Glendinning 2014). With regard to findings from the UK, for example, 25 % of teachers thought that “all teachers follow the same procedures for similar cases of plagiarism” (Glendinning 2013, 2.10). The introduction and maturing of an academic conduct officer system across an institution, such as that described in the previous section, with officers working “on the ground” at the faculty or department level and who are formally recognized through senior management, can have a positive impact on the consistent use of policy and procedures. Schemes, such as that described by Yeo

and Chien (2007), designed to support staff making criteria-based judgements to establish level of severity are also likely to have a positive impact. When both specialist officers and reporting proformas are recognized by the institution, these factors can strengthen defined responsibilities for investigating and managing cases, a commitment to ongoing professional development about academic integrity issues, and supporting and mentoring academic colleagues with regard to such issues as decision-making for the appropriate referral of a case. However, policy review is still essential to:

Ensure that the policy provides clear and detailed procedures for reporting and managing cases of unacceptable academic practice, so that the seriousness or extent of a case can be established and managed at the appropriate level. (Morris and Carroll 2011, p. 18)

Care needs to be taken in codifying procedures so that they do not increase perception among staff that policy is too formal, not current or inaccessible.

The policy may not be “owned” and “shared” by staff, particularly if roles and responsibilities concerning academic integrity have not been determined at the institutional and/or faculty and departmental level. This is more likely where there are few opportunities for:

- Awareness campaigns and information sharing;
- Staff interaction and discussion of policy and associated practice;
- Continuing staff development sessions focusing on the use of policy and guidelines; and
- Data collection and regular review of academic misconduct cases.

Addressing these gaps implies more than a one-off event or campaign but rather a sustained and well-resourced series of initiatives to keep policy alive and current. Whatever you do needs to be repeated regularly since people change and awareness of the issue can fade. New and emerging concerns will need to be addressed, such as advances in technologies or changes in the extra-university context (Glendinning 2013). In other words, policy needs to be grasped and wrestled with so that it can be “brought to life” and connected to practice through its use by a range of users across a university or college. Best practice suggests that this cannot rest with one individual:

Establish a cross-institutional group or committee, supported by senior management, involving representatives from all academic faculties or departments, university services . . . and student representation . . . with a remit for promoting academic integrity . . . and developing and reviewing the policy . . . and related guidance for staff and students. (Morris and Carroll 2011, p. 8)

This group can provide a central focus, working with staff and students to run campaigns, seminars, or workshops, and ensure the development of engaging innovative resources that can be provided on the institution’s academic integrity website. This can mean that a variety of stakeholders are involved in the design,

introduction, and evaluation of policy and procedures, with associated training in their use. Formally recognized responsibilities are integral to the success of policy development and adoption, and these should be agreed and specified for staff (including senior managers, teaching staff, and academic integrity officers) and for students. These responsibilities should relate to key areas, such as informing and educating students, staff development, and the management of cases (Morris and Carroll 2011). Glendinning (2013) made special mention of the needs of student representatives who might be working on policy development groups and/or as members of academic integrity panels.

Policy review should draw on evidence and be informed by data. Several studies (e.g., Carroll and Appleton 2005; Martin and van Haeringen 2011; Yeo and Chien 2007) recognized that holding and maintaining data on cases is key to effective monitoring. Data is also needed to evaluate impact of introducing a policy and/or assessing the value of any changes to existing policy:

Establish a centralized system to record and monitor cases of unacceptable academic practice, which can be readily used by those with relevant responsibilities. (Morris and Carroll 2011 p. 20)

It is clear, therefore, that just having a policy is insufficient, whereas having one and supporting it with staff development, review, and information dissemination will make change more likely. Staff development strategies might entail information, advice and guidance, and opportunities for enhancing understanding through workshops or online forums (Morris and Carroll 2011). As part of developing a holistic institutional approach, universities and colleges have used a website as a central vehicle to bring together regulations and guidance and assets, such as videos of student perspectives or case studies (e.g., City University London 2014; Griffith 2014). This is an ongoing and demanding area in which to operate.

Institutional Solutions Require Resources and Time

As is clear from the previous two sections, there is no one “magic” solution, even one based on technology, as Sutherland-Smith (2008) highlights. She describes how an institution may respond to worries about student academic misconduct by introducing a text-matching tool, with the assumption that this is likely to deter students from plagiarism and enable staff to (more easily) “detect” cases. These hopes prove unfounded. Glendinning (2013) documents the same “quick fix” mentality among her survey respondents:

A view emerged from some responses at the senior and national levels expressing perhaps over-confidence that the adoption of digital tools together with vigilance of academic staff would be sufficient measures for responding to student plagiarism. (Glendinning 2013, p. 13)

Sutherland-Smith (2008) also describes the dangers of trying to improve process and associated policy documentation by relying on executive or senior management initiatives. The risk is that the (new) policy may not make sense to or be “owned” by departmental staff and/or by those with responsibility for identifying, investigating, and managing cases. Even apparently strong responses, such as introducing new technology, running a 1-week campaign, or making penalties “harsher,” are almost always insufficient because institutional development and change to address the issue through a holistic approach takes *time*, that is, around 3–5 years for positive results in terms of staff and student understanding of academic integrity issues. It takes time to implement policy and check for better consistency, time to establish staff development forums, and time to collect and review case records and guidelines.

To support the calls for patience, resources, and complex thinking, it is now possible to point to examples where institutions have been successful and by tracking how changes have been made, to make it clear why change was possible. One case study that shows all these things is that of Martin and van Haeringen (2011) who describe a comprehensive initiative at one Australian university, Griffith, over a period of around 3 years. The aim was to enhance academic integrity policy and practice through the development of an institutional framework. The process started with gaining the commitment of a senior member of academic staff who then became a project champion, consulting staff, and commissioning studies to document staff dissatisfaction with existing policy. They could show that a significant number saw current procedures as “reactive and punitive” and as used inconsistently (Martin and van Haeringen 2011, p. 88). One early activity involved setting up a reference group and undertaking a review of the policy, good practice literature, and case studies of exemplary institutional approaches. Once they were sure what needed attention, changes were first trialed in particular academic faculties to identify improvements, and then action was taken on findings. For example, the project set up an academic integrity website for staff and students and checked whether it improved communication across the university. Once they had a framework for decision-making, the Griffith team implemented it university-wide and continued to make changes. After 3 years, they could point to a criteria-based scheme to determine the severity of cases and had specialists who were trained in its use. They then evaluated what they had done and again documented local impact and changes in perceptions among staff and students. Their conclusion:

These . . . processes have allowed the University to respond to breaches of academic integrity in an equitable and timely manner, foster the continued development of a culture of integrity and reduce the administrative burden on academic staff. They benefit students by improving the quality of their learning experiences. (Martin and van Haeringen 2011, pp. 94–95)

There are valuable features of this approach: its emphasis on “prevention and educational responses” in developing the framework and the range of continuing professional development opportunities for staff. The latter also included guidelines on designing assessment. Staff consultation played a significant role, as did iterative development of policy through trialing, stakeholder feedback, and building on

evidence. These factors contributed to the effective implementation of policy across the institution, but a key outcome for success could have been the initiative leading to what the authors refer to (above) as the “development of a culture of integrity.”

Institution-wide initiatives on academic integrity may, however, be hindered in achieving change throughout an institution, as inevitably faculties or departments will have different contexts and educational practices that may have an impact. Institutional initiatives may refer to promoting or fostering a culture of academic integrity, but changing policy may not significantly change practice, and consideration must be given to what is meant by “culture.” At City University London in the UK, an initiative was run over a two and half-year period and involved nominating educational development associates, allocating them time for the role, and providing professional development to equip the associates to work within their own faculties as “change agents” and to enact the changes needed to make policy for academic integrity effective. It was expected that associates would work locally to adapt assessment, encourage staff engagement, and serve as nodes of expertise for their colleagues (Baughan et al. 2008; Baughan 2013, p. 90).

A qualitative study explored the associates’ experiences of the process of change at the school level, in which differing conceptions relating to the initiative emerged (Baughan 2013). For example, some associates conceived the initiative primarily “through barriers to change,” in which they felt that staff were not necessarily engaged with the issue of academic misconduct within a school or that other competing institutional priorities meant that implementation for change was not straightforward. An alternative conception held by other associates is related to seeing the initiative as beginning to lead to a change in culture, but they felt that “*full* culture change had not yet been achieved” (ibid., p. 96). It also became clear through the study that associates experienced particular issues in implementing change that were related to their school context. Baughan 2013 points to how it is important for initiatives to look at what is meant by “culture change” with regard to an institution-wide initiative and how there will be particular practices (and cultures) within second-level organizational structures. The latter must be explored and taken account of in designing institutional initiatives for enhancing academic policy and practice.

Institutional case studies, such as that offered by Griffith University, illustrate the degree and duration of support required to successfully change academic integrity policy and practice. It is also apparent from other key case studies (e.g., Baughan et al. 2008; Baughan 2013) that top-down “thou shalt” initiatives may not be effectively taken up at faculty, school, or department level and so must be introduced with sensitivity, local awareness, and considerable persistence.

Summary

This chapter has revisited the importance of adopting a holistic institutional approach in developing academic integrity policy and practice but has emphasized “on the ground” issues that should be addressed to ensure that such an approach is sustainable beyond the point where a policy is created and declared to be in

operation. Change usually emerges from a complex mix of activities, information gathering, and event management, and this type of approach suggests a project management focus, with interim goals and iterative review. Progress is aided by “top-down” requirements and interest and by “bottom-up” support – both are needed to prevent initiatives becoming “blocked” by unsympathetic local cultures and by the inevitable tensions of priorities and demands. Policy must be “kept alive” through regular review, which draws on staff experiences of using documentation and importantly through keeping data consistently on academic misconduct cases across a university or college. The goal is changing culture by changing how people think and act in relation to managing student misconduct. With an institution as complex as a university, with highly diverse participants, and with varied interpretations of policy and procedural issues linked to academic integrity, it cannot be assumed that all will automatically adhere to and share conceptions about being honest and about showing integrity. Values cannot be mandated but rather values develop over time as a result of an individual’s own reflection and understanding of moral principles governing behavior. Policy needs to include measures that can help foster a shared acceptance of espoused values while at the same time requiring compliance with rules and regulations regardless of the values held. Looking at and discussing shared values can help in this regard, in which institutions can:

Include statements about the importance of academic scholarship and honesty in policy and related guidance for unacceptable academic practice, where the principles and values for academic integrity and academic practice are considered. (Morris and Carroll 2011, p. 15)

Values underpin policy and procedures, but what is advocated here is an approach that recognizes that there will be differences in understanding of academic integrity issues among staff. An effective management strategy will try to discover what the differences are and to take steps to bring views into closer alignment. Understanding and take-up of policy and procedures will be enhanced by holding interactive events, such as forums or workshops, so that staff can discuss issues and review complex academic misconduct cases and/or the criteria used in determining penalties. An effective approach should not “gloss over” staff concerns about potential difficulties – they are real and worries about time demands, in particular, can “block” any hope of gaining staff engagement with dealing with cases of student academic misconduct. If implementation is to be sustainable, then those overseeing implementation need to draw upon the wide and growing examples of success which now are available, adapting what works elsewhere to the particular concerns of local teachers, support staff, quality assurance specialists, and students. The tactics chosen might vary: it might mean introducing an academic conduct officer system, redesigning a simple proforma for recording penalty decisions, enabling all staff to see the full range of learning benefits available through text-matching software, or guiding colleagues in the redesign of assessment tasks to make misconduct less likely. In truth, it is likely to involve all these activities over time, and all of these activities will probably require staff support and mentoring.

A holistic approach requires significant commitment, involvement, and support which mandates “a shared, consensual, and long-term approach” (Carroll 2014, p. 12).

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A Conceptual Framework for Implementing Exemplary Academic Integrity Policy in Australian Higher Education

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Tracey Bretag and Saadia Mahmud

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T. Bretag (✉)

School of Management, University of South Australia, Adelaide, SA, Australia
e-mail: tracey.bretag@unisa.edu.au

S. Mahmud

Business School, University of South Australia, Adelaide, SA, Australia
e-mail: saadiamahmud@gmail.com

Abstract

This chapter proposes a conceptual framework for implementing exemplary academic integrity policy (the elements of which were identified by the Australian Office for Learning and Teaching (OLT)-funded *Academic Integrity Standards Project* [2010–2012]: access, approach, responsibility, detail, and support) to assist higher education providers improve academic integrity at their institutions. At the center of the framework is a commitment to a culture of academic integrity. The follow-up OLT-funded *Exemplary Academic Integrity Project* [2012–2013] identified six components which contribute to the development of this culture, including academic integrity champions, academic integrity education for staff and students, robust decision-making systems, record keeping for evaluation, and regular review of policy and process. The framework emphasizes a paradigm shift from misconduct to integrity and recognizes that academic integrity champions initiate and lead change, working with students as partners. It is recommended that the role of academic integrity breach data be broadened to include evaluation for improving educational practice.

Introduction

Academic integrity is important to the maintenance of academic standards for the award of a qualification and the achievement of the qualification's learning outcomes. In this context academic integrity policy is an institution's response to supporting student learning by educating both staff and students about responsible conduct in learning and assessment, assuring shared understandings and practices through the provision of resources and courses for all members of the academic community, providing interventions for those deemed to be at risk of breaching academic integrity, and responding to incidents of academic integrity breaches in a manner that is proportional to the breach and fosters the further development of the academic and ethical standards. The call for a holistic approach to academic integrity (Bertram Gallant 2008; Davis et al. 2009; Macdonald and Carroll 2006; Sutherland-Smith 2008) provided the foundation for the analysis by Bretag et al. (2011a) of the academic integrity policies of Australian universities. While there has been a shift in recent times from a punitive to an educative focus in academic integrity policies at Australian universities (Bretag et al. 2011a), many issues in the implementation of academic integrity policy remain.

In 2012, Bretag and colleagues responded to a commission from the Australian Office for Learning and Teaching (OLT) to develop support materials, systems, and resources to address implementation issues associated with assuring academic integrity. The OLT commission was a direct response to the Tertiary Education Quality Standards Agency (TEQSA) requirements that "all Higher Education (HE) Providers ensure the integrity of student assessment, the integrity of research and research activity, and prevent, detect and address academic misconduct by students or staff including cheating and plagiarism" (TEQSA Higher Education

Standards Framework, Provider Registration Standards, Standard 4, Requirement 4.3 2011). *Embedding and extending exemplary academic integrity policy and support frameworks across the higher education sector (Exemplary Academic Integrity Project [EAIP])* aimed to consolidate the work of the OLT-funded *Academic Integrity Standards Project (AISP, 2010–2012)* and extend its findings in ways that could be implemented easily by all Australian providers of higher education, both public and private.

This chapter shares the recommendations for good practice provided by representatives of Australian universities identified by the AISP as having “exemplary academic integrity policies.” Using these recommendations, the chapter proposes a conceptual framework for implementing academic integrity policy in Australian higher education institutions.

Literature Review

Universities are operating in a competitive environment (Atlbach et al. 2009) characterized by a diverse student body and resource pressures. Breaches of academic integrity appear to be commonplace in universities (Brimble & Stevenson-Clarke 2005; McCabe and Bowers 1994; McCabe 2005; Marsden et al. 2005; Treviño et al. 2012), and these breaches have the potential to undermine the values and goals of higher education (Hughes and McCabe 2006). Concerns for maintaining academic standards and academic integrity (DEEWR 2011; TEQSA 2011) are at the forefront of Australian higher education policy dialogue.

According to Freeman (2013), the term “institutional policy” refers to formal statements of principle which provide the overarching rationale for actions, procedures, or operations. Policy is complemented by secondary institution-specific policy instruments such as procedures and guidelines (Freeman 2013). In the Australian context, there is a range of interrelated policy and procedure instruments used to manage academic integrity and influence student behavior (e.g., student charter, assessment policy, assessment submission and return procedures, and examination procedures, including invigilation and reporting of breaches, among others). Assessment design, while not necessarily under the remit of “policy,” is also a key driver of learner behavior and therefore a critical complement to academic integrity policy. Clark et al. (2012) suggest that institutional policies are vital as a means of promoting legal and regulatory compliance, informing all members of the academic community of their rights, responsibilities, and procedures, and “as a standard by which institutions are judged in litigation” (Clark et al. 2012, p. 12).

Given that the primary role of policy is to influence the behavior of individuals and organizations, an effective academic integrity policy (Brimble and Stevenson-Clarke 2005; Devlin 2006; East 2009; Gullifer and Tyson 2014) is a crucial element of a multipronged approach to enable institutions to foster academic integrity.

The AISP analyzed the publicly available “stand-alone” academic integrity policies of 39 Australian universities to determine the “five core elements” of

exemplary policy: access, approach, responsibility, detail, and support (Bretag et al. 2011b), the specifics of which are provided in full in the “Discussion” section.

Research on particular forms of academic integrity breaches such as plagiarism emphasizes the need for student education (Blum 2009; Carroll and Appleton 2001; Harris 2001; Gilmore 2008; Sutherland-Smith 2008). Treviño et al. (2012) and Bretag et al. (2013) advocate an alignment of values and academic integrity policy with a focus on educating both staff and students in the creation of a community of integrity. This is in line with calls for more student engagement and participation in both the development of policy and its implementation (Mc Cabe and Makowski 2001; Bertram Gallant 2008).

Originally established in 2002 as the Joint Information Systems Committee’s Plagiarism Advisory Service, the renamed *PlagiarismAdvice.org* provides a range of resources to assist higher education institutions benchmark their own practices, particularly in relation to the application of penalties for plagiarism, against others in the UK. In 2011 the Higher Education Academy (UK) developed 12 recommendations for implementing academic integrity policy (HEA 2011), including staff engagement and development, student education, a cross-institutional group dedicated to academic integrity, and a centralized record-keeping system.

Recommendations from both the Australian and UK contexts echo the work of Bertram Gallant who, in collaboration with the *International Center for Academic Integrity*, has developed an “Academic Integrity Rating System” for educational institutions to assess the state of their academic integrity policies and processes. In addition to specifically assessing policies and processes, universities evaluate the presence or absence of academic integrity groups/committees, academic integrity structural resources, student organizations, education for students, education for staff, curriculum information, communication to the general public, process evaluation, and data collection (ICAI n.d.).

This chapter extends international suggestions for good practice by analyzing the practical implementation of academic integrity policy from the unique perspective of five Australian universities identified by the AISP as having exemplary policies. The rationale was that universities with clearly established and articulated policy adhering to recommendations in the literature were more likely (although not guaranteed) to identify examples of good practice.

Background

A 2-day Roundtable was held on 28 February and 1 March 2013 for the EAIP project team and reference group. A senior academic representative from each of the five universities identified by the AISP as having an exemplary academic integrity policy shared the practical implementation details of their policy in their specific contexts. The presentations were videotaped and professionally transcribed. The conceptual framework developed for this chapter is based on thematic analysis of the five de-identified presentation transcripts. Thematic coding of each transcript was independently completed by the two authors, beginning with

preliminary generation of initial themes. While informed by the literature and the authors' own experience, the aim was to allow the themes to emerge from the data in grounded theory style, rather than imposing a preconceived set of ideas on the transcripts. The initial themes were then cross-checked and further refined in an iterative and extended collaborative process between the authors. Subthemes and minor categories were often merged before the final themes were agreed upon.

Findings

The key themes that emerged from the data include: culture of academic integrity, academic integrity champions, academic integrity education for all, student engagement, robust decision-making systems, record keeping for evaluation, and regular review of policy and process.

Culture of Academic Integrity

Data from all five institutions at the EAIP Roundtable were coded under this theme. All five representatives prefaced their presentations and reiterated the importance of an institutional commitment to a culture of integrity as both an aspiration and as a tangible practice. The following excerpt discusses the interconnection between institutional culture and policy/practice:

... a strong policy is of course an essential part of creating a culture of academic integrity, but I'm not so sure what comes first, whether the culture generates the strong policy or the strong policy generates the culture, but nevertheless it's absolutely essential. But it's not enough; it's not enough to create that culture. You need to have the supporting processes, particularly for staff in order to have a truly effective alignment of policy and practice – both to establish and to maintain a rigorous culture of academic integrity. (University B)

Many presenters directly or indirectly referred to the Fundamental Values of Academic Integrity from the *International Center for Academic Integrity* – honesty, trust, respect, fairness, and responsibility (ICAI 1999) – as in the following excerpts:

We take a values-based approach to academic integrity. (University C)

... the language that introduces both staff and students to this concept is positive rather than negative in that it focuses on the attitudes and behaviours that we want to encourage through scholarship rather than the attitudes and behaviours to be avoided, that is, here's how we would like you to practice, rather than 'don't do this'. (University C)

Data from every institutional presentation was coded under the theme of “multiple stakeholders,” indicating that all relevant stakeholders (at every level of the institution) were considered to be responsible for fostering a culture of integrity. One particular university articulated this aspect in relation to reporting potential breaches of academic integrity:

The...institutional framework also very clearly states that everybody is responsible for academic integrity at [our university] and we allow students, anybody to report [breaches of] academic integrity. (University E)

Academic Integrity Champions

Data from all five institutions were coded under this theme. “Academic integrity champions” were not specifically attributed this title by the presenters, but were identified during the coding process, based on the role assumed by certain individuals, groups, or stakeholders to initiate or lead change. “Champions” could come from organizations outside the academy such as the media, government funding bodies (e.g., the OLT), or regulatory bodies (such as the Tertiary Education Quality Standards Agency). Academic integrity champions could also be found in university management (e.g., academic board, deputy vice-chancellors, deans teaching and learning, heads of school, academic services, student council); among academic staff including professors, program directors, course coordinators, academic developers, librarians, learning advisors, and lecturers; administrative staff (such as admission officers, program advisors, and academic integrity administrative support officers); and students at undergraduate, postgraduate, and research levels.

In some cases, individuals took a unique leadership role, as in the following example:

... one of the people from [my university] ... was really the driving force behind our policy development, so returning from that conference in 2003, [name] took it upon herself to develop a [name of university] policy on academic conduct. (University B)

However, it should be noted that participants at the Roundtable also indicated that an individual (alone) providing leadership was not a sustainable approach. Some participants observed that implementation of the policy a few years on and with the leader either gone or in another role had resulted in a slide to the status quo. It was agreed that dedicated positions/roles written into policy were a more effective strategy in the long term.

Academic Integrity Education (for All)

Data from all five institutions were coded under this theme, with much discussion centered on practical and timely education including ethical scholarship and academic literacies for students at all levels, as well as staff. Participants at the Roundtable emphasized the importance of recognizing the diversity of institutions, disciplines, staff, and students when designing appropriate academic integrity education as well as the role of curriculum and good assessment design more broadly. The following excerpts are indicative of all five universities’ approaches:

Our framework is very much focused on an educative response and if you actually look at the framework you will see it says what do we do for students from an English as second language background, what do we do for all sorts of . . . students. (University E)

. . . academic integrity as our policy, started moving in the direction of educative and what are the roles and responsibilities of students, staff, academics, professional [staff] and what are we going to do about it to ensure that people don't get into that statute space [of misconduct]. (University D)

It was clear from the presentations at the Roundtable that universities with exemplary policy consider the “academic integrity education” needs of staff as well as students. Data from all five institutions were coded under the theme “professional development for staff,” as in the following excerpts:

. . . so it's about educating staff as well, and of course we have got as much staff support as we can try and do but of course you have to try and get staff excited and engaged with us as well and we have got good practice guides around that. (University E)

The section for staff links to a fairly extensive policy page and contains a downloadable version of the policy itself and also some stuff about teaching practices that support AI. (University C)

While not a specific focus of the Roundtable, both presenters and participants emphasized the crucial role of assessment design and appropriate teaching practices to ensure academic integrity.

Student Engagement

Presenters recognized the importance of encouraging students to be partners rather than passive recipients in academic integrity education (as well as enforcement of policy), and data from all five institutions were coded under “student engagement.” The key suggestions for good practice from this category included the following:

1. The policy should state that everyone (including staff and students) is responsible for academic integrity.
2. There needs to be a student declaration of commitment to academic integrity on all assessments.
3. There should be an academic integrity module for all students. (There was extensive discussion at the Roundtable about whether this module should be compulsory or not, with opinion divided about the advantages of either approach. Concerns were raised that it was not conducive to building a culture of integrity if students were compelled to complete such a module, particularly if completion by staff was optional.)
4. Student learning should be supported with engaging online resources.
5. Students should be encouraged to mentor other students, both as a preventative measure and in the case of breaches.
6. Assessment tasks such as posters, essays, and videos on integrity may be more engaging (than the mere provision of information).

7. Students should be encouraged to contribute to policy development by participating in focus groups and/or relevant committees.
8. Students should be encouraged to be academic integrity champions, e.g., through work in student-run organizations and as contributors to breach decision-making.

One university gave students the opportunity to mentor other students via online resources:

Part of our student centeredness is our ‘student supporting student learning’ and there is a tab [on the university website] which [provides] our own little snippets there from one minute to about three minutes, and they are usually student voices explaining some activity, some learning activity, whether it’s ‘why reference’, or ‘where do you find databases’ or . . . ‘how do you approach a lecturer’, ‘what’s a good question to ask’ or . . . ‘how to frame a question so that a lecturer will give you a meaningful answer’. (University A)

Robust Decision-Making Systems

While the importance of an educative approach to academic integrity was agreed by all presenters, similar agreement was reached on the importance of appropriate and consistent responses to breaches of academic integrity, often referred to as “misconduct.” All five institutions discussed “academic misconduct,” with two universities noting (not without some dismay) a “mixed approach” to academic integrity:

Also I suspect that our policy. . . actually leans toward being a bit mixed. . . in that although it foregrounds an educative approach it switches quite quickly in sections to talk about misconduct. And so. . . [the policy states that] ‘the course outline will include information about academic integrity, and where appropriate will give examples of what will constitute academic misconduct’. So you expect you’re going to get examples for what constitutes good academic integrity in a course and instead it switches straight to misconduct. So it. . . does that throughout the policy and that’s a bit of a gap in terms of education that I think we would like to address. (University C)

The universities represented at the Roundtable provided examples of how specific detail about breaches and breach outcomes was included in their policies and enacted in practice. All five institutions provided specifics of their policy instruments, with extensive information provided about procedures for determining outcomes for academic integrity breaches, as in the following example:

I think the detail is extraordinarily good in this policy. It really talks in detail about what you would do in certain circumstances in terms of how the student, what the outcomes would be for the students and so forth. . . Not only is it detailed but its nuanced in the sense that it takes into account the students’ experience, the number of instances beforehand, the mitigating circumstances such as, for instance, if English is a second language for them, if they have been unwell, if there have been personal issues. There are a number of things like that that it takes into account. It’s not just one size fits all by any means and the processes are really quite detailed in terms of what the responsibilities are for each person and how it should be managed. (University B)

All five institutions offered detail about their “tools for decision-making,” with presenters agreeing on the importance of providing academic integrity breach decision-makers and other stakeholders with a simple flowchart that details specific roles and tasks:

We...have a flow chart that [details]...the roles...whether you are a tutor or a dean or something in between...what you do, who you pass the information on to, what documents you need to actually record the situation and so forth. So it's crystal clear there are links off to the relevant documents. The documents are very simple; they are proformas that you fill out with basic information and you pass it on. (University B)

Academic Integrity Officers “use [the flowchart] as a guide to every inquiry process and it's really clear how to proceed at each step and who is responsible at each step.” (University C)

The key recommendations from the category “tools for decision-making” were that universities need to provide:

1. Clear, easy to follow guidance on the breach process, from the suspicion of an academic integrity breach through to who makes a determination about the outcome;
2. Criteria to differentiate minor from major academic integrity breaches and associated outcomes;
3. Links to appropriate documents to aid decision-making;
4. Guidance on how and when to access academic integrity breach data;
5. Standard document templates for every step of the academic integrity breach process (e.g., pro forma letters to students, standard breach data entry); and
6. Professional development for academic integrity breach decision-makers, including adequate induction and tools for collaboration and consultation.

As a subset of the above category, data from all five institutions were coded under the theme “designated academic integrity role.” Four of the five universities recommended that there should be a decision-maker (or decision-makers, depending on the size of the department and the number of cases) located within the faculty with designated authority to determine outcomes for academic integrity breaches. This person might be referred to as an academic conduct advisor, faculty academic misconduct officer, or academic integrity officer as in the following example:

In terms of responsibility we've got a flow chart...in the main, responsibility in our model sits with Academic Integrity Officers, and [AIOs are] academics within every school who have a portion of their workload allocated to academic integrity, following up breaches and applying the Uni's approach consistently and fairly. And it means that decision-making responsibilities are given to people who are actually on the ground, working in the schools. (University C)

One university used a slightly different model, with a student academic integrity coordinator working in an administrative role and making a preliminary or interim

decision about whether the case constituted a minor or major breach. Major breaches were referred to trained academic decision-makers at the senior management level, and minor breaches were referred to course convenors supported by the student academic integrity management system.

Record Keeping for Evaluation

Data from all five institutions were coded in the theme “central record keeping.” The importance of thorough record keeping was a recurring refrain as in the following excerpts:

We record all the levels, so we actually even record the allegations, we record the findings, we record the appeals, so you actually have very rich data in regards to centrally in the university. (University D)

The history is kept on a confidential system and you can start to refer to that and see where the level of penalty has been previously. [This] allows you to make a fair judgment within that framework. (University E)

Analysis of the presentations indicated that “evaluation” was an important theme, particularly in relation to how breach data is maintained, analyzed, and used to address academic integrity issues, such as an overrepresentation of breaches in particular courses or cohorts.

Regular Review of Policy and Process

It was clear from the Roundtable presentations that having an exemplary policy is merely the first step toward best practice in managing academic integrity. Policy requires constant revision based on an institutional commitment to academic integrity and feedback from breach data, academic integrity breach decision-makers, appeals committees, senior managers, teaching staff, students, and policy-makers in other functional areas. The following excerpt in relation to revising a problematic aspect of policy is indicative of presenters’ approaches:

The section about what to do in that instance was a bit unclear and so at the end of the year when we renewed our policy and revised it as we do at the end of every year, this section was clarified and strengthened so now we fixed that issue. So we have this kind of perpetual feedback loop with our policy that allows us to kind of keep check every year on whether it’s actually accessible to staff and useable and clear. (University C)

Discussion

This chapter proposes a conceptual framework (this framework is available on the *Exemplary Academic Integrity Project* website [www.unisa.edu.au/EAIP] and has also been disseminated in the final report to the OLT www.olt.gov.au) for

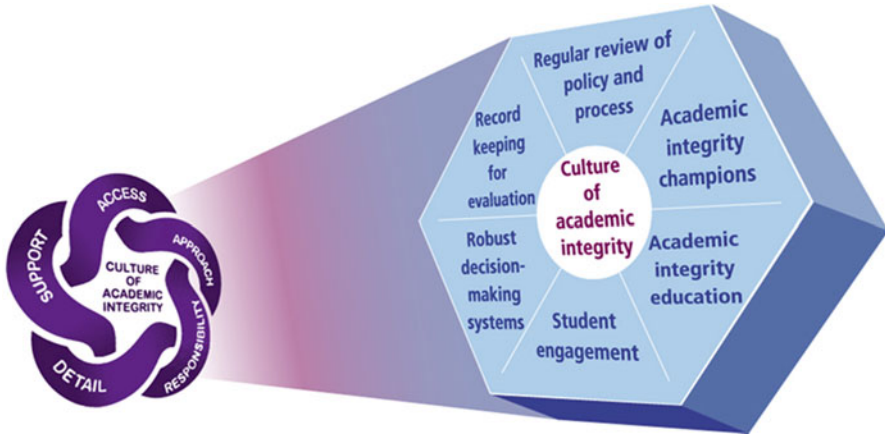


Fig. 1 Framework for enacting exemplary academic integrity policy

implementing exemplary academic integrity policy based on the analysis of the Roundtable data and which consolidates and extends the outcomes of the AISP (Bretag et al. 2011a, b, 2013), previous research, and the literature. At the center of the framework is a commitment to a culture of academic integrity, with each of the components identified from the data contributing to the development of this culture. Figure 1 represents the conceptual framework which takes as its starting point (on the left) the five core elements of exemplary academic integrity policy (Bretag et al. 2011b) and extends to a set of interrelated procedural components.

The framework will be discussed in detail below.

Starting Point: Five Core Elements of Exemplary Academic Integrity Policy

Based on an analysis of online academic integrity policy at 39 public universities in Australia, Bretag et al. (2011b) identified five core elements of exemplary academic integrity policy as follows:

Access: The policy is easy to locate, easy to read, well written, clear and concise. The policy uses comprehensible language, logical headings, provides links to relevant resources and the entire policy is downloadable as in an easy to print and read document.

Approach: Academic integrity is viewed as an educative process and appears in the introductory material to provide a context for the policy. There is a clear statement of purpose and values with a genuine and coherent institutional commitment to academic integrity through all aspects of the policy.

Responsibility: The policy has a clear outline of responsibilities for all relevant stakeholders, including university management, academic and professional staff, and students.

Support: Systems are in place to enable implementation of the academic integrity policy including procedures, resources, modules, training, seminars, and professional development activities to facilitate staff and student awareness and understanding of policy.

Detail: Processes are detailed with a clear list of objective outcomes, and the contextual factors relevant to academic integrity breach decisions are outlined. The policy provides a detailed description of a range of academic integrity breaches and explains those breaches using easy to understand classifications or levels of severity. Extensive but not excessive detail is provided in relation to reporting, recording, confidentiality and the appeals process. (Bretag et al. 2011b, pp. 6–7)

The assessment by the AISP had been that the academic integrity policies of each of the institutions represented at the EAIP Roundtable adhered to the five core elements detailed above and so could be considered “exemplary.” In a bid to further identify potential best practices emanating from exemplary policy, representatives from the five institutions were invited to present the practical implementation details of their respective academic integrity policies.

Culture of Academic Integrity

The conceptual framework begins with the premise that higher education providers need to first devote time and resources to developing an exemplary policy. (The EAIP has developed a freely available online **Academic Integrity Policy Toolkit** to ensure that all higher education providers have access to resources to develop and implement an institution-specific academic integrity policy. All resources from the project are available at www.unisa.edu.au/EAIP.) This policy will provide the foundation for institutional procedures and practices which further build a culture of academic integrity. Such a philosophical and practical foundation corresponds with a key recommendation by the Higher Education Academy JISC Academic Integrity Service (UK) that higher education providers should “establish a cross-institutional group or committee, supported by senior management, involving representatives from all academic faculties or departments, university services...and student representation... with a remit for promoting academic integrity across the institution, and developing and reviewing the policy...” (HEA 2011).

According to the *Australian Policy Cycle* (Bridgman and Davis 2000), “consultation” is a critical part of an eight-step policy cycle which includes issue identification, policy analysis, policy instruments, *consultation*, coordination, decision, implementation, and evaluation (Bridgman and Davis 2000, p. 27). Policy development needs to be informed by evidence derived from “on the ground” intelligence about an organization’s operational issues and the views of those implementing the policy as well as those being managed by it. This constant and reflexive consultation facilitates the implementation and development of a culture of academic integrity and results in genuine enactment of the policy cycle. Importantly, stakeholders become “policy participants” (Freeman 2013) rather than policy recipients. The EAIP online policy toolkit aimed to support some of the

steps in the policy cycle – policy instrument development, consultation, and decision-making – on the understanding that the process used to develop the policy is critical to building the culture.

The proposed framework to enact exemplary academic integrity policy – academic integrity champions, academic integrity education for staff and students, robust decision-making systems, record keeping for evaluation, and regular review of policy and process – mirrors and is therefore validated by previous recommendations from numerous writers in the field (Bertram Gallant 2008; East 2009; Carroll and Appleton 2001; HEA 2011). The framework, however, does more than simply reiterate previous work. The conceptual framework is noteworthy in four distinct areas, as detailed below.

Paradigm Shift from Misconduct to Integrity

Previous research conducted by the AISP found that understandings of academic integrity by senior managers were often framed negatively, with a tendency to focus on plagiarism and other misconduct rather than explicate the values and positive attributes of integrity (Bretag 2012). It was for this reason that one of the core elements of exemplary academic integrity policy identified by the AISP was an educative “approach” underpinned by clear purpose and values. It is the authors’ contention that when extending exemplary policy to practice, the positive aspects of integrity should also be foregrounded. For example, rather than referring to “misconduct,” or “violation,” the term “academic integrity breach” should be used. This distinction is much more than a matter of semantics. Poststructuralist theory has demonstrated that language is a place of both definition and contestation and that it is possible to use language as a means of challenging the dominant discourse (Weedon 1987). We therefore maintain that policy and breach decision-makers have a unique role to play in reshaping institutional approaches and responses to breaches of academic integrity, not least by the language they use when defining their roles and responsibilities. This is an important paradigm shift which we have seen some evidence of occurring in policy (Bretag et al. 2011a, b), but which has not necessarily translated to practice across the sector.

Academic Integrity Leadership

The project’s most recent findings indicate that efforts to manage academic integrity are often initiated and led by “academic integrity champions” – who may be individuals and groups from all organizational levels and stakeholder groups, from both within and outside the organization. Management researchers have long recognized the roles played by key individuals in promoting innovation and change. These roles include being “champions” (Schon 1963), “product champions” (Chakrabarti 1974; Markham and Aiman-Smith 2001), and “change agents” in diffusion of innovation (Rogers 1995). We share Bertram Gallant’s (2008) view

that there is a need for academic integrity champions as they are integral to the enactment of academic integrity policy in a variety of roles – as activators that notice the problem and call attention to it, as management champions that provide resources, as product champions that commit to the innovation and sell the idea, and as agents of diffusion that move the innovation from idea to active implementation.

Various “academic integrity champions” need to be established at every level of university governance and day-to-day operations. Students, teachers, researchers, and staff members all have the potential to be academic integrity champions by adhering to the principles, values, and actions of academic integrity. This includes having the courage to report others who they believe have breached academic integrity policy and guidelines. Those responsible for leadership in assessment (in most Australian universities, this person is usually the dean (learning and teaching) or dean (academic)) have a unique and valuable role in encouraging course convenors to design assessment in ways that ensure the integrity of learning outcomes. In turn, course convenors can be academic integrity champions who report and manage academic breaches through clearly defined processes.

Students as Academic Integrity Partners

The framework extends the authors’ previous research (Bretag et al. 2013) that students have an important role to play in enacting academic integrity. Significant work has been achieved in the USA to include students as partners in building cultures of integrity on campus. Particularly noteworthy is the International Academic Integrity Matters Student Organization (IAIMSO), founded at the University of California, San Diego, with members Bentley University and Missouri State University. The IAIMSO was established “to invigorate student involvement in the academic integrity movement as well as provide support for those students as they attempt to create cultures of integrity” within their local educational settings (Bertram Gallant 2013, personal communication). Such an organization builds on the long tradition of honor codes in the USA, an approach which research by McCabe and colleagues has found contributes to improved academic integrity and reduced cheating on campus (McCabe et al. 2001). Honor code strategies include unsupervised exams, a pledge whereby students state that they have not cheated on an assessment item, a student majority on academic integrity breach decision-making boards, and an expectation that students will report any peers they suspect of cheating (McCabe 2005).

In the Australian context, there has been ongoing debate for nearly a decade about the potential for honor codes to be introduced to higher education (Marsden 2005); however, there has been little agreement and a lack of systematic research on this topic. It should be noted that many “student charters” in Australian universities specifically mention the importance of adhering to the highest ethical standards and completing assessment tasks in an honest and trustworthy manner, and clearly these

edicts are closely linked to academic integrity policy. There is a vast difference, however, between a student charter, which few students have ever read or even been reminded of, and honor codes, which American students “pledge” to uphold at multiple points throughout their studies.

In 2012 the OLT funded the commissioned project, “Academic integrity in Australia: Understanding and changing culture and practice” (Macquarie University), which aimed to look at both the challenges and potential for honor codes to be introduced to Australian universities. That work, coupled with the findings from the doctoral research by Sonia Saddiqui on the same topic, promises to create new student partnerships in fostering academic integrity, specific to the Australian higher education sector and Australian culture more broadly (Nayak et al. 2013).

Record Keeping for Evaluation

Despite the tendency for management of student misconduct matters to be dealt with at the level of individual academic units (Lindsay 2010), central record keeping of academic integrity breach data has long been recognized as an important means of assuring consistent and fair academic integrity breach decision-making (Carroll and Appleton 2005). In the six partner universities of the *Academic Integrity Standards Project* (2010–2012), records were maintained centrally but in such diverse forms that the breach data could not be meaningfully compared (Wallace and Green 2012). This lack of comparability, coupled with institutions’ reluctance to share data because of concerns about “reputational risk” (Marsden et al. 2005), makes it difficult to identify best practice in recording academic integrity breach data.

Universities tend to use breach data for the purpose of informing responses to student breaches (e.g., to make the case for a more severe penalty in the case of recidivist behavior as demonstrated by multiple breaches). The findings from the EAIP Roundtable reinforced the importance of central record keeping for such purposes but broadened the discussion to the potential role of academic integrity breach data for evaluation and improvement of educational practice. Participants at the Roundtable were interested to know how evaluation of breach data could be used to impact the culture of integrity at their respective institutions. For example, breach data may inform which courses or programs/faculties need additional academic integrity resources; it may identify particular cohorts of students who require support; the data has the potential to show critical points in study periods when students are most at risk of breaching academic integrity; and it could also identify gaps in professional development for staff. Wallace and Green (2012) agree that academic integrity breach data has the potential to assist universities “to make well-informed judgments about the effectiveness of their activities.”

Conclusion

Consolidating recent research on academic integrity in Australian higher education (Bretag et al., 2011a, b, 2013) and echoing recommendations from the international literature (HEA 2011; ICAI n.d.), this chapter has proposed a conceptual framework for implementing exemplary academic integrity policy. The framework makes a distinct contribution in four areas. First, there is a philosophical and linguistic shift, so that the starting point for all discussions is not misconduct but integrity. Second, the chapter has stressed the need for academic integrity champions to instigate and lead academic integrity initiatives. Third, the importance of including students as partners in developing cultures of academic integrity has been highlighted, although further research is needed to explore the potential of honor codes to assist in this process. Fourth, the framework recommends that an essential role of centrally maintained breach data is to inform and improve educational practice. The proposed framework is not meant to be prescriptive or all-inclusive, but aims to extend the already well-developed dialogue on to how to align academic integrity policy and practice in the Australian context.

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Abstract

The work of the Australian Academic Integrity Standards Project (AISP 2012) and Exemplary Academic Integrity Project (EAIP 2013) has demonstrated the role of policy in dissemination of a university's values, managing academic misconduct, and enabling academic integrity education appropriate for the particular scholarship conventions of academic literacies. The AISP (2012) provides models of exemplary policy and a range of learning resources. It also reveals that staff and students want responses to academic integrity to be more than informative; they need responses to academic integrity to be educational. The EAIP (2013) provides a framework to develop policy and practices which are committed to the development of a culture of academic integrity and reveals the complexity of educational culture/s. It provides resources to meet some of this complexity, including resources for international students and postgraduates. Following on from the work of these Australian projects, this chapter discusses students' academic integrity learning needs in the context of the digital age, and it provides design principles and activities to enable students to take on their university's values and develop their scholarship skills.

J. East (✉)
La Trobe University, Melbourne, VA, Australia
e-mail: j.east@latrobe.edu.au

The chapter focuses on designing engaging academic integrity modules (AIMs) for institution-wide education and designing activities for practice using an academic literacies approach. Most universities provide generic information, but this chapter argues that, beyond introducing students to academic integrity and avoiding plagiarism, students are entitled to education which enables them to understand scholarship and how it is practiced. This poses the challenge for university education to do more than inform students about academic integrity and to provide educative opportunities for students to be able to practice scholarship skills prior to being assessed on their capabilities.

Introduction: Academic Integrity Is an Educational Issue

This chapter is premised on the understanding that concepts of academic integrity can be taught and that institutions have a responsibility to not only design learning opportunities for students, but to also ensure these opportunities are taken up. In earlier research, recognition of the occluded nature of academic acknowledgment conventions implied that university teaching was unaware of what was needed to explicitly teach academic integrity practices (East, 2006; Pecorari, 2006). More recently, data collected through the AISP (East & McGowan, 2012) indicates that senior academic staff are well aware that academic acknowledgment conventions need to be taught and that explicitly addressing issues of academic integrity is a vital pedagogical responsibility. There may be little disagreement that this should be done, but doing it is another matter. Informing students that they should follow the rules has limited pedagogical value, but finding space to teach academic integrity in packed transition programs and overfull curricula, and finding ways to do it in the digital age of mass education, requires more than recognizing good intentions. Staff development and the need to engage students in their institution's values (Horacek, 2009; Senders, 2008) are foundational to the challenge of providing educational responses to academic integrity.

With preformed standards, students are neither ignorant nor lacking in morals, and in Australia most students arrive at university having heard of plagiarism and expecting that there will be penalties for cheating (Bretag et al., 2014). With only a limited understanding of academic standards, students could mistakenly assume that their personal standards of integrity provide all that is needed to avoid plagiarism. Furthermore, when understandings of authorial identity are acquired in a digital world, students could transfer the convenient appropriation and bricolage practices of digital text reconstruction to academic assessment tasks (Bayne, 2006). For some students, adjusting their understanding of how to acknowledge appropriately can involve confusion. This confusion provides educative opportunities for students to be aware of what they do not know (Christie, Tett, Cree, Hounsell, & McCune, 2008; Dervin & Foreman-Wernet, 2003), so they can be open to learning new concepts and developing new skills. The challenge is not only to inform students about academic integrity, but also to engage students in this education and to provide them with opportunities to develop their scholarship capabilities.

This chapter reviews the role of academic integrity education for a diverse student body in the context of the digital age, noting that students are entitled to learn about the authorial expectations of academic text making. Using the design principles of engagement and practice, the chapter discusses how programs can introduce students to academic integrity and develop their understanding and capabilities in managing the conventions of attribution and intertextuality. The chapter discusses how academic integrity modules (AIMs) can engage learners, and, taking an academic literacies approach, it suggests activities to practice acknowledgment skills. The first section of this chapter sets the context, by reviewing the literature which explains why academic integrity and plagiarism are educational issues.

The Need for Educative Responses

In the last decade, as universities have increased student numbers and increased attention to supporting students entering from different pathways, there has been growing awareness of the need to reduce the mystery of scholarship and make the occluded explicit. Academic integrity teaching and information are often part of a suite of activities to support student transition into the university experience. Only a few years ago, student plagiarism, and its detection, punishment, avoidance, and reduction, was pitched as a student problem which could be strategized (Fielden & Joyce, 2008). More recently, the problematizing of plagiarism has been encompassed in a broader academic integrity framework, which has enabled a more nuanced understanding of institutional values and scholarship practices (AISP, 2012; EAIP, 2013; Higher Education Academy 2011). This understanding has happened at a time of increased teaching of academic skills and academic culture to commencing students (Kift, 2009) and a shift in teaching and learning attitudes. No longer a problem, students have entitlements to be taught the academic skills they need to succeed at university. Earlier East (2006) had concluded that university lecturers were acculturated into their subject areas, and if they recognized the need to be explicit about academic integrity, it was in response to student deficiency. More recently, interviews with senior university staff in Australia (East & McGowan, 2012) indicate that university staff are aware that an educative approach will support academic integrity enactment. A senior decision maker explained that teachers should demonstrate and provide practice in skills of scholarly inquiry and using sources:

...there's quite a lot of skill in teaching students about...doing a conventional development of an argument or an essay, [...] moving from stringing quotes together, with names behind them, to actually synthesising the ideas and coming up with your story, and bringing in the quotes, as evidence for statements that you're making. (East & McGowan, 2012)

This awareness suggests a shift toward understanding the need to teach students how to acknowledge as part of developing their academic voice and becoming

competent in intertextuality. Earlier, in 1998, Ivanic had written that lecturers did not realize the struggle that students face in using existing literature to construct their own academic identity. In the same tenor, Thompson and Pennycook (2008) implied that teaching academic acknowledgment to students had tended to take the simplistic approach of teaching citation practices and detecting plagiarism, rather than dealing with the complexities of “intertextuality”. Today, senior university decision makers in the teaching and learning arena in Australia might be more aware that students need skills development before they can successfully construct their own texts from literature (East & McGowan, 2012), but in actuality, the educational focus on academic integrity has tended to be limited to introducing transitioning students to concepts and values and providing referencing guides.

Greater awareness of the need to effectively educate students about academic integrity has happened at the same time as increases in enrollments have reduced opportunities for teachers to inquire into the diverse understandings and dispositions of individual students (McGee, 2012). Student populations have also become more multicultural as access to Western universities has increased. If multicultural students’ previous education differs from that of their Western teachers, mismatches in preconceptions of academic integrity and expectations of acknowledgment practices are particularly marked (Bloch, 2008; East, 2005; Gow, 2014; Pennycook, 1997; Phan Le Ha, 2006). More frequently, students are enrolling in a Western university through the convenience and familiarity of the digital world, so without even traveling to a new culture, they can meet alien academic expectations. In a recent example, Nigerian students who enrolled in online courses through the University of Liverpool underestimated the importance of referencing and were shocked and confused to be called to account for plagiarism (Szilagyi, 2014). The students valued their personal integrity and honesty but had come from an education background in which knowledge was not disputed and elders were respected so their words were copied. Globalization has made the world smaller, but it has also revealed that a university cannot assume that all students enrolling in its courses come with experience of local scholarship expectations and common understandings of what constitutes academic misconduct. Students from China, for example, might understand the concepts of plagiarism as transgression, but not always recognize what constitutes plagiarism (Gow, 2014; Lei & Hu, 2014). In such cases, confusions of proper acknowledgment need to be addressed with effective education. McGowan and Lightbody (2009), working with students from Hong Kong, concluded that these students learned best from explicit concrete examples such as correcting plagiarized text, rather than the abstract approach of expecting students to apply referencing guides and rules to text construction.

Language competency is another factor in students’ preparedness for the scholarship conventions of university and success in managing acknowledgment expectations (Garner & Hubbell, 2013). In English-speaking universities, students using English as an additional language are grappling with English language, trying to master academic language (Flowerdew & Li, 2007) and trying to interpret new concepts through these filters. Shi (2008) in her comparison of the writing of native English speakers and of Chinese speakers majoring in English found that the

Chinese students copied more and did so as a learning strategy to acquire language. Shi also noted that these students were confused about the “rules” of plagiarism. These rules are underpinned by cultural concepts of knowledge analysis, which are often explained with language too simple to reveal assumed and nuanced understandings (Bloch, 2001).

Many commencing students can find academic communication not only strange, but also intimidating (Christie et al., 2008; Devlin, Kift, & Nelson, 2012; Ivanic, 1998). Commencing students come to university to gain knowledge and develop skills, but in order to succeed in this, they need to manipulate academic language so they can construct and demonstrate their academic opinions according to expected communication conventions. All students take time and practice to become versed in academic codes and to understand academic culture. Ivanic (1998) in the UK reviewed the role of language in developing academic identity and found that students can struggle with the language needed to express their changing identities. Mastering the academic conventions of opinion making and intertextuality requires practice.

One educative approach frames new students as apprentices trying to develop mastery of academic language and scholarly practices. When these inexperienced students emulate or patch together a new, but unoriginal, text from other texts, they are applying a learning strategy. Some examples of plagiarism could thus be understood as evidence that students, who are unfamiliar with academic discourse, are still learning how to write in an academic way. Pecorari and Petrić (2014) argue for an additional term to plagiarism: one that takes into account source use and copying without intention to deceive. In 1993, Howard defined the term patch writing as “copying from a source text and then deleting some words, altering grammatical structures, or plugging in one-for-one synonym substitutes” (p. 233). In these cases, copying properly with appropriate acknowledgment would seem to be a matter of learning and practice, rather than being an ethical issue of students pretending another’s work is their own. In some cases, seeming breaches of academic integrity provide opportunities for educative responses. McGowan (2010) argues that, rather than focusing on avoiding and penalizing plagiarism, teaching should focus on the developmental nature of academic integrity mastery, which is integral to the research process and in turn underpins scholarly writing and practices.

Digital writing practices pose new perceptions of how knowledge and texts are constructed. Reconstructed texts can be flexibly mixed together from a range of media components such as words, videos, and graphics. Personal profiles for sharing through social media can be created from appropriated media components, and texts can be efficiently constructed as a community effort on privately shared spaces. Rather than being the passive receivers of information, students can upload their own texts, and they can share, appropriate, repurpose, and distribute texts. Walker, Jameson, and Ryan (2010) argue that these playful practices actually require skills of critical selection, which can be applied beyond the digital world and into academic culture. Others are less enthusiastic (Beetham & Oliver, 2010; Facer & Selwyn, 2010), arguing that social media practices do not necessarily

transfer to academic forms of learning. Beetham and Oliver (2010) provide evidence that many learners are uncritical and uncreative in their engagement with information on the web. Where students can be “creative,” however, is in their use of social networking and tools for task collaboration. The social networking practice of expedient participatory text making can lead to efficient task management under the radar of surveillance, with students sharing the work of writing for assessment: some collect resources; some do the work of aggregating texts; and some do the editing. These digitally competent practices would be interpreted as overstepping the boundary between collaboration and collusion and moving into text appropriation as plagiarism, if they were undertaken under the guise of an individual student producing a text for assessment. Of course, collusion is not just a problem of social networking. Owens and White (2013) concluded that “person-to-person plagiarism” is usually students helping each other and can be discouraged by detection and education.

Academic integrity education about the values of acknowledgment and authorship in the context of digital literacy in an academic environment would teach students to be critically aware of when practices of text aggregation and participatory text production are appropriate or otherwise. Ethical awareness is vital for students to be able to make decisions about how to use digital tools to develop texts and when and how to make this task development transparent to assessors. Furthermore, ethical education for the digital world would develop students’ awareness of the dangers of foraying into paper-writing sites and accessing their services. Some of these sites are alluring in their enticement of reducing the burden of study loads, and some are deceptive in their invitation to join what seem to be collaborative learning spaces (examples of these are quickly found by searching with terms such as “essay writing help”).

Academic integrity can be understood and evidenced in a number of ways. The ethical nature of the term integrity is evident in its synonyms of honesty, truthfulness, reliability, and so on. These would seem to fit with universal understandings of morality (Kohlberg, 1981), yet universities are keen that students realize academic integrity as being particular to upholding the values of their university. This understanding is integral to the development of academic identity and transitions students from novices to becoming acculturated into the university. The interconnectedness of university values and academic identity indicates that academic integrity is not just an institutional value; it is personally meaningful for members of the university community. Thus, understandings of academic integrity are both situated in university activities and constructed by individuals as they learn how to take an authentic authorial position to communicating knowledge. In practice, the competency of effectively attributing sources in an academic text requires conceptual realization and skills development. To learn about academic integrity, students require opportunities to talk about their understandings of acknowledgment, plagiarism, and collusion and how and when these are context dependent. To develop their academic skills, students need feedback (Carroll, 2002; Owens & White, 2013) and practice in acknowledging sources and other people’s work (Moniz, Fine, & Bliss, 2008).

Introducing Students to Academic Integrity

In accordance with their policies, most Australian universities now take action to introduce students to academic integrity. These actions include orientation sessions to inform commencing students that certain standards are expected and information available on web sites and in subject guides. Like most impersonal mass messages, these are seemingly efficient but unlikely to be efficacious (Mayes & De Freitas, 2013), and students are free to filter out such information from conscious view and forever ignore it.

Many universities in Australia and the UK have mandatory or recommended academic integrity modules (AIMs) to introduce commencing students to academic integrity, and there is some evidence that these make a difference and reduce plagiarism (Belter & Du Pre, 2009). AIMs can be generic guides (e.g., the “Avoiding Plagiarism” course by Epigeum (2014)) which introduce students to the sorts of concepts that all students need to learn, or they can be in house designs which refer specifically to an institution’s values, policies, and use of style guides (Arko, McAllister, & Goss, 2005; East & Donnelly, 2012). Mandatory AIMs (e.g., at [La Trobe University](#); [Murdoch University](#); [University of Western Australia](#)) also have the quality assurance advantage that all commencing students have been informed about academic integrity responsibilities, but such modules have administrative demands and can have pedagogical shortcomings. The administrative demands involve tracking module completions, applying incentives for successful completions, determining penalties, and keeping records. The shortcomings of mandatory AIMs include being perceived by students as an impost. Some students will avoid the educational input and do the minimum to gain a pass result. The pedagogical value is also reduced if lecturers see the AIM as absolving them of any responsibility to teach academic integrity (Löfström, Trotman, Furnari, & Shephard, 2014). In contrast, recommended AIMs do not carry a great administrative impost, but they lack the assurance for a university that all commencing students have been introduced to academic integrity. While some students might do the AIM because they want to learn more about academic integrity, others will not take up this learning opportunity. The challenge for an AIM designer is to make the module engaging so that students can take advantage of the learning benefits, whether the module is mandatory or recommended.

To effectively introduce the concepts of academic integrity to all commencing students, AIM design would need to take account of student diversity. This design would take into account the need to reach students who do not see a need for academic integrity education, as well as those who perceive acknowledgment conventions to be very strange and so seek explicit direction. For students at risk of being accused of plagiarism, because they are unfamiliar with acknowledgment practices (Szilagyi, 2014), an AIM is an important orientation tool. It can provide vital cultural cues about the acknowledgment expectations of the academic context and their new university, and ideally, students can explore alternative actions and consequences in a range of situations without suffering irreversible outcomes. Concrete tasks, such as text correction, could be included for those students who

are wary of more abstract learning activities (McGowan & Lightbody, 2009). An AIM could also be designed to communicate with images and so reduce the impost of text overload, which would benefit students using English as an additional language.

The next section reviews the design of AIMs and suggests design actions to make the modules more engaging for students. This design principle accords with the conclusions of Bretag et al. (2014, p. 1167) that academic integrity education must be more than the provision of information; it needs to be “hands on” if it is to engage students in a learning journey. Mayes and De Freitas (2013, pp. 19–24) argue that the design of a learning module is informed by three main theoretical perspectives. The first of these can be seen in AIMs which take an “associationist perspective” and have a step-by-step structure. The activities progress from simple to complex, with feedback allowing students to move through individualized paths until the activities are successfully completed. Constructivism is a “cognitive perspective” in which “understanding is gained through an active process of creating hypotheses and building new forms of understanding through activity” (p. 21). Another learning theory underpinning AIM design is the “situative perspective” which emphasizes the role of context and community in acquiring shared values and also helps to explain the pedagogical value of social networks and learning through games.

Engaging students with the activities, resources, and advices in an AIM, so that they will take on the values of the university community and construct their understanding of academic integrity, poses particular challenges for AIM design. Both staff and students can assume that students arrive at university with existing understandings of academic integrity values and concepts. Staff acculturated with academic conventions may not see the purpose of explicitly teaching academic integrity, while students, unaware of what they do not know, will not be motivated to see the need to learn about academic integrity. All too often, students perceive that being honest is enough to avoid academic integrity breaches (Bretag et al., 2014), so an AIM can be seen as merely a compliance tool, which staff must deliver and students must suffer. This perception invites students to be expedient and so avoid the learning activities and head straight to the assessment.

One approach to combating expedient, assessment-driven actions is to design an AIM as a series of challenges and hurdles, through which students must progress along a journey. On this learning journey, students would have opportunities to make decisions about the sorts of complex academic integrity issues that they are likely to confront in their studies. For example, a collaboration scenario could invite students to choose when sharing or helping a friend is efficient study practice or when it is collusion. Depending on their choice of action, students would be rewarded or their progress would be hampered.

Applying gamification principles is one way to construct an engaging AIM. Game playing is inherently engaging, and Johnson, Adams Becker, Estrada, and Freeman (2014) give examples of how gaming for rewards engages players in concentrated activity. Game players are enticed with challenges and rewards to become immersed in activities. This immersion and constant feedback are attractive

features for an AIM designer. In a gamified AIM, students would be motivated by receiving rewards and credits and avoiding penalties. Where it is important for students to be well informed about expected practice or to have an understanding of a threshold concept, gateways could be used to ensure that students can only progress when they have successfully completed tasks. The “choose your own adventure” is a well-known gaming format which could be adapted to the sorts of cases and scenarios relevant to academic integrity decision-making. Of course, such activities would need to be mapped to learning outcomes, and, in the case of mandatory AIMS, each student’s responses would need to be recorded.

Given its ability to engage students, game-based learning seems to be well suited for AIM design, especially if its intention is to introduce students to the concepts, guidelines, and sharing of values as part of a communication of a university-wide approach to academic integrity. In particular, students can engage with the decision-making features of a gamified AIM, and more generally, it is claimed that educational games lead to “critical thinking [and] creative problem-solving” (Johnson et al., 2014, p. 42). Gaming is even claimed to be the solution to many of the world’s problems and to make the world a better place (McGonigal, 2011), but the gamification of learning activities comes with cautions. The design needs to be right, and just adding a few mechanics such as animations, badges, and hurdles will not result in a gamified AIM. With warnings for the unwary, the JISC games infoKit (JISC, 2014) explains that “the history of game-based learning is littered with many failed, and often expensive, attempts to fuse together gaming and learning.”

At best, an AIM can introduce students to academic integrity and engage them in internalizing a university’s values and realizing that they need to learn more. An introduction to the principles of academic integrity and the particular values of a university is a step toward inducting students into academic culture. The next step is to teach particular acknowledgment and referencing practices so that students can develop their writing skills of intertextuality and their scholarship capabilities. A recommendation from the research of the Academic Integrity Standards Project was that “Teachers induct students into discipline specific writing and referencing practices” (East & McGowan, 2012).

Developing Academic Integrity

“It’s not a matter of you know one size fits all” – course coordinator, Australian University (East & McGowan, 2012).

Attempts to develop academic integrity education happen in the complexity of multiple cultural dimensions and interactions in an organization. In a review of an initiative to reduce academic misconduct through a learning-based approach, Baughan (2013) argued that a systematic approach imposed from the top is unlikely to succeed. “[D]ifferent issues and concerns may arise for particular communities within the organisation. . . it might be beneficial for some attention to be paid to these” (p. 92). The Exemplary Academic Integrity Project (EAIP, 2013) takes account of this by not only dealing with how to construct an academic integrity

policy, but also providing a range of educative resources for different circumstances. An academic integrity policy can direct implementation of educative responses, but their effectiveness depends on alignment with local practices in subjects and courses. A recommendation coming from the research of the AISP (East & McGowan, 2012) is that the acknowledgment practices of particular subjects are explicitly taught within those subjects. A course coordinator from an Australian university asserted that:

In every program there should be a built-in section on academic integrity for that discipline that every student should be given some overt instruction about how to do the right thing in terms of referencing, in terms of whatever it might be for their discipline...journalism has different expectations than law, for example, than mathematics... (East & McGowan, 2012)

In subjects where assessment is text based, academic integrity and academic literacy go hand in hand. The basic principles of text construction include the need to be well organized and well argued, and many assessment tasks call for evidence of originality and acknowledgment and analysis of existing research. In actuality, however, there is limited value in teaching academic literacy through generic principles, because even texts abiding by these principles can be read differently, depending on the discipline and subject. Academic literacies research (Ivanic, 1998; Lea & Street, 2006) is a challenge to the belief that students having received an introduction to academic integrity will then be able to apply the basic principles of acknowledgment to discipline specific intertextuality practices. The AUQA (2009, p. 2) *Good Practice Principles for English Language Proficiency* notes that: “Different disciplines have different discourses of academic inquiry... [so the] development of academic language and learning is more likely to occur when it is linked to need (e.g., academic activities, assessment tasks).” In order to become academically literate, which involves mastery of acknowledgment and intertextuality skills, students require “acculturation into disciplinary and subject-based discourses and genres” (Lea & Street, 2006, p. 369). The same principle applies to subjects in which assessments are not text based. Acculturation leading to skills development can only happen over time when students can explore pertinent conventions, can access models of responses to assessment tasks, and have enough opportunities for practice.

Universities that nominate academic skills and ethics as graduate capabilities, and policies that explicitly state that academic integrity is everybody’s responsibility (AISP, 2012), provide the foundation for academic integrity to be embedded in the curriculum. Staff development also needs to be mandated to ensure that staff learn about their academic integrity responsibilities and are supported to teach acknowledgment practices. Sutherland-Smith (2010) argues that staff require professional development and time allocation to prevent them from being burdened with teaching acknowledgment skills to students as if it were extra work. This indicates a space for acknowledgment activities in which the students are the ones doing the work. Such activities would lead students to construct understandings of

how to attribute and cite and would ask students to apply in their own work what they have been learning and have uncovered in writing examples. Appropriate tasks would need to be fitted with subject content and would come with the proviso that students have opportunities to practice what they are learning.

Activities which are designed to deconstruct and review texts provide multiple teaching and learning opportunities. Students could examine some published academic articles from two different disciplines or from different types of texts. They can discuss the function of the references, how they contribute to the author's text, and what the effect would be if they were removed (AISP Learning Activities & Develop, 2012). This activity could be extended by directing students to compare and contrast the referencing in these published articles with the referencing expectations in their assignments. Student writing can be similarly analyzed by asking students to review versions of an extract of student writing: in one version, sources of evidence are removed; in the other, they are appropriately acknowledged. The next stage would be for students to practice their skills and to use exemplars from their discipline to construct their own work in formative tasks. Owens and White (2013) used such activities with their psychology students to effectively reduce plagiarism over time. Not only did they teach writing in class and provide constructive feedback, they set up a self-directed activity in which students anonymously reviewed each other's work for plagiarism. Such scaffolded peer review provides learning feedback opportunities for students. They can learn from each other and refine their skills before submitting their work for summative assessment.

Students require targeted opportunities if they are to learn how to produce original work and to develop acknowledgment skills. These opportunities can take place in formative tasks and low risk assessment tasks. Some tasks are also said to encourage student authorship. Tasks which ask students to reflect, use current events, or record the assignment process are often proposed as a means to ensure that students are writing their own work, rather than plagiarizing (Higher Education Academy 2011, p. 11). A reflection activity was created for University of Greenwich history students who demonstrated their employability skills by reporting on their work placement and also creating a resource-rich project for a particular audience (Higher Education Academy 2011). The activity developer claimed that the students had a "sense of 'ownership' in creating an authentic piece of work" (Higher Education Academy 2011) (p. 34) and so were less likely to plagiarize. Elander, Pittam, Lusher, Fox, and Payne (2010) argue that developing a sense of authorial identity could reduce plagiarism in essay writing and that students can be taught to see themselves as authors. While Elander et al.'s intervention did encourage students to see themselves as authors, the research struggled to provide evidence of reduced plagiarism as a result. They did cite other research which provided evidence of citation problems and minor plagiarism being reduced when students had opportunities to practice paraphrasing skills. Similarly, Owens and White (2013) found that teaching writing skills in the curriculum was effective in reducing plagiarism.

In the creative arts, often the focus is on whether or not a piece is derivative, and yet, contemporary artworks open new ways of creativity by transforming existing

pieces or performances. Remix and text appropriation activities are topical and controversial, even when the results are recognized as transformative. Activities in which students discuss when a work is derivative or transformative or plagiarized, and then they identify the citations or cues that provide the internal attributions of source (AISP Learning Activities & Develop, 2012), prepare students to be aware of the concepts and conventions of acknowledgment. Students are learning how to create their own work within a researched framework of existing work while negotiating authorship as it is played in social networks. Their work is being judged and evaluated for its topicality and creativity by different audiences. Setting questions about the nature of a remix, and the role of audience in defining plagiarism, opens up discussion about the concepts of appropriation, plagiarism, and originality in the creative arts.

Teaching the academic discourse of a discipline area involves taking students on a journey of learning how to manage intertextuality. An early stage involves trying to understand the concepts of acknowledgment and learning the language of academic texts. Patch writing, as discussed earlier, can be a clumsy attempt at doing this. More sophisticated outcomes can start when students use summaries of subject readings as examples of how to rewrite other people's work. Students can be directed to note and analyze which terms are reiterated in the summary and which are paraphrased. Students can also learn how to record the bibliographical details of copied text, so they can take advantage of the convenience of copy and paste without plagiarizing. The copied text can then be reconstructed and cited within a discussion.

An educative response to academic misconduct will depend on the seriousness of the breach. Some breaches, for example, when citations are missing or incorrect, are indicative of lack of familiarity or sophistication in managing scholarship conventions, while other breaches, for example, submitting another's work as one's own, are evidence of serious misconduct. Penalizing serious academic misconduct in a systematic and effective way sends out a message to students that plagiarism will not be tolerated. On the other hand, cases of poor scholarship can be educational opportunities to teach students proper acknowledgment practices. All too often, in Australian universities, the first time commencing students have their work assessed is also the first time that anyone has reviewed their work and provided feedback about whether or not they have acknowledged appropriately. Depending on how well or how poorly these students have been able to enact what they have been told to do could determine if they are penalized for improper acknowledgment. It could be argued that the responsibility to enact the rules rests with the students, but learning scholarship conventions takes time and practice, and students are likely to make mistakes. Getting attribution wrong can have serious consequences, but as an Australian university course coordinator pointed out: "[in areas other than acknowledgment], if we teach them how to do something but they don't get it right, the penalty is lack of marks not a record that says you're a cheat" (East & McGowan, 2012). A recommendation coming from the AISP (East & McGowan) is that "Teachers help students learn from errors by giving constructive feedback, in line with learning objectives and assessment criteria." Even more

strategic would be to teach students and provide them with opportunities to practice before their work is assessed. McGowan (2010, p. 8) concluded that “The problems of students whose plagiarism is unintentional would be [best] handled proactively as part of the education process, rather than as a remedial issue after a ‘breach of integrity’ is identified.”

Summary

There is a need not only to introduce students transitioning to university to the concepts and practices of academic integrity and acknowledgement, but also to educate students so that as they progress they develop their academic capabilities. Well-designed and engaging AIMs can have an important role in providing effective institutional introductions to academic integrity. The embedded teaching of academic acknowledgment within subjects and courses can provide students with opportunities for subject-specific skills development, practice, and feedback.

Effective academic integrity education enables learners to internalize the values of their university, to acquire their own conceptual understandings of academic authorship, and to take up opportunities to develop their capabilities. Furthermore, academic integrity education needs to equip students so that they can make appropriate decisions when they take advantage of social networks, access digital tools, and are exposed to those paper-writing sites designed to lure students into purchasing essays. These imperatives and the need for high-quality educative responses to reduce plagiarism have only grown as student numbers and student diversity have increased, and opportunities to provide individual responses to students’ learning needs have reduced.

Australian academic integrity policies and comments from senior Australian academic staff indicate that there is awareness that students need to be informed, if not educated, about academic integrity. In practice, however, the challenge remains to make academic integrity education engaging, relevant, and developmental and to provide opportunities for students to practice so they can master the academic conventions of scholarship.

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Section V

**Plagiarism in Higher Education:
An Academic Literacies Issue?**

Rebecca Moore Howard

Rebecca Moore Howard

Abstract

Although plagiarism has traditionally been framed as an ethical issue, recent scholarship suggests that patchwriting should be framed as an issue of academic literacies. In this section, Sandra Jamieson examines the history of instruction in source-based writing, focusing her history on the scholarship addressing patchwriting. Lee Adams' synthesis of research on students' motivations and beliefs reveals widespread confusion about the most basic concepts concerning plagiarism. Diane Pecorari overviews the research on EAP plagiarism as it addresses questions of ethics and literacy. Tricia Serviss describes possibilities for faculty development programs that would encourage a distinction between ethical and literacy issues in transgressive student writing.

The textual phenomenon of plagiarism – using another's words without attribution – has long been considered an ethical matter. Ethical writers do not plagiarize. Plagiarists are unethical. For this reason, it may seem natural to categorize *plagiarism* under the heading of *academic dishonesty*. Plagiarism policies have traditionally specified that even when the writer plagiarizes unintentionally, he/she is guilty of academic dishonesty. In addition, the label *plagiarism* has traditionally been applied to a number of disparate practices: *plagiarism* included failure to mark copying as quotation, failure to cite one's source, hiring another to do one's writing under one's own name, copying an entire text written by another, using one's own work in multiple venues without acknowledgement, and the too-close paraphrasing now known as *patchwriting*. Lee Adams' chapter in this section suggests that the word *plagiarists* might better describe this array than does *plagiarism*.

A great deal of recent scholarship has revisited and retested these traditional understandings of what constitutes plagiarism. As the chapters in this section demonstrate, considerable energy has been dedicated to examining the array of activities categorized as *plagiarism*, asking whether some should be categorized

R.M. Howard (✉)
Syracuse University, Syracuse, NY, USA
e-mail: rmoorehoward@gmail.com

separately, as academic misconduct rather than academic dishonesty. Recent scholarship has also examined plagiarism rhetorically, rather than as a transcendent category: plagiarism occurs in various contexts, each with its own parameters for what constitutes ethical writing. Plagiarism occurs for a variety of reasons, by a variety of writers, to a various audience. All these factors – writer, reader, context, purpose – come into play when a writer works from sources. Moreover, recent scholarship has attended to the difficulties that inexperienced writers and second-language writers may have in achieving textual ideals. And that scholarship has challenged the traditional adjudication of plagiarism while excluding the writer’s intentions from consideration.

Sandra Jamieson’s ► [Chaps. 38, “Creating Faculty Development Programming to Prevent Plagiarism: Three Approaches,”](#) and ► [35, “Is It Plagiarism or Patchwriting? Toward a Nuanced Definition”](#) unfolds a history of how students have been taught to write from sources. Jamieson finds that while summary and quotation have long been objects of instruction, attention to the bridging practice – paraphrase – has been building since the 1970s, while the definitions of *paraphrase* and *summary* have not been stable. In the rising rates of scholarly attention to cheating since the early 1990s, the absence of agreement about terms and definitions has impeded instructors’ efforts to establish good pedagogy and policy. Jamieson notes specifically that when a writer patchwrites unintentionally, instructors tend to respond pedagogically, whereas when the patchwriting seems intentional, the response tends toward the juridical.

“[T]he focus of recent plagiarism literature has moved away from simple distinctions between intentional and unintentional plagiarism, and begun to explore plagiarism as a more complex issue situated within students’ development as academic writers” (Adam, ► [Chap. 36, “Student Perspectives on Plagiarism”](#) this volume). Lee Adam offers an overview of the scholarship on students’ perspectives on plagiarism. Like Jamieson, the author notes the increase in scholarship on the topic over recent decades and describes the moral, policy-oriented, and pedagogical frames through which plagiarism is interpreted. She finds that the scholarship on students’ motivations devotes considerable energy to understanding the rates and causes of plagiarism, yet author notes the difficulty of achieving these understandings when the key term *plagiarism* remains in contest. Even when instructors are striving for pedagogical, text-based responses to plagiarism, the moral frame may operate as an unarticulated foundation, confusing these efforts. While the author acknowledges the shortcomings of research involving self-reports, Adam supplies a concise review of scholarship about what students themselves say are the causes of plagiarism. “Reports of students’ views on plagiarism,” Adam observes, “highlight their confusion regarding why lack of competency in paraphrasing, summarising or referencing is treated as ‘plagiarism’” (Adam, ► [Chap. 36, “Student Perspectives on Plagiarism”](#) this volume). Further complication is created by a notion of authorship that classifies students as nonauthors.

Diane Pecorari’s chapter overviews the issues of language and culture in EAP plagiarism and includes attention to the challenges for all novice academic writers who are working from sources. She provides historically nuanced background

information on the emergence of English as a medium of instruction (EMI), even in areas in which it is no one's home language. Pecorari includes a critical review of the scholarly arguments about the cultural element in EAP students' understanding of Western notions of plagiarism.

With all these factors to be considered, what an instructor has to do? Clearly, the scholarship of plagiarism points practitioners toward revised practices. Tricia Serviss offers guidelines in her chapter in this section, ► [Chap. 38, "Creating Faculty Development Programming to Prevent Plagiarism: Three Approaches"](#). Serviss reviews general principles of faculty development and from that constructs a sequence of faculty development efforts regarding plagiarism. The first "approach" he/she describes is one that treats the terminological and conceptual complications raised by the other chapters. In a second approach, faculty development focuses on best practices. The sequence concludes with "holistic" approaches to faculty development, which Serviss considers most effective, one that involves all the players – librarians, administrators, instructor – in its scope.

All of these chapters treat the complications and nuances of concepts surrounding the term *plagiarism*. Instructors, they collectively suggest, should act rhetorically, working to understand exactly what is happening in any given piece of writing, and how it might best be treated. Each chapter offers concrete, useful, research-based recommendations for mentoring ethical academic writing.

Is It Plagiarism or Patchwriting? Toward a Nuanced Definition

35

Sandra Jamieson

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Abstract

Prior to the 1970s, student writers were advised to incorporate the ideas of the authors they read in one of two ways: summary or quotation. With increasing instruction in paraphrase as an acceptable method of reproducing the ideas of others came the recognition that sometimes when students produce something that looks like paraphrase, they are actually drawing too heavily on the words of the source rather than rendering the ideas in “original language.” The resulting text has been called *patchwriting*, *cryptomnesia*, *unconscious plagiarism*, and *non-prototypical plagiarism*, along with various subcategories including *clause quilt*, *copy and paste*, *word string*, *pawn sacrifice*, and *cut and slide plagiarism*.

S. Jamieson (✉)
Drew University, Madison, NJ, USA
e-mail: sjamieso@drew.edu

The term most commonly used in the USA is *patchwriting*, although the definition of that term is not fixed and neither is the classification of patchwriting as plagiarism. Some teachers and scholars argue that when patchwriting is accompanied by some form of citation, it should not be classified as plagiarism or as ethical or moral misconduct, but rather as misuse of sources. In some cases that distinction hangs on the concept of intent, which for many is connected with the question of the reading and writing skills of the students in question. Recent research into reading and citation has complicated beliefs about the role of textual difficulty and about student reading practices and source use, suggesting the need for more complex analysis and more nuanced terminology. This chapter describes the distinctions scholars have drawn between plagiarism and the misuse of sources most commonly referred to as patchwriting.

Introduction

For most of the history of US writing instruction, student writers were advised to incorporate the ideas of the authors they read in one of two ways: summary or quotation. In the 1970s, instruction in paraphrase as an acceptable method of reproducing the ideas of others became more common, and following that came the recognition that sometimes when students produce something that looks like paraphrase, they are actually drawing too heavily on the words of the source rather than rendering the ideas in “original language.” The resulting text has been given many different names, although the most common term, especially in the USA, is that first used by Rebecca Moore Howard (1993): *patchwriting*. As scholarly understanding of the ways students engage with sources has developed since then, others have introduced their own terms and even subcategories. That an easily recognizable misuse of source material needs multiple definitions reflects the complex and evolving relationship scholars and the public have to source-based writing and to the concept of originality. It also reflects a number of binaries that have developed around this kind of source use and that are encoded in the definitions and the attitudes that underlie them.

While the binary of *originality* versus *borrowing* has a long history, with the latter scorned when excessive, the shift from identifying excessive borrowing as a textual crime by writers lacking originality to identifying it as a crime of authorship has in turn shifted focus to morals, engagement, and work ethic. When it is considered a textual issue, the proposed response has tended to be pedagogical, as was Howard’s (1993); however, once attention is moved to the writer – generally a student, but more recently scholars, politicians, and public figures – the response began focusing on catching and penalizing the patchwriter, generally with a charge of plagiarism. This leads attention to a third issue, *intentionality*. Patchwriting deemed “unintentional” frequently receives reduced penalty, or none at all; patchwriting judged to be an intentional attempt to deceive receives penalties developed for more obvious plagiarism. In the USA, the Council of Writing Program Administrators (WPA) places patchwriting accompanied by some form

of citation into the former category, judging it not as ethical or moral misconduct, but rather as a misuse of sources (Council of Writing Program Administrators 2003). For many teachers and scholars, this issue of intent is connected to questions about students' reading and writing skills; those unable to fully understand a text are unlikely to be able to render its content in their own words. Recent research into reading and citation has complicated beliefs about the role of textual difficulty and about student reading practices and source use (Horning 2010; Jamieson 2015; Jamieson and Howard 2013), suggesting the need for more complex analysis and more nuanced terminology not simply describing *kinds* of patchwriting but also *degrees*. In order to understand patchwriting and settle on a terminology and appropriate responses, it is necessary to tease out the various binaries embedded in the classifications and the agenda and attitudes about text and authorship they reveal.

Evolving Definitions of Textual Borrowing

While plagiarism and copyright violations have a long history, that of patchwriting is shorter and it is linked to the concept of paraphrase. Summary takes an extended passage of text and reduces it to key features or gist; paraphrase tends to work with a few sentences, which the writer puts into his or her own words to clarify a complex idea or incorporate information using specific terminology or details from the source. In some disciplines, paraphrase is unusual; in others it plays a significant role in the reproduction of textual ideas and information (Jamieson 2008). An understanding of the evolution of paraphrase enables an understanding of the coevolution of the term patchwriting, which many describe as failed paraphrase (Jamieson and Howard 2011; Jamieson 2013). One way to begin this understanding is to look at the ways student writers are taught to engage with source material.

In the third edition of the *Writer's Guide and Index to English* (1959), Perrin and Dykema introduce students to the research report, guiding them through topic selection and focusing, source selection and evaluation, note-taking and creating notecards, drafting, and constructing bibliographies. Yet they only discuss two methods of reproducing source information: quotation and summary. The fourth edition, published in 1964 (with Wilma Ebbitt added to the list of authors), articulates the difference as "in quotation, use an author's exact words and enclose them in quotation marks; in summarizing, do not use his own words" (1964, p. 431). Neither edition mentions paraphrase. Both editions instruct students to summarize material from sources onto notecards, and both include model summaries. This practice is seen in other texts of the period. The second edition of McCrimmon's *Writing with a Purpose* (1957), for example, provides similar instructions about the creation of notecards, and offers summary and synopsis ("for novels, play, and stories") along with quotation as appropriate methods of reproducing the author's ideas, warning students to quote all copied words to avoid "unintentional plagiarism" (p. 293).

<i>Original text</i>	<i>Reproduction (identified as summary)</i>
<p>Louisiana leads the nation in fur production and in conservation of fur resources. The state realizes about 5 million dollars annually from its raw fur crop and collects more than \$200,000 a year in fees and dues of various kinds for use in maintaining the fur business.</p>	<p>Each year Louisiana, the national leader in production and conservation of raw furs, realizes about 5 million dollars from raw furs and over \$200,000 from fees charged the fur industry.</p>

Fig. 1 Sample summary from 1959 edition of *Writer's Guide and Index to English* with copied words highlighted and substitution underscored

Terminology was not uniform, however, even if the instructions were. In the first edition of *Rhetoric for Exposition* (1961), Chittick and Stevick identify two forms of what they term summary: the “reduced quotation” (a quotation that includes ellipses) and the “paraphrase” (p. 205). They offer a model of each, but the model identified as paraphrase would be termed a summary today. In contrast, the fact that the model text Perrin and Dykema identify as a summary (Fig. 1) is roughly the same length as the passage in the source and remains close to its structure would lead most current readers to classify it as a paraphrase. In fact, though, in a more extreme definitional change, most readers since the turn of this century would classify *this* particular example as patchwriting at best and plagiarism at worst. At first there appears to be substantial refocusing. The original is two sentences and begins with “Louisiana,” while the reproduction is one sentence and begins with “Each year,” with the first sentence of the original moved to a parenthetical clause and the original text picked up after “annually” in line four. In addition to the revision of “annually” to “each year,” “leads the nation” becomes “national leader,” “collects [fees]” becomes “fees charged,” and “business” becomes “industry.” However, in spite of the warning not to use the author’s “own words” in a summary, of the 30 words and numbers in the sample source text, 18 words and two numbers are copied directly into the model summary.

The 1965 edition includes a revised 27-word summary, with 19 copied words and two numbers and the same structure as the original (Fig. 2). While it could stand as an effective revision of the original text, it does not meet the definition of summary offered by the book or by today’s handbooks. That Perrin, Dykema, and Ebbitt did not find either of these sample “summaries” problematic points to a very different relationship to source use in the USA in the 1950s and 1960s. The fact that two of the texts do not even mention paraphrase and the one that does provides a very different definition than the one used today points to a fairly short history of paraphrase as a taught source integration method and an even shorter history of the form of cited patchwriting that appears to be an attempt at paraphrase.

<i>Original text</i>	<i>Reproduction (identified as summary)</i>
<p>Louisiana leads the nation in fur production and in conservation of fur resources. The state realizes about 5 million dollars annually from its raw fur crop and collects more than \$200,000 a year in fees and dues of various kinds for use in maintaining the fur business.</p>	<p>Louisiana leads the nation in production of raw furs, and annually realizes about 5 million dollars from them and over \$200,000 from fees charged the fur industry.</p>

Fig. 2 Sample summary from 1964 edition of *Writer's Guide and Index to English* with copied words highlighted and substitution underscored

The Rise of Paraphrase

The apparent confusion about what constitutes appropriate textual borrowing and citation continued even after texts began discussing paraphrase in a way that seems more familiar to contemporary readers. Those definitions, and indeed the understanding of what was acceptable, had to be gleaned from discussions of what was not acceptable. For example, Berke's *Twenty Questions for the Writer* (1972) exhorts students to avoid the "ugly practice" of plagiarism and, after a discussion of why authors must receive credit for their ideas, offers the following [italics in the original]: "another subtle and often unwitting form of plagiarism involves *slightly changing* someone else's statement (substituting a different word here and there, shifting phrases, inverting clauses) and then presenting the passage as one's own." This, Berke asserts, is "not permissible." Why? Because "a paraphrase in your own language and style still deserves to be credited." The problem, in other words, occurs when one fails to provide a citation, *not* when one reproduces ideas in a source by "substituting a different word here and there, shifting phrases, inverting clauses" (p. 383). A student trying to gain a sense of how to paraphrase from this passage would assume that the substitutions and inversions are what define paraphrase. Twenty years later that same description is used to define patchwriting.

Berke expresses the accepted definition of her time; the final authority on such matters for US writing teachers, the Modern Language Association, concurred. The 1977 *MLA Handbook for Writers of Research Papers, Theses, and Dissertations* (Gibaldi and Achtert 1977) contains an explanation and model that are as much at odds as they were in Perrin (Fig. 3).

Of the 30 words in the sample reproduction, 19 are directly copied from the source, with three reversals ("the seasons and nature" becomes "nature and the seasons") and four substitutions ("types and stages" replaces "kinds and phases" and "a" and "the" are interchanged). The problem with this passage according to the explanation above the sample, though, is that it is "given without documentation" (p. 4). As with Berke, the explanation does not indicate that there is any *other*

Original	Reproduction
<p>The following passage appears in Volume 1 of the <i>Literary History of the United States</i>:</p> <p>The major concerns of Dickinson's poetry early and late, her "flood subjects," may be defined as the seasons and nature, death and a problematic afterlife, the kinds and phases of love, and poetry as the divine art.</p>	<p>"The following, given without documentation, constitutes plagiarism:"</p> <p>The chief subjects of Emily Dickinson's poetry include nature and the seasons, death and the afterlife, the various types and stages of love, and poetry itself as a divine art.</p>

Fig. 3 Example of undocumented plagiarism in *MLA Handbook*, 1977. P4–5. Copied words highlighted and substitution underscored

problem with the example aside from its lack of documentation. The section preceding this example offers the standard advice about note-taking, including "you may paraphrase or summarize ideas when the original wording is not of prime importance" and reminding students to "distinguish between verbatim quotation and paraphrase" (p. 4) although it does not define *paraphrase*. One must assume, therefore, that the lack of quotation marks in the reproduction marks it as a paraphrase by MLA's 1977 standards and that it would be acceptable if documented correctly.

Patchwriting as Failed Paraphrase

The texts discussed all warn student to avoid unintentional plagiarism by failing to include page references; however, the culture of the time was shifting from an emphasis on the text and avoidance of accidental plagiarism to a concern about cheating and intentional dishonesty. By the 1990s attention had shifted completely from text to author, and discussions of what constituted cheating and plagiarism focused not on accidental citation errors but on deliberate intention to deceive or other personality flaws of the student. This shift in focus began in the mid-1960s when psychology journals show increased interest in academic dishonesty and attempt to understand cheating behavior (see, e.g., Fakouri 1972; Hetherington and Feldman 1964; Knowlton and Hamerlynck 1967; Sherrill et al. 1971; White et al. 1967). Although the findings were far from universal, with as few as 24 participants in one study, by 1976 "dishonesty" was being presented as an epidemic by *Time* magazine (1976, Cheating in College). With apparent evidence that cheating arises from a flaw in the student, it is not surprising that patchwriting would be perceived similarly and the "gotcha" mentality of current plagiarism discussions undoubtedly has similar roots.

The concern with cheating continued through the 1970s and 1980s, and as it did, definitions of appropriate source use also tightened. By 1986 cheating was

described as “endemic to education” in secondary schools and colleges (Haines et al. 1986). While many of the studies in question focused on data from a single institution and many included a disproportionate number of students from particular majors, what is most significant is the narrowness with which they define academic dishonesty, “ranging from the sophisticated distribution of term papers through so-called paper mills, to devising ways of carrying information into the classroom, to the not-so-sophisticated means of looking at someone else’s paper during an exam” (Haines et al. 1986, p. 342). Howard traces the parallel development of the definition of plagiarism as a form of cheating (1999) in which obvious cheating and the copying of short word strings exist on the same continuum. She cites Elizabeth Nuss’ 1984 list of “fourteen forms of academic dishonesty” of which one was “copying a few sentences without footnoting in a paper” (Nuss 1984, pp. 140–141, cited in Howard 1999, p. 21). She also notes the use of the term “‘quasi’ paraphrasing,” a form of indirect plagiarism (1999, p. 22).

Meanwhile, handbooks were beginning to incorporate paraphrase and with it warnings about the importance of using one’s own words. For example, in *The Macmillan College Handbook* (1987), Gerald Levin echoes Nuss when he notes that “some plagiarism is unintentional, arising from carelessness in note taking. In paraphrasing a passage from a source, the researcher may carry clauses and whole sentences into the rendering without quotation marks,” offering an example of this kind of plagiarism that is an uncited string of 17 consecutive copied words (1987, pp. 568–569). The third edition of Diana Hacker’s *Bedford Handbook for Writers* (1991) defines plagiarism as “(1) borrowing someone’s ideas, information, or language without documenting the source and (2) documenting the source but paraphrasing the source’s language too closely, without using quotation marks to indicate that words and phrases have been borrowed” (1991, p. 507). This definition sets out the distinction clearly, including what we now call patchwriting under the category of plagiarism by specifying that one should not paraphrase “the source’s language too closely” even when the source is documented (Hacker 1991, p. 507).

Miguel Roig and Jaclyn de Jaquant’s (2001) analysis of writing manuals from a variety of disciplines found that in spite of other disciplinary differences, by the end of the twentieth century, many included not just guidelines for how to paraphrase correctly but also, specifically, for how to do so without plagiarizing. Students were being advised that “to avoid plagiarism when paraphrasing, not only should the original words be changed, but also the sentence structure of the newly paraphrased text must be different from that of the original” (2001, p. 281). Inclusion of this definition in plagiarism policies has become standard in the USA, but as research into student source use expanded, questions about appropriate response continue.

Rethinking the Question of Intentionality

In the 1970s and 1980s, as social scientists were studying what led students to cheat and how faculty might respond, many in Writing Studies had begun to research the writing strategies and process of “nontraditional” or “underprepared” students.

As with the study of cheating, the shift moved from a concern about text (originality, quality) to author, from Mina Shaughnessy's study of error focused on the *texts* produced by "basic writers" (1977) to students who, Kantz reports, found it "easier to quote than to paraphrase" (1990, p. 75), suggesting that students would benefit from a focus on the teaching of reading (see Jamieson 2013).

The increasing understanding of student writers led many writing scholars to disagree with Hacker's (1991) definition and return to McCrimmon's (1957) classification of failed paraphrase as "unintentional plagiarism." In this case, though, the explanation was not that the student forgot to include a page reference but that the student was unable to render the ideas in a text in his or her own words. And so began the debate about whether patchwriting should be classified as plagiarism at all and how teachers and administrators should respond. That debate was finally resolved for many in the USA by the Council of Writing Program Administrators (WPA) in 2003. Prior to that, at first the debate focused on intentionality (Hull and Rose 1989; Howard 1993, 1995, 1999; Pecorari 2001, 2003; Roig 1997, 1999, 2001), but with increased research the issue of intent seems too many (Howard 1999; Howard and Jamieson 2013; Howard et al. 2010; Jamieson 2013, 2015) to distract from the question of appropriate pedagogical response. Before being able to consider appropriate response, though, scholars had to classify what they were seeing and so developed a series of names for the phenomenon mostly commonly known as patchwriting.

A Bizarre Word Salad

The source use that Nuss named academic dishonesty in 1984 (pp. 140–141, cited in Howard 1999, p. 21) and that Levin (1987) named unintentional plagiarism (pp. 568–569) was also being traced in research, most notably Hull and Rose's case study of a community college student they identify as Tanya (1989). The larger study involved videotaping and interviewing underprepared writers enrolled at a community college, a state college, and a university and then reading their source-based writing through the lens of the interviews (1989, p. 139). Considering the interviews *and* the text led them to a description of source misuse as an unintentional act that, they argued, should not be classified as cheating. Tanya identified herself as "not the kind of student that would copy" (1989, p. 147), yet as she worked to summarize an article, Hull and Rose observed her reproducing "sentences and parts of sentences." But Tanya was rearranging them into a summary that was really "bits and pieces drawn from disparate parts of the original text," as shown in Fig. 4, which they describe as a "patchwork approach to writing a summary" (p. 147).

Hull and Rose conclude that perhaps the "bizarre word salad" Tanya produced, "littered with many errors," was in fact "something profoundly literate" in the effort it reveals to establish membership in the academic community by means of appropriating the language of those who are already members (p. 151). They proposed that just as new and especially underprepared students need to "try on"

<i>Original text (Case Study)</i>	<i>Reproduction (Tanya's summary)</i>
<p>My thoughts were similar, but deep down I really wanted to help him. What was the right approach?</p> <p>The next morning there was no night special to report. She had left the case, and the report she sent to the Registry of Nurses was so descriptive that it would be almost impossible to find a replacement.</p>	<p>My thoughts were similar but deep down. What was the approach? A Registry nurse was so descriptive. impossible for me to find a replacement.</p>

Fig. 4 Hull and Rose's example of the "bizarre word salad" produced by Tanya (From "Rethinking Remediation," 1989, p. 147. Copied words highlighted)

the language of the academy they write for so a "free-wheeling pedagogy of imitation" (p. 151) might help students like Tanya learn to use sources more effectively. Unfortunately, as they prepared the way for a full definition of patchwriting, they also associated it with weak writing skills and underprepared students, a stigma it has not yet shaken, leading to an often unstated belief that when strong writers patchwrite they do so intentionally (Jamieson 2015).

Patchwriting

In 1986, three years before Hull and Rose published their description of Tanya's "bizarre word salad," Rebecca Moore Howard discovered what she initially identified as plagiarism in papers produced by one third of the students in a general education class at a "prestigious liberal arts college" (Howard 1999, p. xvii). She describes texts in which her students "borrowed" sentences and phrases and "patched" them together to create their own sentences "deleting what they consider irrelevant words and phrases...[changing] grammar and syntax, and substituting synonyms straight from *Roget's*" (Howard 1993, p. 235). From this experience came the term *patchwriting*, which she defined as "copying from a source text and then deleting some words, altering grammatical structures, or plugging in one-for-one synonym substitutes" (1993, p. 233), redefined slightly six years later to read "copying from a source text and then deleting some words, altering grammatical structures, or plugging in one synonym for another" (Howard 1999, p. xvii). Note the focus on what the student *does* to the source while integrating it into his or her text, not on that text itself. Like Hull and Rose, Howard argues that such actions, while intentional in themselves, are not intentional *plagiarism*, observing that two of the students continued to patchwrite even after she pointed out the problem and asked them to revise the paper (Howard 1999, p. xviii). Howard provides several examples of patchwriting in her initial article (1993) and her book (1999); some of the patchwriting was cited and some not. One such example appears in Fig. 5.

Original text - from Davidson's <i>Genesis 1-11</i> (1973, p.10). Cited in Howard 1993 (234)	Reproduction - student text 3 (from Howard 1993.234)
Such 'story myths' are not told for their entertainment value. They provide answers to questions people ask about life, about society, and about the world in which they live.	Specifically, story myths are not for entertainment purposes, rather they serve as answers to questions people ask about life, about society, and about the world in which they live.

Fig. 5 Howard's example of patchwriting by student 3 (From "A Plagiarism Pentimento" 1989, p. 234. Copied text highlighted)

Unlike Hull and Rose's students, Howard's were not underprepared, and their misuse of sources might not have been so apparent if she had not been familiar with the source text. They knew she was familiar with that reading, suggesting that their misuse of the source, like that of Tanya, was not the result of an intention to deceive – a point that Howard stresses as she argues for a pedagogical response to this kind of writing. Although her examples of patchwriting closely resemble those offered as *model* summaries in writers' handbooks from the 1950s and 1960s, by the time Howard's students were writing in 1986, even cited cases of patchwriting were classified as plagiarism.

Cryptomnesia and Unconscious Plagiarism

While Howard was exploring her students' use of sources, psychologists were studying a phenomenon in which texts ranging from song lyrics to the solution to problems are reproduced as if original without the person remembering previous exposure to them. Brown and Murphy (1989) term this "unconscious plagiarism or *cryptomnesia*" and distinguish it from source amnesia in which subjects remember information but not where they learned it. In cryptomnesia, they do not recall encountering the information previously (1989, p. 432). Miguel Roig (1997) focused on cryptomnesia and the use of single sources in student papers. In one study he asked students at two different institutions to identify which of the ten samples would be classified as plagiarism and found that a majority thought that copied material described as being like that provided in Figs. 1–5 in this chapter would be acceptable if cited. From this he concluded that "a large number of students may be committing inadvertent plagiarism," predicting that "a situation is likely to arise where a relatively simple matter of academic dishonesty may translate into a more serious case of scientific misconduct" (1997, p. 121).

Roig (1999) next asked 215 college students enrolled in introductory courses in three disciplines at two private colleges to write a one-paragraph paraphrase of a two-sentence extract as if they were going to use the paraphrase in a college paper (1999, p. 975) and coded their texts for two forms of cryptomnesia: directly copied strings of four to eight words, and any combination of substitution, deletion, and manipulation in a sentence (both features that had been termed *patchwriting* by

Howard). He found that 46 % of the paragraphs stuck too close to the source, reproducing “most or all of a sentence from the original paragraph with. . . [either] no revisions [or] minor revisions [such as] . . . one- or two-word substitutions in a sentence, and the addition or omission of up to two words” (1999, p. 976). When he also counted strings of five or more words, the number of participants who “plagiarized to some degree” increased to 68 % (1999, p. 978). These numbers suggest that inadvertent plagiarism extends far beyond the unprepared students Hull and Rose studied and the small sample at one institution encountered by Howard.

In a further study, Roig (2001) identified the writing he found as a subset of paraphrase “in which students correctly attribute their written material to the original author, but their writing is too close to the original. . . often reveal[ing] only minor modifications, such as some word substitutions, deletions, or both, or superficial structural changes, such as a rearrangement of subject and predicate” (2001, pp. 308–309). Writing in 2001 he notes that like the writing manuals he consulted, his own discipline failed to offer an agreed-upon definition of paraphrase, with the APA *Publication Manual of 1994* differing from the “Ethical Principles of Psychologists and Code of Conduct” (APA 1992). The former identified paraphrase as “Summarizing a passage or rearranging the order of a sentence and changing some of the words” (APA 1992, p. 292, qtd. in Roig 2001, p. 320), while in the latter, “Principle 6.22 states, ‘Psychologists do not present *substantial* [italics added] [sic] portions or elements of another’s work or data as their own, even if the other work or data source is cited occasionally’ (APA 1992, p. 1609),” without defining “substantial” or “occasionally” (Roig 2001, pp. 320–321). He therefore based his coding categories on the most common definition he could find in college writing handbooks, which involved counts of word strings with reproduction of more than three consecutive words requiring quotation marks (2001, p. 309), which he notes is more in line with the plagiarism policies he studied (p. 321).

Non-prototypical Plagiarism in L2 Writers

Roig’s work highlights both the extent of patchwriting in the USA and the lack of agreement around the evolving definition of acceptable source use during the 1990s. Both as a result of this ambiguity, and in the context of the deeper analysis of cryptomnesia and unconscious plagiarism, he established an explanation for the lack of intentionality Howard (1993), and Hull and Rose (1989) claimed. This research also extended to second-language (L2) research in many nations, some drawing on US research and others on independent classification of *non-prototypical plagiarism*.

In 2003 Diane Pecorari reported on a study of 17 second-language postgraduate students in Sweden in which she both interviewed students and applied Howard’s definition to their texts, focusing on both text and author as had Hull and Rose (1989). Her conclusion: “The student writing was found to contain textual features which could be described as plagiarism, but the writers’ accounts of their work and

the textual analysis strongly suggest absence of intention to plagiarize” (Pecorari 2003, p. 317). Pecorari cites second-language scholars who report a similar form of “unintentional, non-prototypical plagiarism” (2003, p. 318) in second-language (L2) writers from a range of national backgrounds and argues that attempts to classify this kind of writing as a form of plagiarism arising from cultural difference (a) are anecdotal and (b) fail to take into account examples such as those presented by Hull and Rose (1989) whose students had been raised in the USA. Instead, she adopts Howard’s argument that “Patchwriting, is an essential phase through which writers pass en route to a stage at which their own voices can emerge. As a developmental stage, rather than a form of deliberate deception” adding that “by focusing on the procedural, rather than the declarative knowledge required to use sources correctly, patchwriting explains students who have been warned about plagiarism but still misuse sources. Learning a skill is rarely a straight line from input to mastery. The novice academic writer must crawl before being able to walk” (2003, p. 320).

Misuse of Sources

Pecorari, therefore, joined Hull and Rose, Howard, and Roig in asserting that cited patchwriting is not intentional deception and echoed their call for a pedagogical response. The Council of Writing Program Administrators (WPA) agreed and in 2003 issued a best practices document, “Defining and Avoiding Plagiarism: The WPA Statement on Best Practices,” which states under the heading “What is Plagiarism?” that:

Most current discussions of plagiarism fail to distinguish between:

1. submitting someone else’s text as one’s own or attempting to blur the line between one’s own ideas or words and those borrowed from another source, and
2. carelessly or inadequately citing ideas and words borrowed from another source.

Such discussions conflate plagiarism with the misuse of sources. (2003, p. 1)

In this definition, WPA clearly marks the “bizarre word salad” identified as patchwriting, cryptomnesia, unconscious plagiarism, and non-prototypical plagiarism as misuse of sources and *not* plagiarism.

Refocusing on the Text: Citation Project Research

While plagiarism detection services are quick to offer numbers of students who cheat and the language of the crisis permeates anecdotal reports of patchwriting and misuse of sources, until recently there was no data that reliably reported the frequency of patchwriting in naturalistically produced college papers in the USA. In 2010 Howard, Serviss, and Rodrigue published the results of a pilot study of student patchwriting on a single campus, which found that all of the students

patchwrote at least once using Howard's 1999 definition of patchwriting. That study was expanded to the Citation Project, which collected 800 pages of naturally produced researched writing by 174 first-year students at 16 institutions ranging from community colleges to research-heavy institutions (Jamieson and Howard 2011, 2013). Neither study gathered demographic information about the students nor pedagogical information about the classes in which they were enrolled: the focus was on the text produced by the students and the ways it incorporated source material. The definition of patchwriting employed in the Citation Project research echoed the shift from author to text, identifying patchwritten text as passages "partially restating a phrase, clause, or one or more sentences while staying close to the language or syntax of the source," and by that definition, 91 of the 174 extracts studied included at least one instance of patchwriting in pages 2–6 (2013). If that number incorporated both of Roig's definitions of patchwriting (1999; 2001) and included students who copied strings of eight or more words, the number of papers including patchwritten text rises to 98 of 174 (Jamieson 2015).

Jamieson and Howard observe that they "have come to think of patchwriting as an unsuccessful attempt at paraphrase, [noting that] in the papers they analyzed, students often toggle back and forth between paraphrase and patchwriting" (Jamieson and Howard 2011, n.p.). They found that 135 (77.6 %) of the coded extracts also included at least one incidence of paraphrase and 71 (40.8 %) include summary (2013, p. 123). The co-occurrence of paraphrase, summary, quotation, and patchwriting in these extracts, they note, suggests students who are able to incorporate sources correctly some of the time, but not all of the time. The textual evidence, they conclude, suggests that the student writers "were not writing well from their sources, but not that they were attempting to claim authorship of passages they did not themselves compose," noting that "the difference between unsuccessful writing from sources and academic dishonesty is an important one" (2013, p. 126). Together and separately, Howard and Jamieson repeat Howard's call for a pedagogical response, most notably in a chapter in *A Guide to Composition Pedagogies* (2013). Their research reflects a growing sense among writing teachers that patchwriting is not intentional, not plagiarism, and not effectively dealt with through punishment (Howard and Jamieson 2013). They join earlier handbook authors (McCrimmon 1957; Perrin and Dykema 1959; Chittick and Stevick 1961; Berke 1972) in a belief that the focus should be on the production of texts that accurately represent reading material rather than on punishing those who fail, a sentiment echoed by the WPA (2003), and scholars of reading and basic writing (Shaughnessy 1977; Kennedy 1985; Kantz 1990).

Patchwriting as Plagiarism

Not all scholars share the belief that patchwriting is part of the writing process and reflects failed writing rather than failed morality, and this lack of agreement coupled with the complexity of source engagement and the challenges of

disciplinary difference means that there is still not one, uniformly accepted definition. In their analysis of writing manuals from a variety of disciplines, Roig and de Jacquant (2001) report that they did not find uniform agreement about just when a paraphrased text remains inappropriately close to the original, with the result that “the ‘light’ paraphrasing of others’ text, an innocuous writing practice to some, can have serious consequences and possibly result in disciplinary actions by the individual institutions and/or the academic disciplines involved” (p. 282). Writing of plagiarism in Europe, and particularly Germany, Debora Weber-Wulff (2014) takes up a similar concern, asserting that “if one wants plagiarism and academic misconduct to be addressed fairly and consistently there must be good definitions available that are more or less universally agreed upon” (2014, p. 3). Like Roig and de Jacquant (2001), she finds such definitions lacking and calls for a single definition; however, one that is more like Hacker’s (1991) definition of source use that is entirely focused on the writer. Debora Weber-Wulff (2014) considers all misuse of sources to be intentional – including patchwriting – and in need of penalty.

In her 2014 book, Weber-Wulff offers a summary of an “extended typography” of plagiarism proposed earlier by Weber-Wulff and Wohensdorf (2006) and discusses specific cases in Germany and attempts across Europe to document and penalize plagiarism as she defines it. Speaking of what she terms *disguised plagiarism*, she notes: “simply changing words around or inserting or deleting a phrase... does not result in original work, but an edited work, and thus it is still plagiarism” (2014, p. 8). She lists the following taxonomy of plagiarism identified in various European countries, most notably Germany, by herself or other scholars, describing all of them as intentional: *copy and paste*, [uncited] *translation*, *disguised plagiarism* (where words are substituted, deleted, or rearranged), *shake and paste collections* (an assemblage of copied phrases from a variety of sources “in no particular logical order” p. 9), *clause quilts* (which she describes as “a variation of paraphrasing plagiarism that has been called patchwriting by Rebecca Moore Howard,” p. 9), *structural plagiarism* (in which the structure, argument, sources, notes, “experimental setup, or even the research goal” is copied without attribution, p. 10), *pawn sacrifice* (where part of the text, such as a direct quotation, is cited, but the writer does not make it clear that the citation extends to larger paraphrased or summarized sections of the text), and *cut and slide* (similar to “pawn sacrifice” but reproducing one part of the source text in a fully cited footnote while incorporating other material into the text without additional citation). Her focus is not on appropriate pedagogies but effective strategies to catch such transgressions.

While Pecorari (2001, 2003, 2008) and many other European second-language scholars reject the definition of patchwriting as plagiarism, Weber-Wulff’s work highlights a rising trend in Europe and in the USA to render patchwriting (as plagiarism) a gatekeeper to completion of higher education and indeed in Germany, in particular, to higher office and public prominence. The existence of software programs designed to catch the kinds of patchwriting Weber-Wulff describes, including the VroniPlag Wiki (with which Weber-Wulff is directly associated) and other crowd-sourced endeavors on the one hand and commercial plagiarism detection software such as Turnitin on the other, indicates that the question of

intentionality and the valorization of originality still influence the way many think about source use and the academic conversation. The rise of commercially produced and highly lucrative plagiarism detection services that focus on the author, discuss texts in terms of “originality,” and define patchwriting as intentional cheating will probably ensure that such attitudes remain and spread. The use of such software in US high schools and colleges, and as documented by Weber-Wulff (2014) in the majority of UK colleges and universities along with an increasing number across Europe (pp. 71–108), suggests that the debate about whether patchwriting is plagiarism will continue, even though the majority of Writing Studies scholars consider it to be simple misuse of sources calling for a purely pedagogical response.

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Abstract

This chapter comprises a review of the higher education literature on plagiarism, with a specific focus on studies that consider students’ perspectives. The literature on plagiarism in higher education reveals three dominant understandings of plagiarism: plagiarism as a moral issue, plagiarism as a regulatory issue, and plagiarism as an issue of learning to write in academia. In this chapter, each of these three perspectives is explained alongside a consideration of students’ understandings of plagiarism with specific regard to each perspective. From a moral or regulatory perspective, many students express anxiety about being caught plagiarizing, either deliberately or unintentionally. Furthermore, many

L. Adam (✉)

Faculty of Dentistry, University of Otago, Dunedin, New Zealand

e-mail: lee.adam@otago.ac.nz

students link plagiarism with the mechanical act of referencing, rather than with the idea of utilizing and building on previous research. Consequently, although they are able to define plagiarism, many students are unable to identify plagiarism in their own or others' written work. Some students also express confusion over the varying referencing expectations provided by different teachers. Others report that plagiarism is not a concept of importance to them, despite their recognition that it is important to their teachers. From a learning to write perspective, students express a desire for more information on how to avoid plagiarism and for the opportunity to practice and become competent academic writers. This chapter reveals a disjuncture between what students understand about plagiarism and good academic practice, and what institutional expectations of them are, as indicated by plagiarism policies and assessment practices. The chapter concludes by outlining where more research is needed in order to facilitate effective support for students as developing academic writers.

Introduction

The last two decades have seen an increase in the amount of research into plagiarism. However, within the academic literature only a handful of studies have considered students' perspectives (e.g., Blum 2009; Dawson and Overfield 2006; Gullifer and Tyson 2010; Devlin and Gray 2007; Power 2009; Wilkinson 2009). Much of the research on students' perspectives collects data via surveys and questionnaires, while other studies report on staff views of students' understandings. Consequently, there is very little research gathering students' in-depth understandings of plagiarism. The literature that does exist reveals a disjuncture between what institutions require of their students regarding academic integrity and what students actually understand about plagiarism and how they think the plagiarism issue might best be addressed (e.g., Blum 2009; Gullifer and Tyson 2010).

Analysis of the academic literature reveals three dominant framings of plagiarism: plagiarism as a moral issue, plagiarism as a policy issue, and plagiarism as an issue of learning to write in academia (also see Kaposi and Dell 2012). How studies of students' perspectives on plagiarism are framed is dependent on the understanding of plagiarism held by the researcher(s). The most prevalent understanding of plagiarism seems to be that it is an issue of morality. The literature presenting plagiarism as a moral issue focuses on plagiarism as a deliberate and dishonest behavior and predominantly explores prevalence, who plagiarizes, surveillance, and punishment. The second understanding of plagiarism is that it is an issue of policy. Studies with a policy framing focus on plagiarism policies and regulations and position plagiarism as something to be regulated. Literature presenting plagiarism as a policy issue suggests that plagiarism can be either intentional or unintentional and the student's intent should determine the response. The policy literature continues to focus on prevalence, the question of who plagiarizes, and surveillance, but an educative response to unintentional plagiarism is considered alongside punishment for intentional plagiarism. A third understanding focuses on

plagiarism as a textual feature that indicates students' struggles to become competent academic writers. From this perspective, plagiarism is understood as "plagiaries" or multiple and complex practices, usually the result of students' honest attempts to draw on the work of other authors in their own writing and enter the discourse of their discipline. The plagiaries literature continues to explore who plagiarizes and why; however, the focus is on recognizing and responding to unintentional plagiarism as a normal part of students' learning to become competent academic writers. Intentional plagiarism is most often cast as "cheating" and is seldom addressed in the plagiaries literature.

While there is no clear-cut progression of ideas in the literature on plagiarism, generally speaking, over the last few decades, research on plagiarism has moved from a pre-1990s view of plagiarism as "dishonesty" or "cheating," and therefore a moral issue (e.g., Park 2003), toward a view of plagiarism as "plagiaries" where plagiarism is framed as multiple factors linked to notions of authorship and students as developing academic writers (e.g., Ivanič 1998; Robillard 2008; Valentine 2006).

Perspectives on plagiarism are mediated by cultural context (Leask 2006), and what may be considered plagiarism in one setting may not be in another. Because research on students' understandings of plagiarism is invariably conducted by academics, analysis and reports of students' perspectives are mediated by the academic researcher's perspective(s). Reports of students' understandings of plagiarism, as well as being scarce, are therefore also a reflection of researchers' framing(s) of plagiarism. This chapter explores each of the three framings outlined above, with consideration to reports of students' perspectives on plagiarism.

Moralizing Plagiarism

Students often position plagiarism as a dishonest and reprehensible act (e.g., Ashworth et al. 1997, 2003), reflecting an underlying moral judgment. Some students' perspectives on plagiarism also reveal their awareness of a moral framing of plagiarism within their education institution (e.g., Gullifer and Tyson 2010). Up until the end of the twentieth century, a moral view of plagiarism dominated the academic literature, with plagiarism often being intertwined with legal notions such as copyright and intellectual property (Kaposi and Dell 2012). A moral perspective is identifiable through language that links plagiarism to the law (theft, transgression, copyright) or to a lack of morals (dishonest, unethical behavior). A moral framing reveals an understanding of plagiarism as a purely intentional act that is "dishonest," "bad," or "wrong" and suggests that plagiarism is a result of the poor morals of the plagiarizer. A moral view reflects an assumption that a clear and shared definition of plagiarism exists; therefore, from a moral perspective, identifying plagiarism is unproblematic (Kaposi and Dell 2012). Research framing plagiarism primarily as a moral issue focuses on reporting the prevalence of plagiarism and who plagiarizes, and exploring detection methods and disciplinary measures for plagiarism (e.g., Brimble and Stevenson-Clarke 2005;

Devlin and Gray 2007; Wilkinson 2009). Because a moral framing situates plagiarism as purely intentional, responses to plagiarism are limited to punishment. A moral view positions the student as solely responsible for making the ethical decision to not plagiarize.

Prevalence and Predictors of Plagiarism

Within the literature drawing on a moral view of plagiarism, there is an emphasis on determining how many students are plagiarizing, who these students are, and why they are plagiarizing (e.g., Brimble and Stevenson-Clarke 2005; Devlin and Gray 2007). Plagiarism is reported as increasing in prevalence in higher education institutions (Brimble and Stevenson-Clarke 2005; Macdonald and Carroll 2006). However, there is disagreement about the actual prevalence of plagiarism in higher education. Johnson and Clerehan (2005) reported on research identifying widely varying rates of plagiarism, from 2 % of students in one study to 20 % in another; however, it is not clear whether these figures were based on reported incidences of plagiarism or students' self-reporting of their own plagiarism. Badge and Scott (2009) reported frequencies of plagiarism from 3 % to 55 %, and Park (2003) claimed that between 63 % and 78 % of students admit to having cheated or plagiarized. The prevalence of cheating behaviors at institutions with traditional honor codes has been found to be consistently lower than at those without (McCabe et al. 2002). Students are reported to have a relatively accurate view of prevalence, whereas staff reportedly underestimate the incidence of plagiarism (Ashworth et al. 1997; Brimble and Stevenson-Clarke 2005).

At surface value, collecting data on reported cases of plagiarism may seem a reasonably conclusive method of measuring prevalence; however, there are a number of factors that limit the accuracy of any such data. Firstly, whether or not behavior is considered plagiarism is reliant on the individual's definition of plagiarism and understanding of what behaviors this definition covers. Because definitions and understandings of plagiarism differ between researchers, and between respondents in the research, each research project may be reporting on a slightly different set of behaviors or differing understandings of what these behaviors entail. For example, some studies report on the prevalence of plagiarism only, whereas others report on students' "cheating" (Park 2003). Furthermore, data for these projects are dependent on human reporting – either staff reports of plagiarism they have detected or students' reports of their own plagiarism (or both) (Clegg and Flint 2006; Kaposi and Dell 2012; Park 2003). However, staff and students can only report on plagiarism they are aware of. It is likely that some incidences of plagiarism go unnoticed by staff and are therefore not reported. In addition, students reporting on their own behavior are only likely to report deliberate plagiarism, as unintentional plagiarism is presumably also unknowing plagiarism. A final difficulty with collecting self-reporting data from students is that they are being asked to be honest about their own dishonest practices, and some students may be reluctant to respond (McCabe et al. 2002) or may not give an honest response in these

circumstances (Löfström and Kupila 2012). Despite these limitations, gathering students' self-report data regarding plagiarism is commonly viewed as a valid method of determining the prevalence of plagiarism (Selwyn 2008).

Researchers have speculated that the reported increase in plagiarism can be attributed to a number of different factors. One suggested explanation is the perceived decline in students' academic abilities, as open entry policies over the last two decades have led to a more diverse range of students entering universities (Dawson and Overfield 2006). The development of the Internet and its use as a resource for learning and research is believed to be another factor contributing to increased plagiarism (Park 2003; Selwyn 2008). The development of the Internet enables students to readily access a vast amount of information (Dawson and Overfield 2006; Sutherland-Smith 2008) which they can easily cut and paste into an assignment or, alternatively, students can download existing assignments (Chandrasoma et al. 2004) or pay an online "paper mill" to provide a custom written assignment. It has also been suggested that because students are accustomed to downloading music and information free of charge from the Internet, it is possible they have come to believe that Internet-sourced resources that do not require payment also do not require attribution (Blum 2009; Sutherland-Smith 2008). The widespread use of social media is also blamed for the increase in plagiarism, as attribution of sources is not common practice on such sites (Blum 2009). Another commonly posited explanation for the increase in plagiarism is the perception that many students view universities as credentialing institutions rather than educational institutions (Blum 2009; Zebroski 1999). Zebroski (1999) suggests that many students do not see themselves as "scholars," but instead see themselves as training for a particular occupation. Consequently, some students may feel justified in doing "whatever it takes" to pass their courses or achieve distinction. Cheating and plagiarism may therefore become a strategy toward success (Badge and Scott 2009; Brimble and Stevenson-Clarke 2005). Briggs (2003) suggests that students might plagiarize due to their perception that they need to present original ideas in their assignments but feel unable to do so. From a moral perspective, although reasons for students' plagiarism are explored in the literature, reducing the prevalence of plagiarism relies on a punitive response regardless of the reason for the plagiarism (Kaposi and Dell 2012).

Students themselves report more pragmatic reasons for why they or their peers might plagiarize. Their expressed opinions commonly reflect a view that often plagiarism is unintentional and is the consequence of not being practiced academic writers (Ashworth et al. 2003; Breen and Maassen 2005; Gullifer and Tyson 2010). Students attribute plagiarism to their lack of ability to effectively paraphrase, summarize, or draw on sources in their assignments (Ashworth et al. 1997; Breen and Maassen 2005; Devlin and Gray 2007). In addition, students state that their confusion regarding what behaviors constitute plagiarism can lead to unintentional plagiarism (Devlin and Gray 2007; Gullifer and Tyson 2010). High workloads and perceived lack of time are further reasons students give for plagiarism (Brimble and Stevenson-Clarke 2005; Devlin and Gray 2007). Some students report that they or their peers might plagiarize from a desire to attain high grades

(Badge and Scott 2009; Zwagerman 2008) and instead of studying hard they cheat. Others comment that they fail to see why their teachers consider plagiarism to be so important (Ashworth et al. 1997; Brimble and Stevenson-Clarke 2005; Gullifer and Tyson 2010). It is possible, therefore, that students may deliberately plagiarize because they do not see the importance of adhering to scholarly conventions, including conventions around academic writing (Blum 2009). Students also report that the belief that students who plagiarize will not get caught is a factor in their decisions to plagiarize (Brimble and Stevenson-Clarke 2005).

The reasons given by staff for students' plagiarism and the reasons for plagiarizing that students give researchers often differ (Foltynek et al. 2014). A possible explanation for this is that students may be attempting to "mislead" staff about the reasons why they plagiarize, indicating a reluctance to reveal their reasons for plagiarizing (Brimble and Stevenson-Clarke 2005). What researchers do not explore, however, is that students simply may not recognize their actions as plagiarism or dishonesty and therefore they might struggle to explain "why" they plagiarized (e.g., Valentine 2006). Furthermore, some students report that the concept of plagiarism is not important to them (Power 2009) and that they focus on values such as friendship and learning, which may override their adherence to academic values (Ashworth et al. 1997).

Plagiarism as Cheating

Viewing plagiarism from a moral perspective categorizes it as dishonesty, thereby grouping plagiarism with a broad range of academic cheating behaviors that includes taking illicit material into an exam, copying from another student in an exam, listing false references or references that have not been accessed for an assignment, and requesting special consideration on the basis of fabricated personal circumstances (Brimble and Stevenson-Clarke 2005; Devlin and Gray 2007; Park 2003). Often the words "cheating" and "plagiarism" are used interchangeably in the literature, both in reports of students' explanations of plagiarism and in researchers' discussions of their findings. The word "cheating" is used to include behaviors that are commonly perceived as plagiarism, but could happen either intentionally or unintentionally (e.g., Brimble and Stevenson-Clarke 2005). Using the word "cheating" in relation to plagiarism implies that plagiarism is necessarily deliberate and dishonest. Situating plagiarism as purely dishonest removes responsibility for pedagogical intervention (Howard 1995; Kaposi and Dell 2012; Zwagerman 2008), places the responsibility for avoiding plagiarism on students, and reflects a belief that all students have the skills, knowledge, and morality to avoid plagiarizing (Briggs 2003). From a moral perspective, instructors can only see the outcome (the plagiarism) as wrong (Briggs 2003; Valentine 2006) and the response as punishment (Valentine 2006). This seems to be a cause of confusion and anxiety for students (e.g., Gullifer and Tyson 2010; Power 2009), and some express uncertainty as to why unintentional transgressions are treated as "plagiarism" and therefore "cheating" (Gullifer and Tyson 2010).

The Effects of Plagiarism

Viewing plagiarism from a moral perspective emphasizes that plagiarism is a dishonest act, usually intentional, and it is the responsibility of the student to avoid. It is notable that the literature framing plagiarism as a moral issue ignores the effect of plagiarism on the student who is accused (Kaposi and Dell 2012). Although much of the literature focusing on the effects of students' plagiarism emphasizes the negative consequences to the institution or to staff, rather than the consequence to individual students, students seem to view the "effect" of plagiarism in terms of the consequence to their peers. For example, Brimble and Stevenson-Clarke (2005) reported that students said they would consider being party to plagiarism in order to assist a friend, and Ashworth et al. (1997) reported that students view plagiarizing their friends' work as a "betrayal" of friendship (p. 198), whereas plagiarizing from another unknown student seemed more acceptable. Similarly, staff often report a view that students' plagiarism is a personal betrayal (Zwagerman 2008), perhaps resulting in a desire to detect and punish plagiarizers.

As discussed above, the concept of "unintentional plagiarism" is not conceivable when plagiarism is framed as a moral issue. Because it does not allow consideration of "honest" plagiarism (plagiarism that occurs despite the student's attempt to cite or paraphrase correctly), a moral perspective inhibits responding to plagiarism in an educative manner (Briggs 2003; Valentine 2006; Zwagerman 2008). However, students often report that they fear plagiarizing unintentionally and being subject to the same sanctions as deliberate plagiarizers (Ashworth et al. 1997; Gullifer and Tyson 2010). A second theme in the literature, plagiarism as a problem to be regulated, does recognize "honest" or unintentional plagiarism alongside "dishonest" intentional plagiarism.

Regulating Plagiarism

A move away from a predominantly moral response to plagiarism in the academic literature is signaled by the emergence of a body of research investigating the idea that plagiarism can happen without intent to deceive (Zwagerman 2008). This literature focuses on plagiarism policies (Kaposi and Dell 2012) alongside an emphasis on ensuring that students learn how to correctly reference source material (Hutchings 2014). From a regulatory perspective, emphasis is placed on providing a definition of plagiarism that can be adhered to (Howard 1995), developing policy to regulate plagiarism (Grigg 2010), and ensuring that students have access to information on the rules of citation and referencing. These rules and regulations are perceived to be the panacea for the plagiarism problem. The literature focusing on regulating plagiarism is characterized by the language of rules, policies, and academic traditions. Plagiarism is positioned as a clear breach of institutional rules. The "rules" are assumed to be both homogenous and universal, and students are assumed to be able to easily learn and apply them (Kaposi and Dell 2012). A regulatory framing of plagiarism allows for the possibility of unintentional transgressions of rules and

regulations, particularly with regard to referencing. However, from a regulatory perspective, the rules have still been broken, indicating traces of a moral framing of plagiarism. Consequently, the response to plagiarism, whether punitive or educative, is still positioned as punishment (Kaposi and Dell 2012). The perceived seriousness, and therefore the severity of the response to an incident of plagiarism, is dependent on determining whether or not the student intended to plagiarize.

Students' expressed perceptions of plagiarism often reflect a regulatory view. Research shows that many students state that they are unsure about the "rules" of referencing, paraphrasing, and summarizing (e.g., Breen and Maassen 2005; Brimble and Stevenson-Clarke 2005; Devlin and Gray 2007) and that they require more information about these, along with clarification of what behaviors are considered plagiarism and how they can avoid it (Gullifer and Tyson 2010; Power 2009). However, research also indicates that about half of students admit that they have not read their institution's plagiarism policy (e.g., Power 2009; Gullifer and Tyson 2013) and that they have not accessed information provided to them regarding referencing or avoiding plagiarism (e.g., Gullifer and Tyson 2010).

Defining Plagiarism

Literature from a moral perspective presents "plagiarism" as a definable term, assuming that all those who use it do so within a common understanding of what plagiarism is. From a regulatory perspective, however, there is an increased emphasis on defining plagiarism (Howard 1995), revealing that a multitude of definitions and interpretations of plagiarism exist (Grigg 2010). Most higher education institutions provide a definition of plagiarism on which policies within the particular institution are based, and definitions differ widely between institutions (Grigg 2010).

Despite differences in institutional definitions of plagiarism, researchers agree that institutions need to provide a definition in order to support policy in both making a stand against deliberate cheating behaviors and outlining the consequences of, or responses to, plagiarizing (e.g., Grigg 2010; Gullifer and Tyson 2010). However, although institutions provide "official" definitions, not everyone affiliated with a particular institution shares the same understanding of plagiarism. Definitions of plagiarism also vary between departments or disciplines in institutions and between staff working within the same discipline (Wilkinson 2009). Research also highlights that students' understandings of plagiarism are usually different to those of staff (Foltynek et al. 2014; Park 2003; Sutherland-Smith 2008). Students are often able to articulate a definition of plagiarism; however, many have difficulty applying their definition or identifying plagiarism in written work (Dawson and Overfield 2006; Power 2009). In particular, many students express their difficulty determining the boundaries between group work and individual work (e.g., Ashworth et al. 1997).

When researching and writing about plagiarism, researchers often fail to make explicit their own interpretation of plagiarism, thus leading to confusion about what

is actually being researched (e.g., Brimble and Stevenson-Clarke 2005). Without explanation it is often unclear if the word “plagiarism” is being used to refer to behaviors with deliberate intent to deceive regarding authorship, or to unintentional behaviors such as insufficient referencing, or both (e.g., Ashworth et al. 1997, 2003; Brimble and Stevenson-Clarke 2005). It is likely that student participants in research on plagiarism are responding according to either their own understanding of plagiarism as deliberate, unintentional, or both. Alternatively, they may be responding to researchers’ tacit messages regarding what behaviors plagiarism includes. As a consequence of the lack of clarity surrounding definitions of plagiarism (Wilkinson 2009), it is probable that within their academic studies students are being exposed to several different, perhaps conflicting, ideas of what plagiarism is, and students themselves report that this is indeed the case (Ashworth et al. 1997; Breen and Maassen 2005; Power 2009).

Plagiarism Policies and the Role of “Intent”

There is a distinct volume of literature exploring higher education institutions’ plagiarism policies. This literature explores issues such as who should be held responsible for avoiding plagiarism and how policies can be framed to ensure they are both clear and fair (Grigg 2010). It suggests a view that clear policy is the panacea to the plagiarism problem. Policy is framed as “a central avenue for defining acceptable behaviour” (Grigg 2010, p. i), and most higher education institutions have distinct policies on plagiarism. These usually outline the behaviors that are considered to be plagiarism at that particular institution, as well as the consequences of such behaviors (Grigg 2010). Most institutional policies base their range of responses on the “seriousness” of the plagiarism, and often the seriousness is determined by whether or not the student intended to cheat or deceive (Grigg 2010). Intent, however, is difficult to determine (Sutherland-Smith 2008) and is often judged on textual features rather than on students’ explanations. For example, purchasing or downloading an essay would most likely be deemed intentional plagiarism, and poor paraphrasing is more likely to be perceived as unintentional plagiarism (Howard 1999). Many plagiarism policies fail to provide explicit criteria to fully determine what the institution deems “intent to deceive.” Consequently, there is often little distinction between responses to, and the treatment of, intentional and unintentional plagiarism (Grigg 2010).

Traditionally, plagiarism policies position plagiarism as dishonest practice or academic misconduct (Grigg 2010), and consequently, avoiding plagiarism is situated as an ethical choice that students make. Where a policy with a clear definition of plagiarism is in place, any incidences of plagiarism must be deliberate, as there is an assumption that all students will read these policy documents and conform to them (Sutherland-Smith 2008). The responses in Gullifer and Tyson’s (2013) survey of 3,405 university students regarding their understandings of institutional plagiarism policy challenge this logic. Only 50 % of respondents reported that they had read the policy; however, students who had not read the policy exhibited a greater

understanding of plagiarism than those who had. In contrast, McCabe et al. (2002) report that students who exhibited an understanding of policy were also more likely to report adherence to regulations. Similarly, Gullifer and Tyson (2010) found that students who admitted to unfamiliarity with institutional plagiarism policy were also less certain about how to avoid unintentional plagiarism. It would seem, then, that from the students' perspectives, simply providing a clear policy is not necessarily the panacea to the plagiarism problem.

Paraphrasing, Summarizing, and Referencing

Research focusing on regulating plagiarism also explores plagiarism in relation to effective paraphrasing, summarizing (e.g., Howard 1995; Roig 2001), and referencing. Hutchings (2014, p. 313) points out that most students “know that there is a mechanism in place for attributing ideas to their originators and that attached to this is the ‘offence’ of plagiarism.” The “mechanism” Hutchings is referring to is referencing. Students often conflate “plagiarism” and “referencing” (Angélic-Carter 2000; Hutchings 2014). When asked about plagiarism, many associate avoiding plagiarism with the conventions of referencing (e.g., Breen and Maassen 2005; Gullifer and Tyson 2010), but they fail to indicate an understanding of citation as a means to present an evidence-based argument (Gullifer and Tyson 2010).

Students reportedly express a lack of knowledge about referencing and citation conventions or display insufficient referencing skills in their written work (Hutchings 2014; Park 2003). They also express concern about their lack of knowledge and skill in referencing (Breen and Maassen 2005; Gullifer and Tyson 2010; Hutchings 2014) and report that the rules and conventions of referencing are confusing and difficult to learn (Hutchings 2014). Furthermore, students highlight that different lecturers require different referencing styles or have different expectations regarding what should be referenced and how (Brimble and Stevenson-Clarke 2005; Power 2009) and that they are not given enough information on how to reference correctly to avoid plagiarizing (Hutchings 2014; Power 2009).

Framing plagiarism either as deliberate cheating or as the lack of knowledge of or skill in applying citation conventions is reflective of a deficit view of students (Howard 1995). The responsibility for avoiding plagiarism is placed directly on students, and students who plagiarize, even unintentionally, are positioned as either lacking in morals or lacking in knowledge. Students' expressed understandings of plagiarism indicate that this is indeed their experience (e.g., Gullifer and Tyson 2010; Power 2009). A deficit view, which emphasizes adhering to conventions and punishing transgressions, ignores investigating the reasons why students have plagiarized (Haviland and Mullin 2009), therefore ignoring the opportunities for pedagogical interventions in instances where students are struggling with academic conventions or competencies.

Institutional plagiarism policies tend not to include information on how to draw on existing texts or knowledge in the creation of new texts or knowledge (Haviland and Mullin 2009), not least because such practices vary between disciplines

(Howard 1995) or because teachers have difficulty in articulating how this might be done (Haviland and Mullin 2009). Students' lack of understanding of scholarship is reflected in their explanations of plagiarism. Researchers have noted that students do not talk about knowledge building or scholarship; rather, they focus on mechanical aspects of writing such as referencing (e.g., Ashworth et al. 1997). Arguably, rather than teaching how to cite, teachers need to teach why citation is important. Policies and practices regarding plagiarism might be reviewed to consider that, rather than entering higher education as accomplished academic writers, students develop academic writing competency within their specific disciplines over the course of their degree (Haviland and Mullin 2009; Howard 1995). Such a view illustrates a move away from a regulatory view of plagiarism toward framing plagiarism as part of the multiple and complex practices of learning to write at university.

Problematizing Plagiarism

Echoing students' views that plagiarism is a confusing and complicated concept (e.g., Breen and Maassen 2005; Gullifer and Tyson 2010; Power 2009), the focus of recent plagiarism literature has moved away from simple distinctions between intentional and unintentional plagiarism and begun to explore plagiarism as a more complex issue situated within students' development as academic writers. Much of this literature originates from practice and is based on research in learning or writing centers, composition studies in the USA, writing for academic purposes, and research on teaching students from a non-English-speaking background (NESB).

The literature positioning plagiarism as part of learning to write in higher education continues to be characterized by discussions about the oblique nature of the term "plagiarism" and the behaviors and textual features it encompasses (Clegg and Flint 2006; Kaposi and Dell 2012). However, what distinguishes this literature is that it calls for a reframing of plagiarism either through reconceptualizing or renaming it. Student writing is framed as a social practice rather than a technical skill (Angéllil-Carter 2000; Ivanič 1998; Haviland and Mullin 2009; Kaposi and Dell 2012). Most often, this literature ignores deliberate plagiarism, as "cheating" is no longer a central concern. This literature focuses almost exclusively on the concept of unintentional plagiarism, moves away from a focus on what the student is "being," and focuses instead on what the student is "doing" (Ivanič 1998).

From "Plagiarism" to "Plagiaries"

Research that positions plagiarism as part of students' developing competencies as academic writers moves away from a discussion of plagiarism as a singular concept that can happen either intentionally or unintentionally and focuses instead on "plagiaries." The term "plagiaries" highlights the plurality of plagiarism and acknowledges the multitude of textual features that could be considered plagiarism (Pecorari 2008; Pennycook 1996). From this perspective, plagiarism is not a unitary

or dual phenomenon, as assumed by literature reflecting a moral or regulatory view. It is multiple phenomena; there are multiple reasons why it might happen and multiple possible responses (Clegg and Flint 2006). Acknowledging the multiplicity of plagiarism, researchers have attempted to relabel the categories of textual features that can be labeled as plagiarism. For example, Howard (1995) argues that plagiarism can be categorized as either cheating, non-attribution, or “patchwriting” where students quilt together sentences and phrases from source texts. Similarly, Löftström and Kupila (2012) argue that plagiarism can be categorized as intentional, unintentional, or contextual. Contextual plagiarism relates to factors such as students’ management of their time and workload. Löftström and Kupila’s inclusion of contextual plagiarism, which they argue can be either intentional or unintentional, illustrates the blurring of the boundaries between intentional and unintentional plagiarism and the move away from concern over intent.

Reports of students’ views on plagiarism highlight their confusion regarding why lack of competency in paraphrasing, summarizing, or referencing is treated as “plagiarism” (e.g., Gullifer and Tyson 2010; Power 2009). The plagiaries literature begins to address this confusion, and some researchers have claimed that the concept of unintentional plagiarism should be abandoned altogether (Chandrasoma et al. 2004), arguing that if it is not intentional, then it is not plagiarism. Other research has attempted to redefine unintentional plagiarism by renaming or reframing it. Alternative names include “repeated text” (Pecorari 2008), “transgressive intertextuality” (Abasi and Akbari 2008; Chandrasoma et al. 2004), “textual plagiarism” (Pecorari 2003), and “apparent plagiarism” (Currie 1998).

Some of the research on plagiaries argues that to reduce plagiarism, teachers should remove the emphasis on plagiarism as something to be avoided and instead focus on students’ development of academic competencies such as drawing on sources (Chandrasoma et al. 2004; Gullifer and Tyson 2010), paraphrasing (Gullifer and Tyson 2010), and critical thinking (Ivanič 1998). This is consistent with what students have said they require in order to avoid plagiarizing (e.g., Breen and Maassen 2005; Power 2009). Gullifer and Tyson (2010, p. 464) explain that “good academic writing is contingent on developing sound skills in both research and writing, critically reading and comprehending appropriate sources, careful note-taking, paraphrasing, judicious use of quotations and giving credit to authors for their ideas and writing.” Reconceptualizing plagiarism as a noun rather than as a verb may be a way to achieve this and to ultimately reduce unintentional plagiarism (Robillard 2008). This would involve viewing plagiarism as something that appears in text, rather than an action or a behavior exhibited by a student.

Changing Concepts of “Knowledge” and “Authorship”

The shift toward a view of plagiarism as plagiaries is informed by a shift in understanding of the nature of knowledge and concepts of authorship. Postmodern views of knowledge, in particular the concept that knowledge is socially constructed (Pennycook 1996), challenge the traditional view of knowledge as

attributable to a single source and consequently challenge the notion of a sole author (Currie 1998; Howard 1999). Students' reports of interactions with their peers, both in person and through social media, indicate that they actively and knowingly engage in the social construction of knowledge and consequently they have difficulty understanding citation and the attribution of knowledge to a single "original" author (Blum 2009).

The development of technology, in particular the Internet, has added weight to challenges to the notion of a sole author. Online wikis, where individual authors are not acknowledged, are an increasingly popular source of information. Wikis and the widespread use of hypertext, where unnamed authors collaborate to produce text, illustrate a shifting view of authorship (Sutherland-Smith 2008). Echoing these practices, students report that they see collaborative text production as legitimate, whereas universities view collaboration on individual assignments as unauthorized practice (Blum 2009). As the concept of plagiarism is reliant on the assumption that students are expected to be the sole author of their texts, a challenge to the notion of sole authorship is a challenge to the notion of plagiarism (Sutherland-Smith 2008).

Literature on plagiarism has reflected these changing notions of authorship, framing plagiarism as an issue of students' struggles with authority or identity in their academic writing (Abasi and Akbari 2008; Angéilil-Carter 2000; Ivanič 1998). In academic writing, authorial identity is determined by the way in which students draw on and combine the discourses to which they are exposed (Ivanič 1998). Analysis of students' academic writing reveals that students draw on many different subject positions in their writing (Angéilil-Carter 2000; Ivanič 1998). These subject positions are the consequence of students' previous experiences, including their cultural, political, religious, work, and educational experiences. Consequently, students may present a range of authorial positions in their writing as they view their topic from a variety of different perspectives, thus presenting a number of different "identities." Many students struggle to balance their multiple subject positions with the role of a novice writer who is required to draw on the authority of source texts (Angéilil-Carter 2000; Ivanič 1998). In particular, students express that they struggle to write with "authority" as they view themselves "as people without knowledge, and hence without authority" (Ivanič 1998, p. 88). As the students in Ashworth et al. (1997) study indicated, they may have difficulty taking on the role of producers of knowledge, seeing themselves instead as reporters of existing knowledge. Similarly, Gullifer and Tyson (2010) reported that students struggle with understanding what is required of them in their written assignments, in particular how much "authority" they can exhibit in their assignments.

Abasi and Akbari (2008) argue that higher education students are positioned as reproducers of text, rather than as producers of knowledge. They argue that students are expected to be "academics in training" and to participate in a discourse community. However, through the framing and delivery of assignment requirements (e.g., referring to the paper as an assignment, stipulating the number of sources to be drawn on, etc.), they are treated as novices with no authority. Although students are expected to mimic the conventions of academic research articles in their writing, essay writing is in fact a different genre (Angéilil-Carter 2000). A traditional

academic essay has both a different audience and a different function to research articles. Consequently, students are often expected to learn the genre of academic writing from outside of the genre. In addition, some teachers reportedly use students' referencing as a "surveillance technique" to check if students have accessed the required sources (Abasi and Akbari 2008, p. 277), even though referencing is not used for this means in academic publications.

Students as Developing Academic Writers

Much of the literature focusing on plagiarism within students' writing practices comes from research into NESB students (e.g., Abasi and Akbari 2008; Currie 1998; Valentine 2006), possibly because it is easier to identify plagiarism and other textual features in texts produced by students writing in a language in which they are not a native speaker. This literature reveals that, in their academic writing, students struggle with the specific vocabulary of their discipline (Currie 1998), understanding what is required of them in their assignments (Abasi and Akbari 2008; Currie 1998), and managing their workload (Abasi and Akbari 2008; Currie 1998). These difficulties may lead students to mimic academic texts in their written assignments (Abasi and Akbari 2008; Currie 1998; Howard 1999). The term "patchwriting" (Howard 1995) describes the practice where students patch together sentences and phrases from a variety of sources to produce new texts in a style that mimics the discourse and conventions of their discipline. From a regulatory perspective, the practice of patchwriting is framed as plagiarism, but when considered from a writing perspective, it is recognized as a legitimate step in learning to become a competent academic writer (Currie 1998; Howard 1999).

Many teachers expect students to have an understanding of plagiarism and how to avoid it when they commence higher education (Sutherland-Smith 2008). However, research reveals that many students do not adequately understand what plagiarism is or why and how they should avoid it (e.g., Ashworth et al. 1997; Blum 2009; Gullifer and Tyson 2010; Löfström and Kupila 2012; Roig 1997; Sutherland-Smith 2008). Students themselves call for opportunities to practice their academic writing in order to develop competency without fear of being sanctioned for plagiarism (e.g., Breen and Maassen 2005; Power 2009). The only way that this can happen is if instructors view plagiarism from the perspective of learning to write and use incidences of plagiarism as an opportunity to understand what students are struggling with.

Summary

From the literature reviewed above, it is clear that much has been written about the "problem" of plagiarism and how it might be addressed. Three different perspectives are evident in the literature: plagiarism as a moral issue, plagiarism as a regulatory issue, and plagiarism as a natural part of learning to write from sources.

These three perspectives are aligned with three viewpoints on how the plagiarism problem can be solved: through punishing offenders, through tightening policies and regulations, or through educating students.

Despite a growing number of studies into students' perceptions of plagiarism, research in this area is still limited (Ashworth et al. 1997). The research that does exist suggests that, in general, students are confused about what plagiarism is and how they can avoid it. Students express a desire for more information and support in the area of developing good academic writing skills. Similarly, analysis of the plagiarism literature reveals that framing plagiarism within the context of learning to write at university is the most effective way of ensuring students are learning. However, in order to fully examine if and what students are learning, instructors need more research regarding what students think and understand about scholarship, citation, referencing, plagiarism, and becoming competent academic writers. Only then can pedagogy begin to fully address the disjuncture between what students understand and what they need to understand in order to avoid accusations of plagiarism.

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Abstract

Plagiarism is a particularly complex issue because it straddles the boundary between academic integrity and academic literacy. Academic texts are widely understood to involve complex and precise expression and rhetorical sophistication. Learning to write them is rarely easy, but writers who are working through a second language face an additional challenge. Because of a trend toward increased international mobility among students, the number of inexperienced academic writers using a second language is large and rising rapidly. If, as it has been suggested, this group is especially likely to be charged with plagiarism, then there is a real danger both to the students in this group and to standards of academic integrity. This chapter examines the aspects of plagiarism which are of particular relevance to second-language writers, identifies potential problem areas, and suggests solutions.

D. Pecorari (✉)

Department of Languages, Linnaeus University, Växjö, Sweden

e-mail: diane.pecorari@lnu.se

Introduction

Plagiarism is in one respect considerably more complex than many of the issues treated under the heading of academic integrity and dealt with in this volume: it is simultaneously an integrity issue and a question of academic literacies. Or, more accurately, the word “plagiarism” is used very broadly to describe both deliberate transgressions of academic conventions and principles, such as buying an essay from a cheat site, and acts which are artifacts of developing academic literacy.

As Jamieson (this volume) discussed, there is no universal agreement that “plagiarism” is in fact an appropriate descriptor for the latter category. A number of scholars have suggested that alternative terminology should be used (e.g., Petrić 2004), and the most commonly used alternative is *patchwriting*. This term, coined by Howard (1995), has been widely adopted to describe a writing strategy which involves heavy dependence on the language of sources and which is the result of the writer not yet having developed a mature arsenal of skills for learning to produce academic texts autonomously. Patchwriting thus has other causes than an intention to deceive the reader. In this chapter, “patchwriting” will therefore be used to indicate the use of sources in an inappropriate way where the intention of the writer is not to cheat (this usage thus somewhat extends the act originally described with that label by Howard). Plagiarism which is motivated by a desire to receive unearned academic rewards will be referred to here as “prototypical plagiarism.” Because it is not always conceptually useful or possible in practical terms to distinguish between these two acts, the term “textual plagiarism” will be used as an umbrella term covering both of these, and indeed any act which, on the evidence of intertextual relationships and without taking into account the writer’s intentions, appears to be plagiarism. When “plagiarism” alone appears, it will refer to this broader category.

Another reason for the complexity of plagiarism is that it involves the illegitimate appropriation of either ideas or language. While it is possible at a theoretical level to distinguish between plagiarism of ideas and plagiarism of language, there is considerable interaction between the two. For instance, while an idea can be the object of plagiarism even if it is expressed in an entirely new way, it is often the repetition of the wording of an earlier text which enables the plagiarism to be detected or which is persuasive in convincing gatekeepers that plagiarism has in fact occurred.

Language is thus more closely implicated in plagiarism than it is in other acts which are regarded as threats to academic integrity, such as falsification of data or unearned authorship credits. Because language is such a considerable concern in plagiarism, the act has a particular set of ramifications for people who are writing through the medium of a second language (L2) rather than a first language (L1). That observation is true for all L2 writers, regardless of the specific second language. However, the dominant lingua franca for academic activity is, as in so many other spheres, English (Mauranen et al. 2016). Thus, the focus of this chapter is on writers with English as a second language, although the points made here are broadly true regardless of L2.

Precisely because of the dominant status of English as a lingua franca, English is used in an extremely varied set of academic contexts worldwide. This chapter thus begins with a description of the contexts in which L2 writers come into contact with academic English. It then goes on to discuss a question which has frequently been associated with plagiarism in the work of L2 writers, areas of possible cultural differences, before moving on to treat the question of source use and academic literacies. As noted above, plagiarism is both an ethics issue and a question of learning; however, the former aspects have been dealt with thoroughly, in this volume and elsewhere. In keeping with the focus of this section, this chapter is therefore concerned with plagiarism as a learning/literacy issue. In order to learn to handle new linguistic and rhetorical tasks, L2 writers need a certain level of proficiency on which to build. The third part of this chapter therefore outlines the linguistic abilities needed to write from sources in appropriate ways and looks at the range of English proficiencies found in contexts where L2 writers are using English as the medium of instruction (EMI). This chapter concludes with an examination of the implications of the academic literacy question for academic integrity.

Before moving on, it should be noted that plagiarism is not an issue only for student writers. It is natural to think of students in connection with questions of learning and the acquisition of academic literacy, but the ability to use sources effectively and in ways which do not trigger accusations of plagiarism is essential for academic success at all levels, and episodes of plagiarism linked to the issues particularly salient for second-language writers have been identified at all levels of the academy (e.g., Flowerdew and Li 2007; Li and Casanave 2012). Because students are a larger group than established academics, and for the sake of convenience, this chapter will treat plagiarism primarily in regard to students. It should however be read in an awareness that many of the points made apply to other academic writers as well.

Contexts for English-Medium Instruction

The second half of the twentieth century saw a sweeping change to the university: in the wake of the Second World War, international mobility among university students began to rise dramatically. According to reports from the Organisation for Economic Co-operation and Development, in 1998 there were 1.31 million international students at universities in OECD countries; by 2012 that number had risen to 3.37 (OECD 2000, 2014). The growth in mobility is expected to continue, as well, with a current prediction that by 2020 a demand will exist for half a million international student places in the UK alone (Böhm et al. 2004).

English thus became the medium of instruction for substantial numbers of students who had another L1 and who chose to study abroad in countries like the USA, the UK, and Australia (the countries which are termed major English-speaking destination countries or MESDCs). A more recent trend has been toward international student mobility to other countries. For example, between 2003 and 2013, Sweden saw a 50 % increase in the number of international student

enrolments (Statistiska Centralbyrån 2013). In 2012, 7 % of university enrolments were international students in Denmark, 7 % in the Netherlands, and 5 % in Finland (OECD 2014). In the same year, and according to the same report, only a quarter of international students traveled to countries which used the same language as their home country. In other words, the majority of international mobility is enabled by the use of a lingua franca, and that lingua franca is most often English. In 2013 European universities offered 21,000 master's programs, and over 6,000 of them were offered in English, an increase from under 1,000 in 2002 (Brenn-White and Faeth 2013). EMI is the engine behind internationalization, and the expansion of EMI outside of the English-speaking world has not only enabled international student mobility to those countries, it has created another constituency of students working through a second language: those who have stayed at home but attend courses taught in English. Beyond the desire to enable internationalization, this situation has arisen in part because of a perceived value in exposing students to English. Because of the role of English as global lingua franca, there is a widespread belief that students who emerge from university with skills in English will be more competitive in the workplace and a concomitant belief that EMI provides exposure to the language (Pecorari et al. 2011).

Thus, there exist a number of diverse student groups grappling with the demands of acquiring academic literacy in English as L2: those who have chosen to travel to an English-speaking country, those who have chosen an English-medium program in a non-English-speaking country, those students' classmates who have stayed at home but are enrolled on courses taught in English, and students around the world who are engaged in education primarily in their L1 but who have some elements of English present as well. The steep demands of developing academic literacy are intensified by the use of a second language, as Section 4, "Academic Integrity Policy and Practice" demonstrates, and the numbers of students put in this position are large and growing.

Culture in the Academic Literacy Equation

A factor which has frequently been implicated in plagiarism among English L2 users is an area closely related to language: culture. The cultural explanation for plagiarism has most frequently (though not exclusively) been invoked with respect to students from various Asian countries (Chien 2014; Moon 2002; Shi 2006). This explanation rests on the idea that there is in the Western educational establishment a fairly stable understanding of plagiarism and that there is at least one alternative understanding which causes students to do what their teachers call plagiarism, even though they are not motivated by a desire to transgress. For example, it is sometimes asserted that students from cultures with a collectivist orientation do not appreciate the importance which is placed upon individual expression in the West and therefore do not understand that authorial rights are seriously abridged by plagiarism. Another variation on the cultural explanation relates to a supposed authority gap that causes students to have an extreme degree of respect for their teachers and for the written word. Repeating the language of canonical texts is

respectful to their authors, while paraphrasing would be disrespectful. The teacher as the ultimate authority is perfectly familiar with the canonical texts on a topic, and so citing them would be both superfluous (since the teacher will recognize them) and disrespectful (inasmuch as it would suggest that the teacher might fail to recognize them). Other versions of the cultural explanation have been offered as well.

The cultural explanation has been hotly contested in the literature. Some observers are adamant about the existence of culturally grounded explanations as a contributing factor for some student plagiarism, while others, including “cultural insiders,” argue equally adamantly that this is not the case (see Pecorari and Petrić 2014, for a review). Despite the uncertainty on this question, by probing the cultural explanation, it is possible to shed light on several important points related to plagiarism particularly as it interacts with L2 literacy.

First, it is instructive that much of the difficulty in resolving this question lies in the fact that the precondition named above is not fulfilled: to claim correctly that students from some cultures do not share a Western understanding of plagiarism, there must be such a thing as a shared and stable Western understanding of the concept. Yet we know that Western academics as well as students are inconsistent in what they identify as plagiarism (Roig 1997, 2001) and that this is due in part to the fact that their understandings are highly contingent and contextualized (Pecorari and Shaw 2012). Many are unwilling or unable to implement abstract definitions of plagiarism. When faced with a student text which is similar to its source, they feel it matters whether the potential plagiarism involves functional and formulaic aspects of the text or its findings, whether specialist terminology which cannot easily be altered is involved, or whether an attempt has been made to cite a source (e.g., in the reference list), even if it is not an entirely successful attempt. These differing understandings are due in part to varying approaches to writing across disciplinary cultures (Borg 2009; Jamieson 2008) but equally due to individual differences (Pecorari and Shaw 2012).

A second point of importance about the cultural explanation is that it simultaneously rests upon and exposes an Anglophone dominance in global scholarship which can particularly be challenged outside of the MESDCs. All students, regardless of their first language or status as international students, can be expected to follow the rules in place at their institutions, but if plagiarism is a matter of academic ethics, then something more than local regulations is at stake: plagiarism must challenge the basic values of scholarly activity, and these values must be universal, at least within the scholarly domain. If factors inherent in some cultures cause a predisposition to plagiarize, then plagiarism does not violate a universal academic value; it violates a belief locally situated in the English-speaking world. If this is true – that plagiarism is a violation of a locally defined set of values rather than a universally acknowledged set of scholarly values – then the relevance of an Anglophone understanding of plagiarism in many EMI contexts is unclear. In simple terms, why should a university student in country X adhere to principles for source use which apply in the USA or Australia, for example, but which do not have wide cultural currency in country X?

This inconsistency is easy to overlook because it is partially obscured by the fact that there are in fact two Englishes: the one which is the local language of universities in the MESDCs and the one which is the global lingua franca in academic life (as well as in many other spheres of endeavor). A strong argument can be made that Anglophone cultural values should be respected in the English-speaking world, but the corresponding argument, that Anglophone cultural values should steer local practice in the rest of the world, would, if articulated in such a direct manner, rightly attract criticisms of cultural imperialism. Quite importantly, this discussion is not intended to argue either for or against the existence of a particular non-Anglophone understanding of plagiarism; as noted above, the available evidence is rather divided on that point. Rather, it is intended to expose a fundamental contradiction between the cultural explanation and the assumption of plagiarism as a violation of fundamental academic values.

A third important issue regarding the cultural explanation is a potential danger in how it is used. Because it is framed in terms of a specific, erroneous understanding of plagiarism which diverges from an assumed, received understanding of that act, a great deal of emphasis is placed on awareness. If international students from country X do not understand what plagiarism is, then they need an explanation. At a minimum, they need to know what it is and what penalties it incurs. Because the penalties can be very severe, they also need to understand how very seriously plagiarism is regarded. This is not a small rule which can be broken with impunity; it is a serious matter. So far, this is good pedagogy: knowledge of the regulatory framework is a good thing for all students. However, teachers who believe that plagiarism is caused by a simple cultural misunderstanding are then likely to assume that, once students have had an explanation, the problem is fixed, and if plagiarism occurs thereafter it is not the lack of information but deliberate dishonesty which causes it. In fact, though, the reality is more complex. Producing writing which is free from textual plagiarism requires more than a desire to do so; as the next section will demonstrate, it requires a complex set of academic literacy skills.

Language Proficiency in the EMI University

It is in the nature of academic activity to build on earlier work. A scholarly responsibility exists to have read one's way into the topic one writes about, and as a result most academic texts contain prolific references to the works which the writer has read and which have the potential to inform the topic at hand. This has two important implications for novice academic writers. First, it is not possible to avoid plagiarism simply by avoiding writing from sources altogether; plagiarism can only be avoided if the writer can also incorporate material from sources in a proficient way. Second, because the use of sources is so fundamental to academic writing, simply learning to avoid plagiarism cannot and should not be the only or indeed the primary objective. Novice academic writers need to learn to use

sources effectively in their writing. However, using sources is a linguistically complex aspect of academic writing. This section first describes some of the linguistic demands of source-based writing and then looks at the expectations which can reasonably be made of the language proficiency of L2 writers in EMI contexts.

The Linguistic Demands of Writing Academic Texts (from Sources)

Academic language is widely perceived as polysyllabic, complex, and dense, and a number of characteristic features are responsible for this effect. For example, academic texts are rich in *nominalizations*, that is, forms which consist of a process which is expressed as a noun, e.g., *consolidation of porous media* means that porous media are consolidated by someone or something; the nominalized version packs the same meaning into half the number of words. Another easily recognizable feature of academic discourse is the use of words which are relatively uncommon in everyday language, such as *consolidation* or *aversion* or *mediating* (Gardner and Davies 2014). There are also commonly occurring phrases like *One of the limitations on this approach is that . . .* and *The graph shows that there has been a steady increase in. . .* (Morley, n.d.). These features are a by-product of the need to discuss complicated topics with great precision and weave strands of evidence and reasoning into the fabric of the new text, but a side effect is that these features can cause students to perceive academic texts as difficult both to read and to produce.

What linguistics skills do academic writers need to be able to perform in order to read the existing literature on a topic and produce texts which build on them successfully? Reading comprehension is a key factor, and that in turn is closely related to vocabulary knowledge: readers need to know more than 95 % of the words in a text in order to be able to understand the text satisfactorily (Hu and Nation 2000). Not very many unknown words like *aversion* or *consolidation* are needed, then, to keep readers from understanding academic texts. Reading speed is also a factor; university students with English as a second language have been shown to perform as well on reading tests as native speakers of English, but reading for that degree of comprehension takes longer (Shaw and McMillion 2008). Speed and comprehension are critical because good source use requires more than the ability to report a proposition from an earlier text without distorting it; it also requires the writer to understand the relationships among the various contributions to the literature and to be able to synthesize them.

Assuming that a writer has read and understood the relevant texts on a topic, successfully referring to them involves two productive abilities (Pecorari 2016). In most academic disciplines, references to sources consist primarily or exclusively of paraphrases, that is, a restatement of a proposition from a source in a fundamentally independent way, but without distortion. This is a linguistically challenging task, but arguably more challenging still is the ability to quote, since that involves incorporating someone else's wording into one's own text in such a way that the interface is coherent and fluent.

Ideally, the text will be well written in other ways too. For L2 users of English, this means avoiding grammatical errors and unidiomatic expression, but it also means – for all writers – producing the characteristic discursual features of academic language: the rich vocabulary, the nominalizations, etc. In this connection it is important to note that productive skills build on receptive ones. That is, the ability to use phrases like *this view has received qualified support from scholars such as. . .* presupposes the ability to understand it, but the reverse is not true; understanding does not confer the ability to produce comparable writing oneself.

At this point it is possible to observe that the novice academic writer must actually try to meet two quite different objectives. One is to produce acceptable academic writing. This includes, but is not limited to, making effective and conventional use of sources, and to do that, avoiding plagiarism is a necessary but not a sufficient condition. However, because any kind of textual plagiarism risks being diagnosed as an act of deception and because the penalties for deceptive plagiarism are so harsh, in practical terms writers must also have the objective of avoiding writing in ways which can trigger the accusation of plagiarism. It is possible that a weighty concern with not incurring the “academic death penalty” (Howard 1995) may inhibit writers from extending themselves and venturing into less certain terrain and may therefore cause them to miss opportunities for skill development.

Where Are L2 Writers?

As the last section demonstrated, producing texts which do not put the writer at risk of accusations of plagiarism requires the ability to use sources in appropriate ways, and that in turn requires rather sophisticated language skills. It is therefore important to ensure that students in EMI environments have the necessary skills. Institutions use varied means to assess the language skills of prospective students on EMI courses, but it is particularly common to require applicants to submit a score on an internationally recognized test such as the Test of English as a Foreign Language (TOEFL), the Pearson Test of English (PTE), or the International English Language Testing System (IELTS). Students receive a numerical score but not a result expressed as a pass or a fail; instead, institutions set a minimum score for admissions.

What does this mean about students’ abilities in practice? Taking the IELTS as an example, a sample of the admissions criteria used by the prestigious and selective Russell Group of universities in the UK shows that undergraduates are typically required to attain a score between 6 and 7 for admission, with lower scores more likely to be accepted for courses in science and technical subjects and higher scores required for subjects in the humanities and social sciences. IELTS scores range from 0 to 9, with 0 reserved for empty answer sheets and individuals scoring 1 described as “nonusers” of English. A score of 9 indicates that the test taker “has fully operational command” of English (IELTS, n.d.). Scores in the range of 6 and 7, the higher end of the spectrum, indicate:

Band 7: Good user: has operational command of the language, though with occasional inaccuracies, inappropriacies and misunderstandings in some situations. Generally handles complex language well and understands detailed reasoning.

Band 6: Competent user: has generally effective command of the language despite some inaccuracies, inappropriacies and misunderstandings. Can use and understand fairly complex language, particularly in familiar situations. (IELTS, n.d.)

Attaining this level of proficiency in a second language is a significant achievement, but given the nature of the demands placed on students, there are potential problems. “Occasional inaccuracies, inappropriacies and misunderstandings” could be a significant obstacle to success on assessed work, and the ability to “understand fairly complex language” is required of all students, while the university setting is an *unfamiliar* situation, including for L1 users of English.

Thus, students who are admitted to degree programs with the relatively high degree of English proficiency indicated by these high-end IELTS scores (or the equivalent on other measures) will still find the discursual challenges of studying through the medium of English to be substantial. Many writers adopt patchwriting as a response to these challenges, to bridge the gap in their understandings of sources and to achieve texts which are more fluent, accurate, and idiomatic. This is not a strategy unique to L2 users of English. Howard et al. (2010) studied the texts of a group consisting of primarily L1 users of English and identified a considerable amount of patchwriting. However, students with weaker language skills still have additional reasons to adopt a patchwriting strategy.

In fact, though, the situation is more problematic still, as not all students studying through the medium of English around the world have even the level of proficiency which the benchmark scores presented above suggest. Lower scores may be accepted, exceptions may be made, less reliable tests may be used to measure proficiency, or alternative experiences (such as prior university study) may be used as a token of English proficiency. In short, many students attempt to study through the medium of English without ideal preconditions for success.

Conclusion: Implications for Academic Integrity

This chapter began by suggesting that plagiarism is not always a question of academic integrity because it is not always a form of cheating. Not being able to write effective academic texts which observe source use conventions is no more unethical than not knowing how to solve differential equations or how to perform a titration or how to analyze an Elizabethan sonnet. Yet when writers’ skills are unequal to the task of producing fluent academic texts, patchwriting is often the result. Because doing academic work in a second language is a tremendous challenge, second-language writers are frequently put in this position. A conclusion which has often been drawn from this (e.g., Pecorari 2008) is that in addition to effective interventions aimed at preventing deceptive plagiarism, much patchwriting can be prevented by aligning writers’ skill levels with the expectations placed upon them.

However, although it is necessary, both in theory and in pedagogical practice, to distinguish between the sorts of plagiarism which are deceptive and the sorts which are not, there are several areas in which patchwriting interacts with deceptive plagiarism (areas which are not exclusive to L2 writers, though for the reasons indicated above they are especially relevant to them). This section describes those areas in order to conclude with implications for academic ethics.

First, the distinction between patchwriting and prototypical plagiarism is most tangible in the extreme. A student who commissions a ghostwriter is engaging in deceptive behavior, and it would be difficult to argue otherwise. Some textual plagiarism is manifestly caused by some degree of confusion about what is permitted and would be accepted as having a nondeceptive cause by even the most skeptical teachers. In between these extremes, though, are less clear-cut possibilities. A student may be aware that certain writing strategies are less than best practice but still believe they are permitted, or may accept that repeating words from a source without using quotation marks is against the rules but believe it to be a minor infraction rather than a breach of serious principles for academic integrity. In this middle zone, students can be in need of both long-term development of their academic literacy skills and better acquaintance with their university's code of conduct.

Another point of interaction between patchwriting and deceptive plagiarism is that if patchwriting is not a threat to academic integrity, it is frequently a threat to academic quality. Patchwriting evidences an inability to find independent ways of expressing complex ideas in the appropriate academic register, and there are many important forms of summative assessment which require that ability. Patchwriting may also be symptomatic of other underlying problems, such as a difficulty in reading academic texts and understanding them or in integrating ideas from several sources. It has been suggested that patchwriting is a developmental stage and potentially beneficial (Howard 1999; Hull and Rose 1989), but similarly, it can serve as evidence that the writer's skills are still developing. In other words, patchwriting frequently is a sign that students have not achieved the learning objectives on which they are assessed. In this sense, diagnosing patchwriting is as important as diagnosing deceptive plagiarism.

The final area of interaction between patchwriting and deceptive plagiarism is that, while an inability to use sources proficiently is not a sign of an ethical shortcoming, it may be the proximate cause of one. Patchwriting is not only the result of writers lacking the proficiencies to write from sources in conventional and acceptable ways. Many people – butchers, bakers and candlestick makers, tinkers, tailors, soldiers, and spies – lack those proficiencies, but it is unproblematic because they do not need them. Patchwriting is what happens when writers who have not yet developed those skills are confronted with tasks which can only successfully be performed by someone who possesses them. As would be expected, the available evidence tends to suggest that the ability to use sources appropriately and effectively develops alongside other academic writing skills, and thus source use ability is likely to be still under development in less experienced academic writers (e.g., Campbell 1990; Davis 2013). There is also evidence of a correlation between cheating and a sense of academic pressure. Weaker academic performers report

plagiarizing more (Selwyn 2008), and fear of failing a course makes students more likely to plagiarize (Bennett 2005). Thus, while patchwriting itself is not a deceptive strategy, placing students in a space which provides the preconditions for patchwriting may also increase the likelihood of deceptive plagiarism.

These elements, taken together, suggest that while patchwriting and plagiarism are theoretically distinct constructs, they have commonalities and therefore potentially shared solutions. It is important, though, to define that shared territory carefully. Specifically, the typical approaches to prototypical plagiarism, consisting of warning, detecting, and punishing, are only of minimal help in dealing with patchwriting. It is right that students should be aware that inappropriate source use can put them at risk of accusations of plagiarism, but punishment is never an appropriate response to the failure to master a skill, and honest students who intend to do their level best may well ignore warnings about an act which is characterized as deceptive and unethical.

However, if the standard approach to prototypical plagiarism is a poor response to patchwriting, the reverse is not true: a good approach to patchwriting is also beneficial in combatting deceptive plagiarism. The most effective way of dealing with patchwriting is to teach students to use sources effectively. Good teaching incorporates the principles of constructive alignment: learning objectives are identified and explicitly stated, teaching and learning activities are developed with the objectives in mind, and the assessment measures the extent to which they have been attained (Biggs 1996). In the case of source use, these points are often neglected: in most subjects, the ability to produce academic texts is expected of students but not taught, and the effective and appropriate use of sources is rarely systematically assessed (Pecorari 2013).

A pedagogy for good source use would include formulating objectives such as “upon completion of this course, the student will be able to read, understand, and effectively paraphrase concepts from relevant texts” and then designing a series of tasks which would teach and allow students to practice these skills. Equipping students with a clear vision of the objective and the ability to reach it would do much to eliminate patchwriting. It would provide an effective mechanism for dealing with patchwriting when it does occur in a non-stigmatizing way, because the message is not, primarily, that the student has done wrong but that the student still has a way to go.

In the context of what is, or is believed or suspected to be deliberate, deceptive plagiarism, the same mechanism can be equally useful. Most universities have a framework of rules under which prototypical plagiarism is identified as a violation and mechanisms for punishing it. Most university teachers have experience of the mechanisms working imperfectly, and virtually all have experience of cases which have made them uncomfortable because they were uncertain of the student’s culpability, while being very confident that the student’s written work was not acceptable. A mechanism which, outside the formal disciplinary procedures, allows the teacher to withhold academic rewards is as useful in cases of prototypical plagiarism as it is in cases of patchwriting and especially valuable in those cases which make it difficult to distinguish between the two. Importantly, though, if a teacher (as opposed to a disciplinary instance) withholds grades or other awards,

it must be done with reference to the fact that the student has not demonstrated attainment of the learning objectives and not punitively.

Because L2 writers are particularly affected by the degree of linguistic competence which study through the medium of English requires, they are in urgent need of a means of addressing plagiarism which is proactive and pedagogical, but they are not alone in this need. Two global trends in higher education – broadening participation and an increase in English-medium instruction – have led to larger and more heterogeneous student populations. This broadened student body includes groups such as Generation 1.5, students who immigrated to the country of study at an early age and who are likely to appear to university admissions processes as domestic students. Such students frequently have uneven abilities in what has been termed basic interpersonal communicative skills (BICS) as opposed to cognitive academic language proficiency (CALP) (Cummins 2008). In other words, they may be fluent and experience no apparent problems in everyday situations, but that fluency may mask a need for support with academic discourse. Generation 1.5 students illustrate a broader point about the heterogeneity of the modern university: fewer assumptions can be made about the preparation and prior knowledge with which students arrive at university, and the numbers limit the likelihood that those who are insufficiently prepared will be able to elevate themselves to the required level by their own bootstraps.

This makes it difficult to reach any other conclusion than that universities have both a responsibility and every interest in teaching the literacy skills which underpin academic writing. Doing so would enable students (L2 as well as L1) to avoid plagiarism and other sorts of inappropriate source use, but, more importantly, would empower them to engage successfully with academic discourse in other ways as well. The motivation must surely be there: universities commit significant resources to addressing issues of integrity and are prepared to mete out harsh penalties to students who violate rules of academic ethics. This is evidence that the academic community believes that integrity is a very serious matter which merits a very serious response. If this is true, then there must be a concomitant will to take the steps which will have the greatest impact both on deceptive plagiarism and patchwriting in L1 as well as L2 writers, to admit only those students with good preconditions for learning to produce plagiarism-free academic writing, and to see to it that all students who are admitted are given sufficient teaching to have a reasonable chance of success. If academic institutions really want to stop plagiarism, these are the steps which must be taken. If we are not willing to take them, then it reflects very badly indeed on the integrity of academics.

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Creating Faculty Development Programming to Prevent Plagiarism: Three Approaches

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Tricia Serviss

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Abstract

Teaching writers to write from sources is so difficult that faculty from across disciplines seek professionalization and support, often motivated by worry about student plagiarism. This chapter surveys three different approaches to faculty development programming designed to create a culture of academic integrity at the postsecondary level. These three approaches to faculty development programming include focusing on conceptualizations of plagiarism, emphasizing best practices, and calling for a holistic approach. This chapter reviews and arranges scholarship within these three approaches. Ultimately, the holistic approach to faculty development in response to plagiarism emerges as the most promising way forward.

T. Serviss (✉)

English Department, Santa Clara University, Santa Clara, CA, USA

e-mail: trishserviss@gmail.com

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Introduction

Twenty-first century undergraduate and graduate students navigate complicated worlds of writing and research tasks throughout their careers. Students are challenged to conduct research and present that research in writing that reflects their awareness of audience, of disciplinarity, of genre, and of academic integrity expectations. These challenges are complex and interdependent. Yet often faculty across the curriculum are not adequately prepared and supported as they teach, assign, and evaluate academic writing. In fact some faculty present research and writing tasks as simple activities in the assignments they create; the feedback and evaluation faculty provide to students after they finish the assignment can mistakenly reinforce the notion that research and writing tasks are easy to perform in a complicated digital world. Scores of scholarship from writing studies (Anson 2003; Blum 2011; Howard 1993; Howard et al. 2010; Jamieson and Howard 2012; Kleinfeld 2011; McClure and Clink 2009; Russell 2002; Schwegler and Shamoon 1982; Shi 2004, 2012), information literacy (Corbett 2010; Head and Eisenberg 2009, 2010), psychology (Landau et al. 2002; Roig 2001), and applied linguistics (Pecorari 2003) indicate that dealing with unfamiliar sources for academic purposes is difficult for all student writers. Explicit teaching about research and writing practices, strategies, and textual production is required along with assessment of the student's ultimate written product. However, when "academic integrity" compliance becomes the focus of conversations among higher education professionals, these nuanced understandings of source-based academic writing instruction are lost. Explicit instruction about how to locate, evaluate, integrate, and cite sources becomes lost in the shadows when worries about academic integrity compliance alone dominate the conversation. Current research suggests that explicit instruction is necessary for students to avoid plagiarism and perhaps even move beyond compliance toward student success.

The ways that faculty present and evaluate student writing tasks – and the student's ultimate navigation of these tasks – teach students how they ought to write and integrate sources into their writing. The curriculum, teaching, mentorship, and assessment provided by faculty solidify and concretize student understandings of academic integrity over time, influencing student conceptualization of academic integrity and shaping their actual practices for individual assignments, courses, and institutions. Thus, professional development surrounding plagiarism influences students and teachers alike in our understanding of plagiarism, our best practices for teaching students to write well beyond compliance, and our abilities to support one another in these endeavors.

Conversations about student writing become fused with discussions of academic integrity, obscuring things for students and faculty alike. Important conversations about plagiarism and the complicated matters attached to plagiarism in academic writing – research, source use, and citation practices – become obscured when plagiarism is lumped into broad conversations about academic integrity. The result, often, is curriculum focused on complying with academic integrity standards as a vague whole rather than addressing the nuanced and difficult tasks of writing well

with sources that students must manage. In essence, faculty often assign rather than teach research-based writing, wrapped in conversations about compliance with academic integrity standards so as to avoid plagiarism. Students and faculty work to comply with such abstract standards to avoid plagiarism without collectively grasping what plagiarism in particular is, how it happens, or what might be done pedagogically to avoid it.

All faculty who assign writing become responsible for navigating plagiarism in concept, in practice, and within the specific contexts of their disciplines, classrooms, and campus communities. As students learn to write across different academic disciplines and for different audiences, faculty across disciplines are expected to prepare thoughtful curriculum and to develop effective pedagogical strategies that light the way for students. These expectations mean that faculty themselves need robust support as they design assignments for students, strategize ways to provide productive feedback, and ultimately evaluate and assess student work for both its course-specific content and its adherence to broader academic conventions such as academic integrity. Thus, faculty and administrators alike are still left asking: what kinds of faculty development programming best equip faculty to mentor students striving to become ethical writers and researchers, mindful of potential plagiarism issues? What programming best includes and prepares the trifecta of higher education learning: students, faculty, and administrators in coherent, cumulative ways? This chapter explores these questions with three potential approaches in reply: conceptualization of plagiarism as faculty development, study and adoption of best practices as faculty development, and use of a holistic approach as faculty development in response to plagiarism.

The Role of Faculty Development in Plagiarism Culture

In an era of persistent angst about student writer competence, where can faculty turn for such crucial support? For many institutions of higher education in the United States, the answer to this important question has historically been embodied in two places: centers devoted to teaching excellence or faculty development initiatives led by individuals on a particular campus. These efforts therefore vary wildly from institution to institution, yet clear patterns in the approaches adopted by these initiatives emerge. The development of these initiatives offers useful context for the roles these centers play now in faculty development surrounding plagiarism.

Ouellett (2010) historicizes the evolution of faculty development in US higher education, characterizing faculty development programs as born from the 1950s when universities designed structures to support faculty in their scholarship, often known as sabbaticals (2010, p. 5). The student movements of the 1960s and 1970s demanded more faculty accountability for the quality and relevance of higher education teaching, resulting in the first US center for teaching excellence, the Center for Research on Learning and Teaching, created at the University of Michigan in 1962 (Ouellett 2010). This era likewise led to the founding of the Professional and Organizational Development Network in Higher Education (POD)

in the United States in 1974 that connected and established some best practices for such faculty development initiatives. The founding of the POD led to what Sorcinelli et al. (2006) call the Age of the Developer in the 1980s when universities and colleges began to readily partner with granting organizations to launch and incentivize faculty development programs focused upon improving teaching. The 1990s, according to Sorcinelli et al. (2006), marked a sudden shift in thinking as faculty development efforts reoriented away from the teacher toward the learning and scholarship of learning and teaching. Ouellett (2010) and Sorcinelli et al. (2006) agree that faculty development has now entered into a new era focused upon networking; faculty development programs and leaders now focus upon connecting teacher-scholars to one another more than developing particular programming of their own design. The history of faculty development in the United States itself is a helpful framework for thinking about professionalization surrounding plagiarism. Research (Ouellett 2010; Sorcinelli et al. 2006) tells us that US faculty development approaches evolved in several stages: conceptualization of professionalization programming, aggregation of best practices for this programming, the shift from studying teaching to studying learning, and most recently the establishment of professional, interdependent networks as a new kind of programming. Likewise, faculty development about plagiarism issues has evolved in a series of stages. Faculty development programs once focused primarily on understanding different perceptions of plagiarism before working to enumerate some best practices for teaching students to avoid plagiarism, becoming invested in detecting plagiarism, and more recently establishing a networked, cultural view toward professional development about plagiarism. This chapter depicts this evolution of faculty development programming focused upon plagiarism to provide options to readers interested in developing such programming of their own.

Establishing Shared Conceptualization of Plagiarism as Faculty Development

Some of the earliest commentaries about faculty development revolve around academic integrity in higher education (Bowers 1964; Drake 1941; Hartshorne and May 1928). Such scholarship typically points out the alarming increase of academic integrity violations within student papers. Even more typically such scholarship struggles to determine *how* such plagiarized student writing came from seemingly well-crafted curriculum. More contemporary scholarship (Compton and Pfau 2008; Kellogg 2002; McCabe 2003; McCabe and Trevino 1993; Moeck 2002; Trevino et al. 1998) about student plagiarism makes a similar move, making arguments that plagiarism is indeed an epidemic and bringing definition to the term *plagiarism* via case studies and longitudinal studies. This thread of research describes student and faculty definitions and perceptions of plagiarism, as well as hypothesizing about *why* collegiate plagiarism happens. Providing descriptions of attitudes and uncovering patterns related to student plagiarism, this genre of research emerges as a tool for professional development.

Descriptive research becomes introductory reading material for participants in faculty development programming, establishing shared conceptualization and perception of plagiarism. Thus, one approach to faculty development surrounding plagiarism prevention is born from this scholarly conversation; the approach endeavors to establish common conceptualization of plagiarism within a campus community. The faculty development curriculum, through this approach, becomes a reading-focused endeavor. Faculty read scholarship (see above list for examples) that declares plagiarism a pandemic of higher education. This conceptualization approach is distinguished from others through an emphasis on the need for *reactions* to plagiarism (often in the form of judicial processes and procedures) rather than on *prevention* of plagiarism through pedagogical intervention.

The establishment of the International Center for Academic Integrity (ICAI) consortium in 1992 is often invoked as a visible origin of such contemporary conversations focused upon conceptualizations of academic integrity and therefore plagiarism. Faculty development programming about contemporary academic integrity often begins with faculty education about the issue, a kind of course in conceptualizing plagiarism. Within this approach, faculty are typically offered incredibly useful descriptive research about attitudes, practices, and policies of students and their fellow faculty in response to academic integrity issues (Davis 2000; Davis et al. 1992; Davis and Ludvigson 1995; DeVoss and Rosati 2002; Genereux and McLeod 1995; Haines et al. 1986; Power 2009; Purdy 2005; Ritter 2006; Sutherland-Smith 2008). Faculty are educated through these shared readings, familiarizing themselves with research about academic integrity, particularly research about student and faculty perspectives and behaviors alongside research describing institutional academic integrity policies and their complications.

These reading-based approaches to faculty development programming pivot around several threads of research and publications that establish the problems of academic integrity for faculty, a starting point for further professionalization. The cornerstone of such conceptualization approaches to faculty development about plagiarism is the work of McCabe, a scholar trained to conduct research about business management but invested in academic integrity concerns in higher education. McCabe's initial quantitative research, describing student attitudes about academic integrity, dominated conversations about academic integrity throughout the 1990s in the United States. McCabe surveyed 6,096 students from 31 colleges and universities, both 2-year and 4-year colleges in the United States, to understand why students violate academic integrity codes (McCabe 1992, 1993). Writing about that survey, McCabe describes what he calls the "situational ethics" students use to explain their violation of institutional academic integrity codes. McCabe analyzes student responses and finds students remorseless and self-assured about their violations (McCabe 1993, p. 657). Often anthologized as foundational research about academic integrity, McCabe's longitudinal study focuses on student attitudes; analysis of these attitudes establishes the prominence of academic integrity – including plagiarism – on college campuses. McCabe's scholarship, then, becomes a foundation for early faculty development efforts to combat plagiarism as well as a directive, urging faculty development centers and leaders to not only educate their

faculty on the concepts of academic integrity and plagiarism, but study their conceptualization of these issues as well.

Thus, McCabe, along with collaborator Trevino, began to study institutional and faculty responses to academic integrity violations (McCabe 1993; McCabe and Trevino 1993, 1996; McCabe et al. 1999, 2012). After two decades of research, McCabe et al. (2012) ultimately advocate that faculty development initiatives focused upon plagiarism prevention shift their attention to work on campus-wide honor codes. McCabe et al. (2002) present a data-driven argument that “traditional academic honor codes are generally associated with lower levels of student academic dishonesty” (357). An academic honor code, in this context, is typically a short document that defines acceptable academic behaviors for students in an attempt to articulate the campus community’s shared values and resulting expectations (Campbell 1935; Canning 1956; Fass 1986; McCabe and Trevino 1993; Melendez 1985). When a campus adopts an honor code (often a few short sentences describing agreed upon campus-wide academic standards), students and faculty are required to adhere to the code’s expectations. When students violate any part of the honor code, they typically face previously established consequences (such as receiving a failing grade in the course, facing expulsion from the institution, receiving an academic integrity violation mark on permanent transcripts, etc.). In this way an honor code is an educational tool that defines academic integrity issues – such as plagiarism – for the campus community. An honor code, theoretically, creates shared understanding of expectations and determines a stable conceptualization of things like plagiarism for students and faculty alike. At the same time, honor codes also make the consequences for academic integrity violations transparent, defining a procedure for reporting plagiarism cases as well as naming potential consequences that might result from these proceedings.

McCabe et al. (2002) find that faculty teaching at institutions with defined honor codes was more likely to report students and adhere to the predetermined consequences for the violation as listed in the honor code’s accompanying materials. According to McCabe et al. (2002), faculty teaching at institutions without an honor code were less likely to report students suspected of violations and more likely to deploy consequences themselves. Thus, several studies led by McCabe et al. (1999, 2002, 2012) find that although faculty are generally reluctant to report students and thereby involve themselves in administrative processes on campuses without honor codes, faculty at institutions with defined honor codes are more likely to report students. Ultimately, McCabe et al. (2002, 2012) argue that campuses without shared conceptualizations of plagiarism (without honor codes) have less compliance with academic integrity expectations. Campuses with some shared understanding of plagiarism (those with honor codes) have more compliance with academic integrity expectations.

McCabe et al. argued for the establishment of honor codes as the best faculty development approach to preventing plagiarism. They suggest that both the process of creating an honor code, as a campus community, and the code itself will lead to shared conceptualization of plagiarism and therefore curb its occurrence. Their studies also led researchers to question the effectiveness of such an approach.

Some researchers argued that faculty themselves might be complicit in student academic integrity violations (Compton and Pfau 2008; Stearns 2001). Others argued that administrators ought to be held more accountable for the cultures of academic integrity that evolve on individual campuses (Aaron 1992; Bertram Gallant 2007; Bertram Gallant and Drinan 2008; Jordon 2001; Whitley and Keith-Spiegel 2001b). These scholarly conversations would also be included in the conceptualization approach to faculty development surrounding plagiarism, programming centered around educating faculty about plagiarism as a phenomena and encouraging dialog in hopes of achieving some consensus about plagiarism itself.

Ultimately, the research tradition premised upon description of faculty, students, and institutional attitudes toward academic integrity (Duggan 2006; Flint et al. 2006; Hart and Friesner 2004; Park 2004; Pickard 2006; Sutherland-Smith 2010; Vicinus and Eisner 2008) offers useful concretization of the challenges contemporary college and university communities face. Offering readings from this research tradition is a viable faculty development option for combating plagiarism. Sharing descriptive scholarship is, however, a very initial step in professionalizing faculty about plagiarism. Faculty development programming that introduces different attitudes, patterns, and responses to student plagiarism helps a campus community strive for greater compliance with shared expectations. More robust approaches to faculty development about plagiarism, discussed below, offer explicit ways for faculty to go well beyond mere compliance with institutional policy and move toward curricular redesign and pedagogical interventions that avoid plagiarism entirely.

Moving from Conceptualization to Adopting Best Practices

Handbooks, guidebooks, white papers, institutional websites, monographs, and articles outlining best practices for faculty to use in avoiding and responding to student plagiarism and academic integrity violations abound to varying degrees of utility and productivity (Blum 2011; Carroll 2002, 2013; Carroll and Appleton 2001; McKeever 2006; Council of Writing Program Administrators 2003; Harris 2002a, b; Harris and Lockman 2001; Howard 1993; Kantz 1990; Marsh 2007; Johns and Keller 2005; Lipson 2008; Macdonald and Carroll 2006; Walden and Peacock 2006; Weber-Wulff 2014). Too numerous to ever fully account for, texts describing and prescribing best practices to faculty, administrators, and students alike populate faculty development initiatives. These kinds of text seem to offer stable, certain strategies and courses of action, making them attractive for faculty development programming. These best practices texts often *become* the most substantive part of a faculty development initiative about plagiarism. The adopted best practices book is distributed to every faculty member during orientation, showcased in faculty development workshop, or used as a guide for construction of an institution's own best practices list or paradigm. Sometimes the best practices text becomes an organizational tool, directing how and when a faculty development series about

plagiarism addresses different topics (what to write in your syllabus, how to craft effective writing assignments, how to teach information literacy strategies, etc.) and distinguishes areas in need of attention (how to assess your institution's plagiarism policy, how to develop campus-wide educational campaigns about plagiarism, etc.).

While these best practices texts can be useful as an introductory guide to plagiarism concerns or for responding to a very specific need, broad set lists of best practices and strategies as a faculty development approach can also become quite limiting. These "best practices" texts often present strategies in abstraction, far removed from the contexts – from the research or campus community – from which they originally arose. Thus, this best practices faculty development approach can create a similar abstract result as faculty focus on seemingly guaranteed strategies and policies while overlooking their own particular contexts and campus community's needs. This chapter therefore provides a brief overview of best practices texts that constitute this faculty development approach that relies upon such texts as the curricular foundations of faculty development programming.

Jude Carroll's *A Handbook for Deterring Plagiarism in Higher Education* (2002) embodies all that best practices texts can offer to the best practices faculty development approach; the text attempts to be comprehensive, synthesizing research about student plagiarism in relationship to recommended practices. Drawing on select pieces of recent scholarship addressing student behaviors and motivations related to plagiarism, Carroll offers faculty readers ways to understand plagiarism as a curricular problem. Analyzing elements of the curriculum – course objectives, individual assignments, assessment tools, and institutional policies – as opportunities for preventing plagiarism, Carroll suggests a multilayered approach that moves faculty thinking away from student motives alone and toward considering elements of instruction from course design to chapters dedicated to "detection" and "punishment." The handbook, like others of its kind (Harris 2002b; Lathrop and Foss 2000; Whitley and Keith-Spiegel 2001a), offers a broad overview of research, situating lived pedagogical experiences within conversations about the complicated nature of plagiarism and the challenges of ethically assessing student writing itself. Carroll's handbook stands out among the others, however, in that it offers best practices as a kind of faculty development curriculum.

Counter to Carroll's handbook, Laura DeSena's *Preventing Plagiarism: Tips and Strategies* (2007) is a practitioner's guide to preventing plagiarism, delivering theories and practices faculty ought to explore, born from her own classroom experiences. In this way, DeSena's less useful text is a counterpoint to Carroll's very helpful handbook; DeSena instructs faculty about plagiarism prevention broadly based upon her own individual experiences rather than theorizing about how instruction surrounding plagiarism might best work as a result of research and scholarship. Rather than grounding her definitions of complex textual issues such as plagiarism and paraphrasing in the research traditions of writing studies, for example, DeSena describes the terms and the best practices she recommends simply and with certainty born from her classroom experience rather than the intersecting research traditions about authorship (Howard 1993, 1995), the psychology of

plagiarism (Roig 2001; Roig and deTommaso 1995), student writing development (Howard et al. 2010; Pecorari 2003), information literacy (Head and Eisenberg 2009), and more that continue to evolve.

Speaking directly to faculty across disciplines, DeSena calls for pedagogical offense, suggesting that faculty require students to prove they engaged in a process. DeSena also advises faculty “asking [students] to turn in potential cheat sheets—material you asked them not to consult” to make faculty diligence against plagiarism a clear and present danger to students (65). Offense-driven interventions occupy most of DeSena’s handbook, thus positioning faculty in an adversarial stance toward students, compared with the mentorship stance advanced by Carroll. Faculty development programming according to DeSena’s adversarial model prepares faculty to wage a war on plagiarism by making most pedagogical decisions with plagiarism prevention and detection – rather than student learning – in mind. While useful in some ways, this kind of approach to faculty professional development focuses student and institutional attention on the *threat of plagiarism* rather than fostering pedagogical practices and curricular designs that build a community of ethical writers and researchers.

The two monographs examined here in detail exemplify the extremes within the genre of existing plagiarism best practices texts that form the foundation for many faculty development programs about plagiarism. These two approaches (texts that forward research-supported practices and texts that forward practices based upon personal experiences) reflect the two most dominant approaches currently available in guidebooks and handbooks focused on preventing plagiarism in higher education and substantiating the best practices approach to faculty development. One fosters better faculty understandings of student learning as a result of curriculum, assessment strategies, and plagiarism policies (Carroll), while the other text encourages cultures of pedagogical offense that rely upon practices of detection rather than prevention (DeSena). While both Carroll’s and DeSena’s handbooks prompt readers to consider which practices might best sustain them and their students, Carroll’s handbook presents the questions, findings, and even recommendations circulating in data-driven research about plagiarism. Thus, using best practices texts, like Carroll’s handbook, that provide pedagogical and curricular suggestions alongside supporting research represents a best practices approach that can propel faculty development programming on a campus beyond compliance toward a shared inquiry about how students learn to write with sources.

Fashioning Best Practices into an Holistic Approach to Faculty Development

Successful faculty development programming intended to prevent plagiarism on college campuses begins by establishing a sense of shared conceptualization of plagiarism which becomes a foundation for identifying and refining a sense of best practices on that campus. While these two approaches to faculty development are very helpful in responding to plagiarism issues, it does not seem enough.

Ideally, campus communities move beyond simple compliance with plagiarism policies and establish healthy, bustling academic writing cultures on campus. The final professionalization approach described in this chapter, which some call the holistic approach to faculty development (Macdonald and Carroll 2006), embodies this call for programming that not only prevents plagiarism but moves beyond compliance with academic integrity regulations into a more utopian campus culture where writers and pedagogues thrive together.

To shift campus culture from plagiarism compliance to wellness, a campus community needs to not only share an understanding of plagiarism – what it looks like, how it works, how to prevent it, how to pedagogically respond to it – but also share responsibility for that wellness as students, faculty, staff, and administrators. With this sentiment of shared responsibility comes a renewed commitment, ideally, to the notion that faculty share in the success and failures of academic integrity cultures on campus in unique ways. This shift is embodied in the scholarship of two communities: information literacy scholars and writing across the curriculum scholars.

Information literacy specialists working in libraries propose a more central role for what Smith (1997) calls “instructional librarians,” library staff members whose primary role is providing embedded information literacy instruction within an ongoing discipline-specific course. While this kind of embedded literacy instruction was quite well established in 1997, Smith calls for a reorientation of the purpose of the embedded instruction in information literacy. Smith’s perspective is the culmination of several years of information literacy publications (Leckie 1996; Sonntag and Ohr 1996; Werrell and Wesley 1990) issuing research-based calls for curricular reform in higher education. Librarians argue that they ought to focus more attention on teaching *faculty* about ethical and effective research practices than students for a change. Information literacy scholarship shifts by the end of the twentieth century, as scholars advocate for the holistic education of faculty across the curriculum, not just writing teachers, as the best way to prevent postsecondary plagiarism. Several courses of action are suggested: instructional librarians ought to invest in campus-wide conversations; librarians ought to explicitly teach faculty about source use, research, plagiarism, and the teaching of information literacy whenever they can; and more. In this way, collaboration across campus units, across specialties and institutional roles, emerges as a professional development initiative itself.

Other disciplinary contingents such as writing program administrators in the United States adopt a similarly holistic approach to faculty development surrounding plagiarism. The Council of Writing Program Administrators (CWPA) issued a white paper (2003) that defines plagiarism as a complex, complicated issue. The document, however, makes an important claim that plagiarism ought to be understood, in classroom settings, as an instance “when a writer deliberately uses someone else’s language, ideas, or other original . . . materials without acknowledging its source” (1). Thus, this white paper, often used to explain what plagiarism *is* and how to avoid it during faculty development workshops, argues “deliberate use” is a distinguishing feature of plagiarism. Plagiarism, in the CWPA document, is defined as a deliberate act of appropriation and distinguished from

“misuse of sources” that is defined as “carelessly or inadequately citing ideas and words borrowed from another source” (1). The document distinguishes between intentional appropriation (plagiarism) and failure to master source use and citation convention (misuse of sources). Even more important is the CWPA document’s argument that interdisciplinary faculty share responsibility for preventing plagiarism through robust teaching – not just assigning – of writing alongside librarians and writing faculty. The CWPA charge includes teaching students definitions of plagiarism in disciplinary context, designing curriculum that positions research as a series of tasks and practices, and complying with institutional policies.

Calls to reorient approaches to plagiarism prevention abound early in the twenty-first century; most converge around the idea that pedagogical intervention is the best way to prevent plagiarism (rather than detection). A successful pedagogical intervention, meanwhile, requires the holistic efforts of an entire campus. Anson (2003) argues for faculty reeducation focused on designing writing assignments that foster student engagement. Hall (2005) outlines a series of steps to achieve this holistic approach to faculty development about plagiarism. He calls for the creation of interdepartmental anti-plagiarism learning modules that faculty design together for students as well as faculty development-supported curriculum workshops. The holistic approach that Anson and Hall both describe appears in scholarship beyond the United States at the same time. Macdonald and Carroll (2006) provide case studies of recent public plagiarism scandals at UK universities as evidence for their argument that the only way to adequately address plagiarism is to create holistic institutional approaches for individual campuses. Oxford Brookes University conducts a self-assessment to evaluate plagiarism culture on campus (Macdonald and Carroll 2006), appoints an anti-plagiarism leader on campus, develops evaluation criteria to determine when plagiarism has occurred, and engages the campus in dialog about that criteria to establish a shared definition of plagiarism. They use other such case studies that outline the evolution of interrelated campus assessments, interdepartmental leaders, transparent response process, and a longitudinal self-study of those components in relationship to one another. The key, they argue, is the creation of an articulated faculty development plan that asks faculty to consider all the *pieces* of plagiarism prevention.

The rather explicit, concrete holistic approaches to faculty development in the scholarship of Smith (1997), the CWPA (2003), Anson (2003), Hall (2005), and Macdonald and Carroll (2006) are largely absent from faculty development scholarship up to this point. McCabe and Pavela (2004) advocate faculty development programming that addresses plagiarism prevention by advocating for definition campaigns, asserting plagiarism’s proper definition. Likewise, Hutton (2006) advises administrators to focus narrowly upon communicating definitions and expectations. Scanlon (2010, p. 164) gestures closest to the holistic approach when he recommends that plagiarism detection software alone is not enough and must be paired with explicit instruction in authorship studies when writing is assigned. These practices offered by McCabe and Pavela (2004), Hutton (2006), and Scanlon (2010) each gesture toward a holistic approach to faculty development that works to mobilize and articulate all the moving parts involved with education

on campus. However, these approaches ultimately remain focused on individual elements of the plagiarism prevention mosaic as they offer particular pedagogical strategies and goals rather than connected and networked ones.

The holistic approach to faculty development picks up momentum. Jamieson (2008) similarly calls for a reconsideration of one-policy and one-class plagiarism prevention solutions, arguing that the “use of universal source-use policies and generic instruction in first-year composition or the equivalent actually reduces the ability of students to join the discourse communities of the disciplines and undermines the very goals of composition (to increase communication and help students invent the university)” (81). Jamieson argues that since instructors require student flexibility as they write across different scenarios, our policies – and faculty development strategies – need to be models of such flexibility. In a similar vein, Anson (2008) calls on institutions to create greater support for faculty and students through programmatic and curricular development. These new supports, he argues, ought to engage students and faculty in diverse kinds of low-stakes writing assignments. Chen and Van Ullen (2011) concretize these calls by designing and evaluating their own plagiarism workshops, designed to assist international students and the faculty who teach them. Using pre- and post-tests to gauge effectiveness of the workshops, Chen and Van Ullen suggest workshops for international students that engage students and their faculty in dialog about different kinds of sources, the cultural nature of academic integrity, and plagiarism conceptualizations as well as introductions to information literacy.

Other research-driven teacher preparation and faculty development programming research continues to emerge. Current principal researchers of the Citation Project (Rebecca Moore Howard, Sandra Jamieson, and Tricia Serviss), an ongoing US research study of undergraduate source use, argue that data-driven research findings can serve as meaningful foundations for faculty development programming (Jamieson 2014; Jamieson and Howard 2012; Serviss and Jamieson 2012), especially for novice teachers (Serviss 2014). Holistic faculty development programming might begin with the introduction of ongoing research (such as the Citation Project or Project Information Literacy) that provides conceptualizations of plagiarism, evaluates current “best practices” for preventing plagiarism, and then engages faculty in a self-study that culminates in their identification of parts that need attention and articulation as they construct a holistic action plan together.

Summary

The landscape of faculty development programming for faculty who teach, assign, and assess college-level writing across the curriculum is becoming more diverse and robust. The chapter traces three stages of faculty development programming in response to plagiarism: conceptualizing plagiarism in order to establish agreed upon definitions, pursuing the “best practices” needed to prevent plagiarism and manage it when it occurs, and aspiring to a holistic approach to faculty development programming – and holistic approaches to plagiarism itself – that connects all the

crucial parts of academic integrity culture (students, faculty, staff, administrators) and moves our goal well beyond compliance. While the best practices approach offers a useful place to initiate faculty development programming, fostering dialog within campus communities, it is not ideal in helping faculty assess and respond to local curricular and pedagogical problems.

The third approach described in this chapter, the holistic approach to faculty development, is the most promising. The holistic approach to faculty development brings together data-driven research about student development with identified sites of pedagogical intervention and potential methods (workshops, curriculum redesign, etc.) for engaging faculty. As faculty participate in programming born from research, the conversation is reoriented on teaching as inquiry as well as evaluation. This orientation differs from the other approaches outlined in this chapter because its ultimate goal is a synthesis of student learning, curriculum, pedagogy, policy, and procedures that moves the campus community (students, faculty, administrators) from compliance with academic integrity expectations on campus to engagement with and mastery of ethical academic research, authorship, and writing practices.

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Section VI

Academic Integrity in the Digital Age

Wendy Sutherland-Smith

Wendy Sutherland-Smith

Abstract

This chapter examines international research contributions on academic integrity issues in the digital age. These include online plagiarism, contract cheating, self-plagiarism and the use of automated plagiarism detection tools.

Much has been written about the role the World Wide Web and Internet technologies play in the realm of academic integrity, or the lack of it. The Internet is seen by many as the enabler of academic misconduct by allowing cutting and pasting of multiple unattributed sources into work (plagiarism), buying and selling of educational product for submission (contract cheating), online group input and discussion that is not permitted by the institution (collusion), and hiring of unidentified and unacknowledged persons to write entire assignments and theses for the student (cheating/ghost writing). Yet others view Internet technologies as another way to expand notions of authorship, collaboration and global contribution to writing, and an opportunity to reshape traditional notions of attribution.

Around the world, a great deal of media attention has been given to cases where both academic leaders as well as students have been found guilty of plagiarism or other acts of unethical academic conduct – usually with serious ramifications such as job loss and/or loss of institutional reputation (Sutherland-Smith 2008). Institutions often respond to public perceptions of decreasing academic integrity in the digital age by revising policies and processes around academic integrity; some focus more on increasing surveillance and punishment; others focus on explicit education about academic honesty and fairness while yet others use a

W. Sutherland-Smith (✉)

Teaching and Learning (Pedagogy and Quality Improvement), School of Psychology,
Faculty of Health, Deakin University, Burwood, VIC, Australia
e-mail: wendy.sutherlandsmith@deakin.edu.au

combination of approaches. The chapters in this section address some of the key issues at the heart of plagiarism management in a digital age.

Wendy Sutherland-Smith from Australia opens this section by exploring the notions of authorship and originality as foundational elements of university definitions and policies around academic integrity. She outlines two dichotomous approaches currently appearing in plagiarism management – that of punishment and surveillance under legal theory and that of pedagogy and ethics re-education under intertextuality theory. She suggests universities need to adopt institution-wide educative processes to academic integrity issues.

Rebecca Moore Howard and Laura Davies from the United States discuss the widespread fear that Internet plagiarism is increasing. They contend there is no empirical research evidence to corroborate these fears. The authors agree that while the relationship between the Internet and academic online writing is complex, there are pedagogical alternatives to reliance on text-matching software that can be implemented. They suggest this approach is a more sustainable and effective strategy than adoption of software detection products.

Lars-Erik Nilsson explores the concept of academic integrity as a site of interaction and tension between people and evolving uses of technology within the Swedish context. He proposes that academic integrity is not a static concept, therefore what is deemed acceptable academic conduct will morph with the changes in the notion itself. Using examples from Sweden, he illustrates changes in accepted practices for both technology and writing. He concludes that future technologies will always challenge current notions of academic integrity.

German academic Debora Weber-Wulff outlines both the promises of text-matching software in plagiarism management and also the pitfalls of technological solutions. She describes ways in which these products fall short of dealing with the issues of text-matching, making the point (like many other researchers) that decisions about whether text is plagiarised or not must be made by humans and not by commercial software. She outlines a number of free technological tools that educational institutions may add to their academic integrity toolkit to encourage ethical academic practices.

Thomas Lancaster and Bob Clarke from the UK discuss contract cheating, where students use a third party to undertake their assessments for them. They outline six major ways in which contract cheating may occur, including how it appears across different disciplines, how it can be tracked, and discuss research findings into various types of digitally enabled cheating. The authors conclude that current policies do not adequately cater for this phenomenon and propose some approaches whereby institutions may detect and deter the practices of contract cheating.

Miguel Roig from the United States concludes this section by discussing the emerging ethical concerns around the academic recycling of work, particularly in the area of scholarly publication. He outlines the issues around the lack of operational definitions of self-plagiarism and focuses on a variety of ways in which such recycling can be manifested. He suggests approaches institutions and individuals may adopt to ensure recycling of academic work is better understood and addressed.

This section discusses the very real issues that educational institutions face in balancing the need for academic output meeting standards of honesty and integrity with ways in which digital texts may be used dishonestly to achieve assessment/publication outcomes. Importantly, contributing authors advocate the need for institutions, writers of assessment tasks, and academics to acknowledge and accept that accessing Internet texts is many students' *modus operandi* in gathering information for academic assessments. With that acknowledgment comes the need to ensure digital texts are used ethically. While supporting the undisputed need to maintain vigilance around ensuring honest work from staff and students, authors in this section advocate an educative rather than a punitive institutional vision to engender honest, fair, and valid work from both staff and students. Importantly, authors contributing to this section offer practical research-based suggestions on measures, strategies, and approaches that institutions may consider when striving for sustainable, institution-wide academic integrity.

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Wendy Sutherland-Smith

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Abstract

This chapter examines the close relationship between what constitutes authorship and originality as these concepts are used as a foundation for views of plagiarism. It is important to revisit our beliefs about what makes up authorial rights because digital technologies contest the very core of what it means to have authorship rights over text. Authorship and originality also underpin the birth, and continued life, of plagiarism in policy and practice. Drawing on the nexus between legal and literary theories of authorship across four global spheres — England, Europe, the United States, and the UN — this chapter examines how

W. Sutherland-Smith (✉)

Teaching and Learnin (Pedagogy and Quality Improvement), School of Psychology,
Faculty of Health, Deakin University, Burwood, VIC, Australia
e-mail: wendy.sutherlandsmith@deakin.edu.au

plagiarism has come to be realized both in terms of authorial rights and how this has framed plagiarism as represented in university plagiarism policies. The tension between the Romantic notion of authorship (which has evolved through legal theory and the Law) and literary intertextuality, which challenges the idea of “owning words”, is evident in the debate over plagiarism being framed as academic misconduct or academic integrity. This chapter outlines that debate.

Substantially all ideas are second-hand, consciously and unconsciously drawn from a million outside sources, and daily used by the garnerer with a pride and satisfaction born of the superstition that he originated them.
(Mark Twain 1917, pp. 731–2)

Authorship and the Law

The concept of authorship has grown through various legal systems as copyright, intellectual property, and moral rights legislation. Being granted rights as an author to sue anyone for breaching your ownership over textual product that you created (as the originator of the work) underpins the existence of plagiarism – as it is only through recognition of ownership or authorial rights that attribution, citation, and acknowledgment can live. Understanding how authorship has become to be understood in various national contexts aids clearer appreciation of the complexities in defining and enacting plagiarism in university policies and teaching practices. The chapter presents a snapshot of the ways in which the understanding of authorial rights morphed into laws in four contexts. These contexts are not intended to represent a historical comparison but rather are an example of nations that were grappling with the developing concept of ownership of words. England represents a key nation in the legal development of authorial rights. It represents a country that claimed colonies across the globe, which meant that the transplanting of English law throughout its colonies had far-reaching effects outside its national borders. France and Germany’s legal development of authorial rights illustrates different interpretations of authorial rights and how they were embodied in some other European nations. The United States’ legal interpretation, although rooted in the English law, illustrates how a nation that became independent from its colonial master developed laws of authorial rights. Finally, the United Nations, as a global body with numerous countries as members, has also contributed to the global acceptance and adoption of authorial rights, as outlined in this section.

England

In eighteenth century England, there was an idea that words could be kidnapped or misappropriated by someone resulting in legal recrimination as the term plagiarism was derived from the Latin term for plundering (*plagium*). Much of this thought arose from a belief in possessive individualism which is the belief that individuals

are entitled to protect themselves and the products of their labors. Although initially seen as an individual having the right to decide how his physical labor would be used, the idea soon extended to the labors of an individual's mind, such as artistic creations and writings. Therefore, as the ideology of individual rights spread, so did the concept of the author as an individual creator of text. In England, poets like William Wordsworth were petitioning for individual writers to be granted authorial rights over their creations. Previously, booksellers or individual patrons held proprietary rights over literary works. However, by the late sixteenth century, the idea emerged that a written text was a unique individual creation – unlike any preceding it. This view was nurtured and strongly promoted by poets and authors alike. Noted literary figures, like Alexander Pope and William Wordsworth, argued that each author was an individual genius who created an original work. As the literary work was a labor of intellect, it warranted legal protection in the form of proprietary rights. This means authors were seeking to own the words they created or produced, so that others who use those words must acknowledge or pay for that privilege.

The acceptance of individual authorial rights was legislated in the *Statute of Anne* of 1710. The Act conferred an individual who created new “works” in writing or speech, with tangible property rights over the work. The author was seen as the father or begetter of the work, and the text itself was the child. However, the law stipulated that the intellectual work must be original and extend existing knowledge. Although the *Statute of Anne* (1710) did not protect authors *per se*, it is important because it legally recognized the idea of literary property, or authorial ownership over words as texts. The Act opened the door for authors to claim their literary works as property; therefore, authors had legal standing to enforce their property rights in court. One landmark legal decision was when the great English poet Alexander Pope sued Edmund Curl in 1741. This is recognized as the first English case where the new term copyright appeared. In this case, the Lord Chancellor, Lord Hardwicke, determined writing a text was “a solitary and self-sufficient act of creation”. Lord Hardwicke’s decision, granting Alexander Pope ownership rights as the sole creator of his poetic works, provided the foundation for others to sue for copyright breaches in the English courts. Pope’s case did more than that – it also provided the framework for the idea that the law would recognize the rights of an author as a “solitary genius, writing in isolation” (De Voss and Rosati 2002, p. 200). English society was now beginning to embrace ideas of individuality and that individual authors should be protected by legislation. However, under the Act, the work had to be original. What did originality entail?

The Concept of Original Work in Authorship

In Pope’s case, the court decided that the concept of originality was a key element in their decision as to whether Pope could sue Curl successfully or not. Therefore, the court had to determine what the term originality meant. The first recorded appearance of the requirement for originality in England was found in the 1584 English Printing Register. According to the register, an author’s work could be

printed as long as it was not “*collected out of anie book already extante in printe in English*” (Feather 1994, p. 208). Therefore, an original work could not already exist in print form. After Pope’s case, the element of originality was essential to any legal claim of authorship. However, in the 1790s, broader social conceptions of what originality meant emerged.

John Locke’s idea of originality was influential, and it was subsumed into societal understandings of originality. Popular thought was that originality meant the act of an author using individual labor to create an original work. This gave rise to the individual author having property rights to the work, rather than the State or publishing house owning it. Although the *Statute of Anne* gave authors some rights over their literary works, the English 1814 *Copyright Act* legally acknowledged that authors could exercise some publication rights over their works. It also allowed the original work to remain the literary property of the author even after death. American Professor of English and Law, Martha Woodmansee (1994), states, “Copyright law has been informed by the aims of the self-declaring original genius – which has in turn been empowered by this body of law” (p. 771).

This brief history of the emergence of copyright law in England demonstrates some of the essential elements that are still prized in the twenty-first century in terms of what is regarded as authorship – and are essential elements in definitions or ideas of plagiarism. If there is no view of authors having some proprietary claims over their literary works, then there can be no plundering of those works as acts of plagiarism. The elements of originality and the author’s sole creative genius being embodied in the work are commonly referred to as the Romantic notion of authorship. This is because this particular view romanticises the idea that an author is the sole creator or originator of the text. The text is seen as the product of the solitary genius of the writer. This perspective, of course, completely ignores the many influences from sources outside the writer’s own intellect – the social, cultural, economic, technological, and political environments that all influence the way in which any text is brought to life. It certainly ignores the technological tools used to create works in the twenty-first century. However, this section has only outlined the developments of intellectual property in England. It is important to consider other powerful legal protections that arose in other national contexts, which illustrate different interpretations of legal rights within authorship.

The Development of Authorial Rights in Other European Nations

Other European countries in the eighteenth century took a different view to English law on the question of legal rights to authorship. While the English law protected authors’ economic rights by regarding authorship as ownership of property over the work, some European countries founded authorship on the concept that authors have moral rights to their work. Under moral rights, although authors do not own the economic rights to their work, they are granted attribution rights as the creators of the work.

France

In early sixteenth century France, the law extended the idea of morale rights, known as *droit morale*, to authors wanting to protect their literary works. *Droit morale* is the concept that authorial permission should be sought to reprint or use the literary work. This is not the same as the ownership rights exercised in England, as the authors under *droit morale* do not have economic property rights to own the work. This means that words cannot be owned by an author – they belong, as Bahktin argues, to the world. Moral rights are based on the idea that protecting the heart or soul of the creative work is more important than pure economic loss or gain (in the sense of enforceable property rights). The French legal system's affirmation of moral rights includes a number of categories: the right of disclosure (*droit de divulgation*), the right to recall the work because the author changes a point of view (*droit de retrait ou de repentir*), the right of authorship as the father of the work (*droit à la paternité*), and the right to the integrity of the work (*droit au respect de l'oeuvre*) (for a full discussion of *droit morale*, see Françon 1999; Gendreau 1999; Passa 1999). Although this level of distinction is not found within the English law, it is interesting that the French *droit à la paternité* corresponds to the English idea that the author is the father and the work is the child. The moral rights position protects an individual's legal right to be given credit and acknowledgment for the work the individual produced. This is known as the right of disclosure, and under French law, authors must decide whether works will be publicly disclosed or not. However, this right is limited to being acknowledged as having drawn words from the public domain into the text and, as Jerome Passa states, to “the author's right to demand that his name be mentioned on copies of his work” (1999, p. 73).

Germany

In Germany, a different view from either that of English or French law was taken. It focused on the legality of reproduction of books, in which the elements of the literary work, over which an author had claim, were distinguished. The distinguishing idea was based on Johann Fichte's concept of “form”, in which the material and the immaterial aspects of a work were determined. The content of the work, such as a book, and the ideas, could not be considered individual property, because, similar to French law, ideas were seen to come from the public domain of words. However, the work's form, meaning the specific way in which the ideas were presented, was the property of the author. This is because, as Fichte wrote, “each writer has his own thought processes, his own way of forming concepts and connecting them” (cited in Rose 1993, p. 131). This contrasts greatly to the English legal position in which authors had absolute property rights over their works, which included both form and content.

The United States of America

The United States, as a former English colony, adopted the English law view that an individual's intellectual labor deserves legal protection. Therefore, the Romantic view that the sole creator of a work produced by solitary genius and in isolation is inherent in the legal protection afforded American authors. However, the United States laws differ from English and the samples of European law, in the insertion of the economic benefit provision which recognizes the need for public good. This doctrine of fair use began in 1841 in the United States but was not fully incorporated into the legislation until 1976 in section 101 of the US *Copyright Act*. This means that it is permissible under American law to copy up to 10 % of the whole of a work without attribution or permission where such copying is "for the public benefit" – under the doctrine of "fair use". The fair use provision is a legal attempt to balance authorial rights' protection with the public need for access to information. Therefore, it is a hybrid of the French public domain ideal and the English individual ownership rights.

Acknowledging that different ideas of authorial rights emerged in European countries like France and Germany compared to England and its colonies helps explain the complexity in describing global authorship in today's world. The existence of international laws on authorship protection may negate some of these national differences, but it does not alter their historical or cultural roots.

International Obligations to Recognize Authorship: The Berne Convention

Various countries have their own sets of national copyright laws protecting authorial rights. In addition, over 120 countries have become signatories to international accords and treaties. Membership of international committees, such as the World Intellectual Property Organization (WIPO) is seen as increasingly necessary for survival in the global economic arena. Concurrent with the benefits of belonging to such powerful international bodies are the obligations upon member nations for national laws to comply with international conventions. Copyright is one such area of law and has strongly influenced the way in which plagiarism has been applied in various nations.

The 1886 Berne Convention for the Protection of Literary and Artistic Works is the oldest international agreement protecting authorial rights and the creators of literary and artistic works. Although the international copyright law itself has no direct authority within national borders, nation members are expected to implement key points within national laws. As early as 1971, the Berne Convention recognized the technological advances such as software design as a form of intellectual property and added computer programs to the increasing list of authorial works to be protected by international law. Part of the power of WIPO is that it is able to enforce compliance through trade sanctions as agreed under the Marrakesh trade-related aspects of intellectual property agreement of 1994 (for detailed discussion

of the Berne Convention, see Sutherland-Smith 2008; WIPO 2002a, b, c, 2003). When the United States joined WIPO in 1980, Berne became the dominant globally recognized convention dealing with international copyright, including digital technologies.

Outlining the legal beginnings of copyright is useful as it explains how one view (a legally enforceable view) of the concept of authorship has arisen. The concept of a work over which an author has control, or is owed attribution, is seen in the law, as elsewhere, to be changing with the advent of technologies. No longer are static texts such as poems and books the canon of literary work. Literary works now include plays, concerts, film texts, graphic texts, computer-generated images, and a range of simulated and multimodal texts. As the lists of enforceable literary works change and evolve, authorial rights and legal ownership will also need to change to keep pace. Therefore, attribution, citation, and permission to use these works will also change. As plagiarism is tied to ideas of authorship, the intellectual spheres in which plagiarism can occur will also change.

Connecting Plagiarism and the Law

Plagiarism exists as a concept, because it is also grounded in the idea that an author has some legal rights over the work produced and these legal rights must be protected or enforced. While plagiarism is not defined in law, it is an offshoot of copyright law and draws on both civil and criminal legal ideas. In *civil law*, plagiarism links to a breach of an author's moral rights. In Australia, for example, copyright law defines moral rights as:

A right of attribution of authorship;
 A right not to have authorship falsely attributed; and
 A right of integrity (Schedule 1 Part IX of the *Copyright Amendment (Moral Rights) Act 2000*, Commonwealth of Australia).

This means that authors can expect civil rights protection over the whole of their literary works in a number of ways. In addition, authors have the right to correct attribution if others use their work. Attribution is required for “reproduction, publishing, performing, transmitting or adapting the literary work” under sections 193–4 of the Act. Therefore, failing to correctly attribute the work to the originator of the work contravenes the Act. Similar to the French laws, these moral rights provisions also protect authors against false claims to authorship (such as claiming a work to be yours when it was, in fact, produced by another). The clear links with plagiarism are evident.

The idea of plagiarism as plundering and kidnapping the words of others also relates to *criminal law*. A plagiarist is “a thief in literature; one who steals the thoughts or writings of another” (Mallon 1989, p. 11). In fact, the words “kidnapped,” “misappropriated,” “stolen,” “illicit,” and “theft” are all terms described in the criminal law codes of countries adopting the English system of law.

Interestingly, some of these words also appear in various university plagiarism or academic misconduct policies around the world, as do various “penalties” or “sanctions” if a “breach” is found to occur (Sutherland-Smith 2010). Some of the outcomes if a student is found “guilty” of the “offence” of plagiarism are fines, suspension, or exclusion from study. Again, these words are rooted in criminal law. However, the law is not the only lens through which perceptions of authorship, therefore protection against plagiarism, arise. Literary and cross-cultural theorists have written about the concept of authorship for decades and contest the legal view of authorship.

Literary Views on Authorship

One view is that the Romantic view of the author is dead (Frow 2000). The argument is that granting ownership over language is untenable – as language *cannot* be owned by individuals. Literary theorists argue that the idea of the author as the sole creator of a work is impossible as no one writes in a sterile vacuum, unaffected by the world around them. Rarely is an authorial work produced without input from sources – whether these be human or technological. Danielle De Voss and Annette Rosati (2002) argue that universities should “dismiss the romantic, modernist notion of Author (writing in isolation, suffering, the tortured artist at *his* craft)” (authors’ emphasis, p. 194). They suggest that contexts influence textual meaning, so the relationship between the author and reader as well as societal influences surround the production of any work. This is consistent with the original French and German views of moral rights and authorial rights to form, not to structure.

Mikhail Bakhtin (1986), Roland Barthes (1977) and Michel Foucault (1972) agree that the Romantic notion of the author is dead. However, this is not because they object to the idea that language cannot be owned but rather because they argue language is socially produced. Their view is that as individuals, our experiences in society are shaped by society and our own life experiences. They contend that language and meaning are social phenomena and as each individual understands the same event differently, this forms our unique individual subjectivity. This means that no two people will construe plagiarism the same way, as many studies have shown (see Abasi and Graves 2008; Bloch 2012; Macdonald and Carroll 2006; McCabe et al. 2008; Howard 2008; Park 2004; Pecorari 2008, 2013; Sutherland-Smith 2005b, 2008, 2010; Yeo 2007).

Mikhail Bakhtin (1986) challenges the view that authors can own words and argues these rights should not be protected by law. He argues that words are living text, embodied with intention and meaning. He describes each word as having the “tastes of the context in which it has lived its socially charged life” (1986, p. 293); therefore, what words mean does not depend on the author but rather on the site of textual production. He asserts that the language itself, particularly where it is created, is of primary importance in its interpretation, rather than the author. This view on authorship removes the author as the focal point in an examination of

textual meaning and redirects attention to the site of textual production and the language relationships flowing from it. Indeed, from this viewpoint, it is difficult to see how it is possible to own words at all and, moreover, whether the traditional concept of an author can exist at all.

Is There Such a Creature as an Author?

Roland Barthes (1977), like Mark Twain in the opening quote, says authors only reassemble or redeploy socially produced texts – they do not create anything new. Barthes claims authors only “draw upon that immense dictionary of language and culture which is always already written” (1977, p. 66). Therefore, it is the language and not the author that is the vessel for meaning. In his noted essay “The Death of the Author”, he separates the text from the author and claims it is the “language which speaks, not the author” through text (1977, p. 143). He asserts that “words and forms can belong to *no-one*” (1977, italics in the original, p. 293), which raise the issues of ownership and attribution of text. To credit one author with an ability to create meaning for any reader is problematic in Barthes’ view, because that is a limitation on the text itself. He argues that text is constructed through the use of language and its context and is given meaning by the reader, as interpreter of the text, not the writer as producer or author of the text. This is not only an important challenge to the very idea of authorship but a timely reminder for academics as it is we, as teachers, who are the first point of reading student texts to decide whether plagiarism has occurred or not. Barthes’ ideas highlight the powerful positions teachers occupy as readers of textual products. His words invite teachers to interrogate not only the texts of our students but, more importantly, our attitudes and responses to texts as readers, particularly in allegations of plagiarism.

Writing and Rhetoric teacher and theorist Rebecca Moore Howard agrees and states, “it is the reader, not the writer or the text, who instigates meaning” (2007, p. 9). She asserts that “postmodern literary theory” challenges the concept of “the autonomous, originary author” (Howard 1999, p. 76). Therefore, in contrast to the legal theorists and the law arguing that authors have legal rights to their creations, literary theorists argue that authors cannot and should not have ownership rights over texts. A further challenge to concepts of ownership and authorship is mounted by the increasingly hypertextual digital world.

Digital Challenges to the Concept of Authorship

The Internet allows textual manipulation and creation of works in new ways, and with changing textual form, traditional legal concepts of authorship are difficult to apply (Ficsor 2002). One reason is because text in digital environments is not stable like print texts, which are boundaried, therefore easy to see as a complete and unaltered work that is produced by an author. Digital texts are fluid and may have many authors, designers, or artists and be constantly added to or altered by

multiple readers as well as multiple writers. The world of digital work production is very different from the world of the eighteenth century print text production, and the laws that arose to protect print works. Digitized information may also be considered intangible property, which compounds issues of ownership, which have always applied to tangible works. Where digital texts operate, the Internet is often touted as the source and reason for perceived increases in plagiarism. Research studies are divided on whether this is evidenced or not, with some research studies claiming that plagiarism has not actually increased exponentially with the advent of the Internet (Marsh 2007; Howard 2007; Park 2003; Selwyn 2008) and others claiming it is a major force in the rise of student plagiarism (Eret and Gokmenoglu 2010; Gullifer and Tyson 2010; Power 2009; Schmelkin et al. 2008; Walker 2010). Howard (2007) argues that the hype over Internet and reliance on text-matching software is a key issue in the apparent rise of plagiarism. She says:

The biggest threat posed by Internet plagiarism is the widespread hysteria that it precipitates. With an uncritical, oversimplified understanding of intertextuality, teachers subscribe to plagiarism-detection services instead of connecting with their students through authentic pedagogy (p. 12).

Some researchers argue that the Internet has provided a space for those students already plagiarizing to increase their plagiaristic activities (McCabe 2003), while others argue that the ease of “cut and paste” plagiarism has meant a rise in technology-assisted plagiarism because students find it a quick solution in their busy lives (Jones 2011; Lehman and DuFrene 2011). The point is, the Internet has rearticulated the role and meaning of authorship in a number of complex ways. In that process, traditional ideas of textuality are confronted in the digital age. Prior research shows that students do not view the Internet in the same way as print-based texts, in terms of attribution (Howard 2007; Pecorari 2013; Sutherland-Smith 2005a, b, 2008, 2013). Students not only use Internet information in academic assignment work, but many cut and paste directly from the Internet without citation (Skaar and Hammer 2013). Some students adhere to the idea that the Internet is a free public space and therefore Internet information does not warrant citation (Sutherland-Smith 2005b, 2008). Others are genuinely confused about texts that are considered “common knowledge” and therefore do not require citation (Park 2003; Phan 2006). Whatever individual academic and institutional views of technologies and authorship or ownership of texts are, it is clear that technologies are reshaping concepts of authorship in the digital age.

Authorship and Plagiarism Policies

Institutional as well as individual credit for authorship is a key priority for many academic institutions. Most universities insist that their academic research staff are productive and the evidence of their productivity is publications.

In nations like Australia and the UK, funding for institutions is based on academic research output – which includes winning competitive funding and publishing research findings (see discussions of the RAE exercise in the UK by Prowle 2013 and the ERA exercise in Australia by Bobis et al. 2013). For many academic staff working in universities around the world, being an “author” of textual products is a critical part of their job descriptions, their institutional roles, not to mention their own sense of academic identity (MacSherry 2000; Galloway and Jones 2012; Taylor 2001). Therefore, credit for authorship is essential for academic survival. Naturally, institutions insist there must not be plagiarism in authorial works by their staff (and students). Where plagiarism is found to be proven, it is the equivalent of the “the academic death penalty” (Howard 1995; Sutherland-Smith 2008). Higher education institutions regulate the ways in which plagiarism will be dealt with in their individual contexts either through their plagiarism policies or honor codes. These documents are usually available on websites to both students and staff with the expectation that everyone involved in the academic life of the institution will have read the policies and agree to abide by them.

Recently, there has been a great deal of internal institutional debate about whether plagiarism policies are framed under “academic misconduct” or as “academic integrity” provisions. Many institutions have moved to housing and rewording their policies to reflect an academic honesty approach to attribution and citation often using international models to do so (see <http://www.academicintegrity.org/ica/home.php>, for example). However, this is not universally the case, and many institutions still house the policies under misconduct and frame lack of attribution in terms of “breaches” and “offences”. In fact, a recent broad study across many European countries reported the use of terms such as “guilt”, “offence”, “penalties”, “misconduct” to describe ways in which plagiarism was framed by European universities (Glendinning 2014). Other studies indicate that university policies are still framed under traditional views of authorship and outcomes are still largely penalty based (Hartle et al. 2009; Sutherland-Smith 2010, 2013, 2014).

The importance of the linguistic determination and physical location (housing) of plagiarism policies cannot be underestimated, because the discourses used to situate academic integrity issues, such as plagiarism, collusion, and cheating, will send messages to staff, students, and the general public about the ways in which the university conceptualizes academic integrity issues. Where language constructs these issues as academic misconduct (as distinct from academic integrity), the words are rooted in criminal law. In this situation, words describing acts of plagiarism appear as “dishonesty”, “misdemeanor”, “theft”, “intellectual theft”, “misappropriation”, “deceit”, “cheating”, and “stealing” (Sutherland-Smith 2010). In addition, words used to describe the person against whom an allegation of plagiarism is made often appear as “offender” or “accused”. Indeed, the outcomes of allegations are often described in university regulations or policy as “penalties” or “sanctions”. Therefore, the discourse of criminal law is the message sent by the university policies to the world at large.

Where, however, university policies use the discourse of moral integrity, or ethics, to frame these issues, they often locate their policies in the area of student

“responsibilities” under academic integrity. In these instances, institutions outline intellectual work as an ethical practice, using words like “ethics”, “ethical practice”, “intellectual nature of work”, “moral responsibility”, and “professional responsibility”. Definitions are couched in terms of fair, honest, trustworthy, respectful, and ethical behavior in crediting work, and the emphasis is on acting with positive integrity, rather than negative deterrence. These ideas are more closely aligned with policies advocating that students (and staff) act honorably and credit work to authors, as in the moral rights provisions of the French legal system. However, for change to be holistic across an institution, the outcomes of allegations of academic integrity breaches must reflect educative value rather than mere retribution (Park 2004; Sutherland-Smith 2014).

Summary

Plagiarism is a complex idea, and there are different interpretations of its foundations. The concepts of original and author as owner are at the heart of university policy constructions of plagiarism.

Where the traditional Romantic view of authorship is adopted, coupled with the view that authors have legally enforceable property rights over their works, plagiarism policies are likely to be found in academic misconduct regulations of the university. The words of such policies are often littered with terms from criminal law, and the end result is often a punishment of some kind, in the hope that a student will either be deterred from such action again or the punishment is retribution for the act. However, where the moral rights of authors are acknowledged, plagiarism policies tend to be focused in the academic integrity area of policy regulations. The aim is to educate students that attributing or crediting authorial work is the honest, ethical, and right action to take, for the contributions these authors have made to the public sphere. The emphasis in academic integrity policies appears to be more about re-education of students rather than punishing the transgression and transgressor perspective. Some researchers would argue that authorship is an outdated concept, given the collaborative writing spaces that exist and continue to flourish in the global technology arena and that basic legal tenets of the Romantic notion of authorship are outmoded. Given that traditional views of authorship will always lag behind the changing realm of digital textual production, it is time that universities acknowledged the impact of these competing ideas, particularly in shaping academic thought, policy, and practice in academic integrity. Embracing authorship in the digital age requires frequently revisiting the foundations that underpin university academic integrity policies and processes. Understanding intertextuality and incorporating emerging textual forms in learning necessitates strong pedagogical approaches in order to action policy in practice.

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Abstract

Despite widespread fears about the Internet as a cause of or contributor to plagiarism, no empirical research demonstrates that relationship. These fears that the Internet has facilitated and accelerated the number of cases of student plagiarism are incorrect. Scholarship on the topic indicates the complexity of writing in the online environment. The fact is that writing with sources, especially sources found on the Internet, is difficult, sophisticated work. This chapter demonstrates the limitations of and alternatives to automated plagiarism-detecting software as a response to online plagiarism. Rather, pedagogies that mentor students' critical reading practices are an important part of preventing online plagiarism.

L.J.P. Davies (✉)

English Department, State University of New York College at Cortland, Cortland, NY, USA
e-mail: laura.davies@cortland.edu

R.M. Howard

Syracuse University, Syracuse, NY, USA
e-mail: rehoward@syr.edu

Popular Conceptions About the Relationship Between the Internet and Plagiarism

It can be easy to draw a straight line between the Internet and student plagiarism. Part of this is how ostensibly easy online research seems to be. McClure and Clink (2009) found that many students at a US university did a vast majority of their research online, not in campus libraries. A later UK study (JISC and the British Library (2012) concluded that instead of accessing journal articles and books in physical libraries, many students found sources through electronic databases or through a simple Google search. In many places and contexts, students can do their work anytime and anywhere, and this ease of access can make faculty uneasy. Instructors' varied reactions have sometimes been extreme: The *Calgary Herald* had already carried a story about Canadian college instructors ceasing to assign research papers because they did not want to deal with the quantities of plagiarism they were discovering (Schmidt 2004). Such responses are not universal, but they do suggest a range of concerns about – and remedies for – student online plagiarism. A different sort of response to concern about online plagiarism is for instructors to write, as Bloom (2008) recommends, assignments that themselves thwart would-be plagiarists. The problem with assignment writing as Bloom recommends, although they may preclude plagiarism, they do not teach students how *not* to plagiarize.

Secondary and university instructors may distrust Internet-based research if they are still working with a print-based model of scholarly research. Any college writer's handbook written before 1994 (when the Internet became a widespread cultural phenomenon) demonstrates this model. The third edition of Hacker (1991) is just one example: Students are enjoined to use books and journals, with some magazines and newspapers, after having conducted a physical card catalog search. Held up in contrast to this systematic, contained model, students' online research today can seem random and wandering, as the researcher scrolls pages of search results, follows hyperlinks, quickly assesses the relevance and reliability of the source, switches to a different window and opens up a library database, and tries out keywords for searching – the list of nonlinear, serendipitous moves typical of an online researcher has little to do with print-based models. And they can thus seem unruly and untrustworthy.

In a leading US weekly news source for higher education, Laird (2001) observed, "My sense is that Internet plagiarism is becoming more dangerous than we realize." In a related vein, Lathrop and Foss (2000) assume that the Internet has made the unethical copying of sources easier for students. They advocate that teachers and students be vigilant and use an array of low-tech and high-tech methods to prevent student cheating, dishonesty, and plagiarism (Lathrop and Foss 2005). As these examples illustrate, the speed of sharing and copying information online can lead to the perception that the Internet causes student plagiarism. Simmons's (1999) research would challenge such arguments: Students have been systematically plagiarizing since at least the nineteenth century, which means the Internet is at most a complication in a long-standing dynamic in how students

(and writers) complete their writing tasks. However, certain features of online research may affect how plagiarism creeps into writing. Because text can be easily appropriated through cutting and pasting, it is easy for well-intentioned students to overlook the boundaries between what they themselves have produced and what they have slid from one screen (their Internet browser) to another (their word-processed document). When students lose track in the midst of their research project, they have stumbled into plagiarism.

Also contributing to the general sense of online unease is a popular cultural perception of the Internet as lawless space. It is a place beyond the hallowed halls of academia and beyond library-prepared physical card catalogs and a space that is constantly under revision and that can be shaped and controlled by hackers, scam artists, and extremists. The Internet also offers a host of downloadable text that students can take advantage of, whether they are aiming to cheat or desperate due to procrastination. As students and scholars do online research, they also surrender their privacy and agency (Krulwich (2012). Writing in a popular online periodical, Selinger (2014) wonders about the contest between ease and agency in the use of “smart devices.” A similar dynamic – one between ease and ethics – is at play in some concerns about online student research. The Internet can seem, at times, like an illegitimate space to do legitimate academic research and writing. Wendy Sutherland-Smith (2008) acknowledges this line of thinking but responds, “[I]t is often assumed that students use the Internet more for social rather than university or ‘serious’ study purposes.” The students participating in Sutherland-Smith’s qualitative research, however, “show that this assumption is a misconception.” At the same time, Sutherland-Smith acknowledges that students researching on the Internet may work too shallowly or with too much distraction.

The report of a 2012 Pew survey of more than 2,000 National Writing Project teachers in the USA indicates that 64 % of the teachers “say today’s digital technologies ‘do more to distract students than to help them academically’” (Purcell et al. 2012). The secondary teachers in this study cite that the Internet and commercial search engines can be distracting to students, can allow students to borrow the work of others too easily, and have changed the meaning of research for their students. Secondary students who are taught to avoid digital tools in their research might not have the necessary research skills to effectively and honestly use these tools as university students.

The array of scholarship aggregated in this chapter complicates any easy arguments that the Internet facilitates student plagiarism. This scholarship shows that there is no solid data that demonstrates a rise in student plagiarism after the Internet became widely available to students as a research tool. Furthermore, the literature questions simplistic, sweeping definitions of plagiarism; points to students’ weak research, reading, and writing skills as contributing factors to plagiarism; and draws connections between how students use the Internet for research and the digital composition practices of assemblage and sampling. There is no simple cause-and-effect scenario to be drawn from the literature debate. The Internet is a research tool, and it has radically changed *how* students and faculty conduct research, but it does not necessarily change the fundamental values and practices of source-based

writing. Some of the underlying causes of student plagiarism – less-than-ideal information literacy skills, reading skills, and summary skills – are not restricted to Internet-based research or writing. Focusing on how much the Internet facilitates plagiarism diverts instructors’ attention from the real pedagogical issues and instead leads them to believe that plagiarism detection programs are the only or best solution to student plagiarism.

Faculty must respond pedagogically to the challenges their students face when they go online to do their academic research. It is not enough to argue that the Internet exclusively causes or is solely responsible for online plagiarism.

Scholarly Perspectives on the Relationship Between the Internet and Plagiarism

That the Internet *causes* plagiarism – that plagiarism is more widespread in the age of the Internet – is a widely held belief, despite the fallacious “technological determinism” against which Christopher Moore warns (2010). Some scholars cite others’ assertions of a causal relationship between the Internet and plagiarism, even though the cited source does not provide evidence for the claim. For example, Sohrobi et al. (2011) cite Bennett (2010) in support of this statement: “Easy access to vast amounts of information online creates an environment that gives rise to plagiarism, because students find it easy to locate, download, and copy the desired information.” The Bennett study, however, does not adduce research in support of that claim. Instead, the Bennett study focuses on students’ understanding of the ethics of plagiarism and source use and how a student’s current academic standing and fear of consequences can be factors in whether that student commits major or minor acts of plagiarism.

A number of sources (Carroll 2013; Ercegovac and Richardson 2004; Sisti 2007) survey the scholarship on the incidence of plagiarism and conclude that it is on the rise. It is important to note, as does James Lang (2013), that none of this scholarship replicates, in the Internet era, research conducted prior to 1994 (a fairly stable date for the emergence of the Internet as a widely shared cultural phenomenon). No hard comparative data are possible: the empirical studies of plagiarism prior to 1994 such as those of Doris Dant (1986) and Schab (1980) have problems with validity, aggregability, or replicability. Post-1994 comparative studies do exist in the form of the campus surveys conducted by the Center for Academic Integrity. As Jude Carroll (2013) notes, these surveys, conducted by principal researcher Donald L. McCabe, state that students reported more uncited cutting and pasting from sources in 2005 than in 1999. However, only *post hoc ergo propter hoc* (after this, therefore because of this) reasoning leads to the conclusion that online research is the cause of rising rates of uncited cutting and pasting from sources. Sutherland-Smith (2008) points out that McCabe does not himself regard the Internet as the cause of rising reports of plagiarism. Instead, Sutherland-Smith explains that McCabe believes the Internet “has provided a space for those students already plagiarizing to increase their plagiaristic activities” (p. 102).

Setting aside the absence of empirical tests of the effects of the Internet on plagiarism, McCabe and his co-author, Jason M. Stephens, observe, “We believe Internet plagiarism, and cheating more broadly defined, is largely a symptom of a greater malaise afflicting our culture – a shift in educational and ethical values that has transpired over the past several decades” (McCabe and Stephens 2006, n.p.). Such statements of cultural degradation abound their aggregate passion itself constituting evidence of the problem. Jude Carroll’s handbook (2013) includes a subsection “Is it the Web?” that begins with the statement “The Internet has changed students’ behavior.” Deborah Brandt, an ethnographer who studies ghostwriting, observes that the Internet fosters “a less original form of writing: creation by citation, sampling, cutting and pasting, the blurring of the roles of writers and readers” (Brandt 2007, p. 567). These and many other sources express a concern about our collective cultural ethics.

Partial evidence for those concerns comes from reports of widespread incidence of students misusing online sources. Esra Eret and Ahmet Ok, for example, conducted questionnaire research with 386 teacher candidates in Ankara, finding that 15.5 % “usually or frequently copied Internet materials intentionally for their assignments” (2014, p. 1006). Ukpebor and Ogbemor (2013) report that 26.6 % of the 1,000 Nigerian secondary school students they surveyed “use the Internet for plagiarizing” (p. 264). In mixed-method research with 67 Norwegian upper secondary students, Skaar and Hammer (2013) discover that 75 % plagiarized when writing essays while working online. On the basis of his meta-analysis of other research studies, Bennett concludes, “a substantial rise in university student plagiarism has in fact taken place” (2010, p. 139). He identifies three causal factors attested in these studies: “students’ personal circumstances, personal traits, and whether the means and opportunity to plagiarise are readily to hand” (p. 139). Of the 126 Australian students responding to a Likert scale provided by Wendy Sutherland-Smith (2008), 32 % acknowledged cutting and pasting from Internet sources. Focused primarily on German higher education, Deborah Weber-Wulff’s (2014) book includes a section asserting high incidence of plagiarism; paradoxically, however, the statistics she provides there are for rates of cheating, not plagiarism.

Plagiarism and cheating are not the same. Patrick Scanlon and David R. Neumann surveyed 698 students at nine US colleges: 24.5 % reported copying from the Internet without citing and 6 % had purchased papers online (2002). Dominic A. Sisti (2007) surveyed 160 secondary students, 98 % of whom use the Internet extensively, and found that in their academic writing 54 % report that they always reveal the source of their information. Three of the students (2 %) surveyed by Sisti reported having purchased a paper online. Such disparate types of misusing sources all work under the label “plagiarism.” Discussions of online plagiarism may be referring to the downloading of entire texts that are then represented as being of the student’s own composition. It may also be referring to the activity of copying words from an unacknowledged online source. In addition, it may refer to gleaning ideas online and then incorporating them, unacknowledged, into one’s own thinking. Differentiating these different activities from each other sheds greater light on

the incidences of online plagiarism: From Sisti (2007) and from Scanlon and Neumann (2002), it would appear that a significant minority of students plagiarize online by copying without citation, whereas only a small minority use the Internet as a source of ghostwritten work (e.g., purchased term papers). (For a full description of purchasing work for submission, see the chapter by Lancaster and Clarke (► Chap. 44, “Contract Cheating: The Outsourcing of Assessed Student Work”), this section of this volume.)

This situation is further complicated by the existence of varying definitions of “plagiarism.” Daphne Jameson (1993), for example, points out how the ethics of source use vary across genres, and Rebecca Moore Howard (1993) argues against the inclusion of patchwriting in the category of plagiarism. Howard (1995) explains the subcategories of what is widely considered plagiarism. These subcategories include the use of whole texts written by another, patchwriting when attempting to summarize or paraphrase, omitting citations of sources, and omitting quotation marks when copying directly from a source. Howard points out that all of these are a misuse of sources but differ so significantly from each other that a unified pedagogical or cultural response to them is too fraught to be sustained. Bennett (2010) makes similar observations, dividing plagiarism into “major” and “minor” categories and noting the wide range of sanctions against it.

Also complicating the connection between online writing and research and student plagiarism is the scholarship on how the Internet has altered students’ academic and social worldview. Prensky (2001), making a distinction between students as “digital natives” and their teachers as “digital immigrants,” argued that educators need to transform their teaching practices because “today’s students think and process information fundamentally differently from their predecessors.” Prensky describes the “ubiquitous environment” of the Internet and explains how digital technologies have altered students’ interactions with and participation in the world. However, the “digital native” argument is a little too sweeping. First, for a consideration of the skills students need for writing source-based arguments, Prensky’s term “digital native” connotes a level of sophistication about Internet-driven research and writing that students do not always have (see studies by David Buckingham (2007), Fabos (2008), and Silva (2013) that discuss students’ lack of digital research and writing skills). And second, Richard S. Wurman (2001), writing in the same year as Prensky, observes, “[T]he great Information Age is really an explosion of non-information; it is an explosion of data.” The point here is that students need to learn strategies for researching online that take into account how the public, commercial Internet is structured differently than traditional academic databases and libraries.

Pedagogical Best Practices

A widespread response to the prospect of students’ plagiarizing online is the use of automated plagiarism-detecting software – PDSes. In pre-Internet pedagogy, cloze testing was developed to catch plagiarists, the reasoning being that students

who could not provide a significant portion of missing keywords in their own sentences were not actually the author of those sentences. Standing and Gorassini (1986) explain the process and rationale in detail, as do Glatt and Haertel (1982). After the emergence of word processing and before the Internet as cultural phenomenon, cloze testing became the basis of the Glatt plagiarism-checking software, which is still available at the website *plagiarism.com*. Such sites are now overshadowed by the ubiquity of Turnitin.com. Yet more granular programs such as *Patchcatcher* are emerging (Sourceforge 2014); it remains to be seen whether they will capture the cultural zeitgeist as handily as has Turnitin. The success of the product can be attributed in part to what Wendy Sutherland-Smith (2008) describes as its aggressive marketing. As Sutherland-Smith explains, Turnitin benefited from being the first widely marketed plagiarism detection service and by offering a visible way whereby institutions could demonstrate their efforts to prevent student plagiarism.

A range of scholars has critiqued the practice of automated plagiarism detection; these include undergraduate tutors (Brown et al. 2007). Drawing on neo-Marxist and cultural studies theories, Bill Marsh (2007) charges programs such as Glatt and Turnitin with reifying an image of authorship – the solitary, originary author – that may have little corollary in contemporary writing practices. Hayes and Introna (2005) observe how the use of PDSes disadvantages nonnative speakers of English; later, they find that PDSes can mistakenly construct a nonnative speaker as a plagiarist (Introna and Hayes 2011). Gillis et al. (2009) note that students may write to the software rather than to a real audience. They also critique PDS providers' pedagogical rhetoric, finding little substance behind it. Rebecca Moore Howard expresses concern that PDSes alienate instructors and students from each other, significantly undermining the mentoring relationships idealized in pre-Internet pedagogy. Instructors are, she argues, erroneously deploying these services because of the cultural hysteria surrounding the specter of Internet plagiarism (Howard 2007). In a similar vein, Cynthia Townley and Mitch Parsell caution, "[T]rust and trustworthiness are essential for good teaching and learning, and might not be promoted nor preserved by any strategy that succeeds in catching plagiarists." They continue, "This consideration problematizes technical solutions to student plagiarism, such as Turnitin.com" (2004, p. 275).

Other instructors see real value in the use of these programs. Atkins and Nelson (2001) offer an enthusiastic endorsement of text-matching software. McCarthy and Rogerson (2009) report on the positive educational effects of teaching graduate students to interpret PDS results. Davis and Carroll (2009) explain how PDSes can be used for instruction in academic values, rather than assessment of students' source use, and Rees and Emerson (2009) see a positive effect of PDS use on instructors' understanding of academic integrity pedagogy. Deborah Weber-Wulff (2014) offers a chapter of advice on using various PDSes; her analysis of this software points out that plagiarism detection software is not as reliable as popular conception would have it. Ellis (2012) finds value in using PDSes, but, like Gillis et al. (2009), she expresses concerns about instructors' workload when

implementing automated plagiarism detection. Emerson (2008) offers a particularly helpful examination of PDS use:

If Turnitin could be used by teachers committed to teaching academic writing skills, who could (and would) sensitively read the reports, and who understood the distinction between fraud and incorrect or inadequate use of sources, and if this tool was used in conjunction with an effective educational package that addressed process and voice and person conferences with tutors, then we might make a strong case for Turnitin. (Emerson 2008, p. 190).

She acknowledges, however, that “it is more likely to be used by those concerned solely with detection and punishment” – a concern also expressed by the university instructors interviewed by Sutherland-Smith (2008). “In such hands,” Emerson reasons, “Turnitin becomes a blunt instrument to accuse those struggling to grasp a complex intellectual skill or moral failure – with huge repercussions for those students” (Emerson 2008, p. 190). Articulating a perspective that resonates with that of Townley and Parsell (2004), Emerson asks, “Can the detection capabilities of a system such as Turnitin compensate for [a significant] breach in the educative relationship?” (Emerson 2008, p. 190). Rather than putting faith in technology to find and fix student plagiarism, online plagiarism is best addressed pedagogically. Only through education can students begin to change and improve how they write with online sources.

“Students,” says Tyanna Herrington, “would be helped by realizing that not only do they cite sources to avoid plagiarism but also, and more important, they use citations to support the arguments and claims they make” (Herrington 2010, p. 86). As Howard and Davies argue, “Students don’t need threats; students need pedagogy” (2009, p. 65). Focusing on plagiarism avoidance thwarts students’ willingness to take intellectual risks as they write with sources. This perspective, rhetorical rather than procedural, is essential to good twenty-first-century pedagogy for students’ work with sources. Much of what today’s students need to know is the same as it was for the nineteenth century students that Sue Carter Simmons (1999) describes. All of it needs to be rearticulated, though for researching, reading, and writing in the online environment.

Overcoming Fears and Fallacies: Pedagogy and Plagiarism

In the research on student plagiarism, it is possible to see how plagiarism can emerge from a student’s truncated writing process. For example, students might submit essays that contain patchwriting because they have not spent adequate time drafting and paraphrasing, or they might submit essays with incorrect citation because they failed to edit closely. In such cases it makes sense to attribute the issue of plagiarism to a misstep in a student’s writing process. From a survey conducted at her own institution, Emerson (2008) concluded, “Students who experience problems with the less severe forms of plagiarism may be exhibiting errors in the academic writing *process*, rather than misunderstanding how to use conventions” (p. 187).

Formulating good pedagogy for students' work with sources necessitates instructors' differentiating plagiarism from cheating. Cheating connotes a desire to engage in unethical behavior; plagiarism, as the misuse of sources, occurs in the text, regardless of the writer's intention or even understanding of the misuse. The two are closely related; in institutional academic integrity policies, plagiarism is typically categorized as a subset of cheating. If instructors respond to plagiarism without making this distinction, Howard (2000) explains, they may develop a too-limited understanding of students' motivations and thus take up inappropriate pedagogical or judicial responses. Sutherland-Smith notes that in the 18 university policies she studied, the noun most often applied to plagiarists was "offender" (2010, p. 8). "Offenders" are "punished" – not taught. "[T]here is little in [these policies] to suggest that the potential 'offender' is to undertake any reform or rehabilitation (other than attending anti-plagiarism workshops or completing online tutorials in plagiarism avoidance)" (Sutherland-Smith 2010, p. 9). Weber-Wulff is one of the scholars who weave the categories together without carefully distinguishing between them. When Weber-Wulff (2014) surveys the reasons for plagiarizing, she draws on sources that are actually reporting research on cheating. One source, she says:

... found studies giving alienation and low levels of commitment as reasons for cheating, as well as having higher loyalties to friends than to academic standards. Other studies reported the need for good grades as a justification given or found students feeling that cheating was okay because the professor was felt to be unfair.

Although Weber-Wulff is far from alone in treating plagiarism as a fully encompassed subset of cheating, many scholars now assert the importance of differentiating the two categories.

From the alarmism of their 2000 book, Lathrop and Foss move to a 2005 focus on sound pedagogy. In this they join a number of scholars who are not just counting and catching plagiarists but also discovering how to mentor them in the acquisition of ever-more-sophisticated – and ethical – perspectives, practices, and skills with writing from sources. Pecorari (2013), Sutherland-Smith (2008), and Thompson (2009) provide especially helpful background and recommendations.

Just because students use the Internet does not mean they use it well, any more than it means they use it to plagiarize. Instructors alert to the possibility of online plagiarism should also be alert to the lack of sophistication that students – even advanced students – may bring to their online research and writing. For many students at many levels of education, a Google search is their default position. In 2012, the Joint Information Systems Committee and the British Library (2012) sponsored a study of the research habits of doctoral students. Among the 17,000 doctoral students surveyed, over 30 % used Google or Google Scholar as their primary means of locating research sources. It is not a problem that students are using Google for academic research. It is a problem when students limit themselves to Google – when Google (or any other commercial search engine) is the only choice.

Students may use Google for their academic research because they see no discernable differences between commercial search engines and library-subscribed academic databases. A first step in source-based writing pedagogy, then, is to explain and demonstrate those differences in rhetorical terms. Sophisticated source-based writing depends on critical information literacy, on students understanding the rhetorical nature of the search engines they use. Search engines are not contextless or valueless tools. Rather, the very algorithms used to program and create search engines make arguments about what kinds of knowledge and information are valued. Buckingham (2007) uses this point to argue that giving students evaluation checklists or restricting Internet-based sources does not help our students develop a “metalanguage” through which to understand, navigate, and assess the information they access online. The “metalanguage” Buckingham describes is a systematic, rhetorical understanding of the Internet and search engines.

For example, a Google search of “ebola” generates a search results page of 17.3 million hits. After a short list of news stories concerning the ebola virus posted recently, the first three entries on the Google search results page are strictly informational in nature: a definition of the ebola virus from the World Health Organization, a Wikipedia entry for ebola, and an explanation of the ebola virus from the US Center for Disease Control and Prevention. On the other hand, a search for the keyword “ebola” on the database Academic Search Premier results in 2,757 hits. The top three entries on the search results page are all peer-reviewed research articles from journals in microbiology, medicine, and nursing, and the sidebars on the search results page prompt the user to narrow and define the search by type of source and date of publication. One set of results is not better than the other, but the results from the Google search are different than the Academic Search Premier results, and students need to know the rhetorical implications of the results for their research project. Purdy (2005) points out a Wikipedia article is a helpful source for a student at the beginning of a research project but not an ideal source for a student who is conducting a disciplinary-specific research inquiry.

Another part of the needed education for students’ online research is source evaluation. In 1994 Virginia A. Chappell, Randall Hensley, and Elizabeth Simmons-O’Neill advocated rhetorically grounded “Evaluating Sources” workshops (Chappell et al. 1994). These workshops introduce students to the concept of disciplinary discourse and place students in the role of researchers, asking them to investigate an issue over time and analyze the credibility of source authors and publications. Their pedagogical recommendations were sound in 1994 and have become urgent in the succeeding decades, because these strategies help students understand the rhetorical context of sources and the circulation of research within a disciplinary community. One approach to teach students better online research strategies is to partner with librarians and other information specialists (Gavin 1994; Norgaard 2003; Yancey 2004).

Teachers who expect students to write with sources also need to teach critical information literacy. Teachers cannot assume that students come to the classroom with sophisticated, nuanced online search strategies. In fact, Swanson (2004) reports that students may not welcome instruction in information literacy, believing

that their secondary education has sufficiently equipped them and that online search engines are the only tools they need. Teachers also cannot assume that students will successfully transfer the online research skills they learn from another class or in a library training session to the specific rhetorical tasks inherent to source-based writing across the disciplines. Rollo L. Lyman noted this rupture as early as 1929: “Evidence indicates that at present the transfer of training from English classes to other expressional situations is not impressive unless strong administrative pressure is exerted on teachers and pupils alike” (Lyman 1929, 254). The issue, which is not limited to English classes, has persisted over the succeeding century, as treatments by Julie Ford Dyke (2004) and McKeough et al. (1995) illustrate. Haviland and Mullin (2008) study how the understanding of plagiarism varies from one academic discipline to another. Specifically addressing the question of how much (or little) instruction regarding plagiarism students transfer from one class to another, Haviland and Mullin advocate a situated rhetorical approach instead of a generic one. Helping students understand how definitions of and attitudes toward unacknowledged source use may vary from one discourse situation to another will, they believe, “enable students to transfer strategies to new contexts as they arise rather than try to slot learned rules about citation into situations that they don’t fit” (Haviland and Mullin 2008, p. 13).

How students read also affects their source-based writing. Students’ reading skills are weaker than teachers assume (Odom 2013). Students’ understanding of sources is often shallow because they focus on decoding sentences, not whole-text arguments (Jamieson 2013). The disciplinary-based reading that teachers expect of students entails a complex, reflective, and recursive process, yet those practices are rarely taught at the secondary or college level (Scholes 2002). A reading process is a set of strategies readers use to decode text, to figure out how a text is structured, to find patterns and connections within a text and among other texts, and to understand the multiple levels of meaning and purposes in a text. Students who do not read with a process are more likely to read shallowly or uncritically and then commit the kind of writing mistakes that are quickly labeled as plagiarism. In other words, plagiarism is not merely a writing problem. Student plagiarism can be traced to problems in reading that occur well before a student begins composing (Howard and Davies 2009; Jamieson 2013).

Students also need instruction in critical analysis of sources. McClure and Clink (2009), in reviewing the scholarly literature that indicates a “heavy” use of the Internet in students’ researched writing, analyze the source selections in the essays of 100 university students enrolled in US first-year writing courses. They observe that even when students choose appropriate sources, their analysis of them, for issues such as timeliness, authority, and bias, is typically very shallow. Moreover, Sutherland-Smith (2002) points out that online reading is substantially different from print reading, and students now need to be trained in both. Sutherland-Smith (2008) provides detailed, helpful guidelines for implementing such pedagogy.

One way to help students develop advanced reading processes is to model how to read disciplinary-specific texts through direct reading instruction (Rhodes 2013). Expert readers use specific strategies to read texts efficiently and effectively, and

these strategies can be explained and demonstrated through specific assignments or class activities (Horning 2011). Some of the specific strategies teachers can introduce students to are previewing, skimming and scanning, and visual mapping (Freedman 2013). Research has shown that when teachers ask students to make connections between texts and current events, and when teachers are explicit about their goals for their students' reading, student reading skills and engagement with texts improve (Odom 2013).

The shift in instructors' focus from catching plagiarists to mentoring good source use in an online environment produces a heightened sense of students' need to learn advanced skills in paraphrasing and summary. The basic component of being able to write without patchwriting from the source is a challenge for a significant proportion of college students. Rebecca Moore Howard (1993) reports that one-third of the students in her class at a highly regarded US liberal arts college patchwrote when writing about an assigned source. Miguel Roig (1999) finds that 46 % of 215 US college students in a controlled study patchwrote when attempting to compose a one-paragraph summary of an assigned source. Sandra Jamieson (2013) describes the data produced by the Citation Project study of 174 US first-year college students' researched writing, reporting that 93.7 % of their citations are to isolated sentences in their sources, which suggests that the students either cannot or do not read and engage with the entire source. This interpretation is supported, as Jamieson explains, by the fact that in the 1,911 citations studied in the 174 student researched papers, 46.3 % are to material in the first page of the source and another 23.2 % to the second page. She states, "A total of 77.4 % of all of the citations are to the first three pages of the source, regardless of whether the source is three pages long or more than 400 pages" (Jamieson 2013).

Summary

Students who make poor source choices, who do not evaluate the sources they find, who do not read the sources critically or even completely, or who seldom paraphrase or summarize source material successfully will always be at high risk of plagiarizing. Catching these students when they plagiarize and teaching them how to cite sources correctly do not alleviate the problem because writing without plagiarizing is an advanced rhetorical skill. Good academic writers have a deep well of rhetorical resources and knowledge and can deploy those resources and that knowledge in flexible, nuanced ways. Good academic researchers have a similar deep well of research strategies and knowledge through which they find sources to write. Most secondary and tertiary students are not yet good writers nor good researchers. This is not a failing on their part; it simply indicates the need for solid education. As instructors contemplate issues of online plagiarism, this in-depth, long-term skills education should be at the core of their response. It cannot be accomplished by a computer program.

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Technology as a Double-Edged Sword: A Promise Yet to Be Fulfilled or a Vehicle for Cheating?

42

Lars-Erik Nilsson

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Abstract

The purpose of the present chapter is to illustrate and discuss relationships between academic integrity, technology, plagiarism, and deception. Academic integrity raises conduct issues. A prevalent idea is that the purpose of the Academy is to educate students to become independent, critical thinkers. A promise of technology is that it can support the qualification, socialization, and subjectification of students. With the advent of digital technology however, it is the cheating, plagiarizing, and colluding student who is attracting increasing attention. He/she is considered to defeat the purpose of higher education and is

L.-E. Nilsson (✉)

School of Education and Environment, Kristianstad University, Kristianstad, Sweden

e-mail: Lars-Erik.Nilsson@hkr.se

often regarded as one of the consequences of digital technology. Technology may thus be considered a threat. History demonstrates that what is considered a threat today, may very well be regarded as a valuable aid tomorrow. How technology is seen today may be different tomorrow, some practices perhaps even made obsolete or replaced as a result of new technologies, among other factors. This uneven development of academic ethos and practice is bound to create tensions between the Academy's ideas of academic integrity and its use of technology – thereby causing both to change.

Introduction

A prevalent idea is that the purpose of the Academy is to educate a particular type of person (Rider, 2013), one with deep knowledge of a particular field, independent and capable of critical reasoning, and discretionary judgment. Throughout history, different aspects have been given precedence and have influenced how actors conceptualize what this means in terms of a focus of education. “Academic integrity” is one such concept. It has a disciplinary force and influences what Biesta (2010) has termed students' qualification, socialization, and subjectification. Today's notion of academic integrity may itself be considered a result of a long course of development in which human consciousness, professional ethos, and advances in science and technology have been influential factors. Academic integrity includes judgment and discretion, rationalism and disinterestedness, critical thinking and independence. However, relationships between concepts tend to change over time (Koselleck, 2002). It is thus fruitful to regard academic integrity as a site for interaction between the parties involved in higher education, staff as well as students. Through their interaction, academic integrity is given meaning and becomes constitutive, providing ever-changing norms for conduct. Students however, may be less advantageously placed when it comes to negotiating these norms (Nilsson, 2008).

The purpose of this chapter is to explore the question of how the conceptual moralization of academic education through academic integrity may influence human use of new technology for learning and assessment. Through academic integrity, actions are normatively constrained and actors given different rights, duties, and obligations that impinge on their use of technology (Nilsson, 2008). What happens when students are governed in the name of academic integrity? Judging by the dominance of words like “cheating,” “collusion,” and “copy and paste plagiarism” when searching for “academic integrity” in Google, these have become prominent criteria. Following Howard (2007) and Nilsson (2008), it may be said that academy has witness a colonization from negatives that need to be debated. This is also evident from research literature that asserts that modern technology such as the Internet and mobile technologies contribute to academic dishonesty (see Akbulut, Uysal, Odabasi, & Kuzu, 2008; DeVoss & Porter 2006; Şendağ, Duran, & Fraser, 2012). With few exceptions, however only scant empirical proof, or indeed the absence thereof, is evidence that technology alters

students' conception of cheating, contributes to its increase, or hampers learning and assessment. The fact that students copy and paste from other texts does not make technology the cause of cheating but just a convenient and readily available tool, as were fraternity and sorority essay repositories in the past (Howard, 2007; Nilsson, 2008).

Technology and Academic Integrity

A common assertion in the sociology of science and technology is that science and technology are constructed cultures (see Hughes, Pinch, & Bijker, 1987). The boundary between academic integrity and technology can thus be said to be a matter for negotiation. Exactly how students will use technology in their future professional lives is impossible to say; nor is it possible to know how these uses will be valued in ethical terms in the future. The promises of technology, and whether these should prompt academics to change their views of what is ethical, are rarely highlighted in studies on academic integrity. Internet technology can contribute to a positive development when used proactively for the purpose of instruction and training, supporting searching, writing, data collection or analysis of data. Instead, positive use of technology becomes use of technology as an antidote to a threat, and the introduction of plagiarism detection services, ip-tracking, and camera surveillance are regarded as technology prevention or detection to monitor student activities (see Apampa et al., 2010; Graham-Matheson & Starr, 2013; Sheshadri, Redy, & Kumar, 2012).

The Uneven Development of Academic Ethos and Practices

The chapter will proceed from the assumption that there is an inherent tension between academic integrity and technology. This tension influences what will be termed "the uneven development of academic ethos and practice." The suggested unevenness is manifest in many relations such as that between ethics and rationalism, knowledge and utility, and learning and assessment. Resistance to technology is common (Bauer, 1997). In modern times, however, it is also common to see technology as a means of strengthening learning (Underwood & Farrington-Flint, 2015). Berners-Lee and Cailliau's (1990) World Wide Web may, from such a perspective, represent a dream about technology that would alter the way mankind shares data and facilitates access to others' research. Word processors may represent the dream that we can all write using perfect spelling and grammar and move text "effortlessly" to construct new and better texts. Designers of technology and software who collect and analyze data dream of better ways to aid research. To designers such features are valuable aids, but in the present tradition of argumentation about academic integrity, they can also be construed as vehicles for cheating, and the design to entice students to let technology do the work for them, helping them to plagiarize and to collude.

Clearly, there is tension between the promises of technologies and the ways in which the Academy today construes honest and dishonest academic practices. As Underwood and Farrington-Flint (2015) suggest, education need to find the good ways. However, as already established, what is good and bad is a question of negotiation of the boundaries between academic integrity and technology. Tension between academic integrity and technology therefore has the potential to invite educators to think of relationships that are more complex and where the two are mutually constitutive.

The Swedish Context

Some features of Swedish society indicate that Sweden should be an excellent site to explore a relationship between academic integrity and technology. When it comes to technology, Sweden's aim is to be number one (Prop, 1995/96). Phrases such as "Wings to human abilities" (SOU, 1994, p. 118) and "Tools for learning" (Skr, 1998) naming political documents hint at how Swedish politicians view the promise of technology. A successful introduction of Internet technology was presented to citizens as essential to Sweden's survival as an affluent society. The introduction of Internet technology into education was considered one of three strategic steps on the road to Sweden becoming one of the world's leading knowledge economies together with legal issues and information management (Prop, 1995/96, p. 125). From this perspective, it should not come as a surprise if promises of technology for learning become more important to the development of academic practice in Swedish institutions than potential technological threats such as cheating, plagiarism, and collusion – at least until such time as it is proved that technology does indeed represent a threat.

Academic Integrity and the Swedish Disciplinary Ordinances

When higher education was institutionalized in Sweden in the sixteenth and seventeenth centuries, universities had jurisdiction over many aspects of university life, including student conduct (Johannesson, 1982). Examples can indeed be found of the university council sentencing students to decapitation. In 1852 most legal issues were transferred to the national legal system but student discipline remained a university jurisdiction (SFS, 1852, p. 20). A rule including deception was inserted into the disciplinary ordinance of 1958 (SFS, 1958, p. 327) and into the Higher Education ordinance of 1993, which defined cheating as using "prohibited aids or other means attempt to deceive during examinations or when academic work is otherwise assessed" (SFS, 1993, p. 100, ch. 10, § 1.1). "Aids" and other means included a broad range of technologies.

The 1958 amendment makes transgression contingent on what constitutes "deception" in particular examinations. In this regard, Swedish legislation is anti-essentialist. It is not the use of technology or plagiarism per se that is to be

sanctioned, but deception. This means that individual teachers can decide on how they will deal with the use of technology, but never how to deal with what they consider to be “deception.” Well-founded suspicions of deception must always be sent to the Vice-Chancellor’s office; the disciplinary committee is the only entity with the power to suspend. Glendinning’s (2014) comment that in the case of Sweden, decisions on whether plagiarism has occurred are taken at an institutional level is thus misleading. Decisions are based on whether or not deception has occurred. Discretionary judgment thus becomes an important factor in the discussion of a relationship between the use of technology and academic integrity.

Honesty and the Swedish Student

Honesty as a national trait is another feature. Most Swedes consider themselves to be honest (Daun, 1989). Sweden, like other Scandinavian countries is ranked high on the list of least corrupt countries in the world. While international surveys suggest that student cheating is prevalent, involving half the student population, Swedish students have been perceived to be relatively honest. Almost a century ago Parr (1936) could write that “students who claimed to be of Scandinavian descent were much more honest” (p. 321) than any other nationality. Teixeira and Rocha (2010, p. 676) published a comparative study that showed that only an average of 5 % of Scandinavian students declared that they have a propensity to cheat. Only recently, a report from the Chancellor’s office shows that only 2 out of 31 higher education institutions had more than half a percent of the students warned or suspended for deception in the context of examinations (UKÄ, 2014).

Tensions between Academic Integrity and Technology

To my knowledge, there is no study that establishes that there has been any change in Swedish student attitudes towards cheating as a result of new technology. Discourse on student honesty has yet to change in such a way that technology presents a danger to integrity. Reports from the Swedish Higher Education authority, from the media and/or local seats of learning indicate that such a change is imminent (TT, 2015; UKÄ, 2014, 2015). It is only recently that Swedish higher education has perceived a threat to academic integrity from technology. The reports from the Swedish Higher Education Authority do not single out any particular technology, but the media report an increase in cheating; and reports describing Internet and cellphones as aids for cheating are legion. Also, a search for cheating AND student AND Internet AND cellphone returns hits on policies and instruction from most Swedish higher education institutions. Furthermore, the use of technology featured prominently as an ethical dilemma in disciplinary cases reported by Nilsson (2008) as well as video-recorded work sessions reported by Nilsson, Eklöf, and Ottosson (2008). Interestingly, antiessentialism leaves Swedish society and the Academy open to reconstructing what constitutes academic integrity (Nilsson, 2008). For example,

any action or use of technology may be constituted as acceptable or unacceptable depending on the instructions for the particular test. Swedish teachers are at the center of tensions regarding technology as a threat or as a promise.

Tensions Between Technological Threats and Promises

Swedish examples illustrate how “the uneven development of academic ethos and practices” can cause tensions. One way to frame tensions between academic integrity and technology is as a struggle between students and staff over what is to be permitted, and what is to be forbidden. A story illustrating this dilemma appeared in the Swedish author Erik Bengtson’s (1987) fictional book *Vad rätt du tänkt* [Your righteous thoughts], based on a true story. In 1906, two enterprising students manufactured formularies small enough to hide in the palm of a hand or a stocking. They sent marketing letters to class monitors at Swedish senior high schools. Records of the incidents, found in The Swedish National Archives (Riksarkivet) indicated that a headmaster at one senior high school in southern Sweden was handed the marketing leaflet. He wrote to his peer asking what was going on (Nilsson, 2008). First, the students were expelled but then reinstated.

The same records hold a copy of the small book containing the formularies. The case suggests that in 1906, formularies were regarded as unauthorized aids in Swedish examinations. Suspicions about cheating developed because of the small size of the formularies and the assumption that these students were producing a cheating aid. What other reason could they have to make a palm-sized version? The point is that the students were not the first to publish formularies. In Sweden, Liedstrand (1903) had already published a collection, and other publishers followed suit. Only a few decades later, Kruse (1933) published a pocketsize version. Formularies had become important aids and by the 1960s were commonly allowed as aids in assessment. In the 60-year period spanned by these events, the sociotechnical dilemma was solved by the commercialization of a technology, new ways of conceiving of the use of memory aids to help students learn and succeed and new, permissible designs in examinations and materials. By altering ways of thinking about technology and its uses, a threat had been neutralized and one of technology’s promises had been fulfilled.

Tensions and Cheating Slips

The latest report from the Swedish Higher Education Authority on disciplinary cases in higher education (UKÄ, 2014) reveals that more than 100 students were suspended or given a warning for using cheating slips and other unauthorized aids in examinations. That modern technology is seen to cause problems can be inferred from the comment that many students were sanctioned because their cell phone was turned on during examinations. Increasingly powerful yet smaller devices appear to be conceived of as a threat to academic integrity. Allegedly universities were

terrified that the new apple watch would help students cheat; it was thus decided to ban smartwatches from examination halls (Pandey, 2015).

One important task in education is qualification. Students need to gain knowledge, understanding, and competence (Biesta, 2010). They must also be prepared to demonstrate what they have learned. When Swedish students spend time preparing for tests, one important learning aid is old tests. Legislation ensures that these are publicly available. Students team up to study for future tests. Several hours spent by the author since 2009 observing students in libraries and hallways and writing field notes show how this is done. Questions that demand a factual answer, a definition or a formula only appear to be a problem if it is needed to be stored in an individual's memory. Questions that need an explanation or that the students provide supportive arguments for, call for other strategies; students must thus muster all the support they can get. They try to acquire answers from previous years, debate their merits and help each other find the best answers. In order to evaluate answers, students spend a lot of time searching books, the Internet, slide shows and even consulting experts online (Eklöf, Nilsson, & Ottosson, 2014). Students often describe this way of working as a means of giving new perspectives on their readings. They spend hours selecting the best information, scrutinizing, organizing, and finding efficient ways to store what they have learned. Students participating in the observed sessions often said they remember arguments they had not noticed before when they studied on their own and/or had not understood the significance of such arguments when first mentioned by their teachers.

Engeström (2006) comments on this way of preparing for tests in terms of using cheating slips. Students' preparation of cheating slips introduces a tension between notions about academic integrity and technologies used for learning. Engeström refers to this practice as "double stimulation," the first stimulus being the examination question and the second the mediating tool, i.e., the cheating slip. To "create a good cheating slip, the student must carefully select the most relevant and useful aspects of the topic, and represent them in an economic and accessible way on the slip" (Engeström, 2006, p. 19). Drawing on Vygotsky, Engeström suggests that students are "creating an external auxiliary means for mastering an object." Modern technology, however, can be used by students as advanced organizers and, if well designed, often amplifies one's memory and thinking. A system for assessment that recognizes such work as useful learning would exploit this feature, allowing for advanced organizers and boosting student learning. Following the present tradition of argumentation that constitutes the use of such slips as cheating, the use of advanced organizers becomes impossible. Again, by altering current ways of thinking about technology and its uses, a threat can be neutralized and a technological promise fulfilled.

Tensions and Collaboration

One area where "the uneven development of academic ethos and practices" causes tension between academic integrity and technology is collaboration. Relatively few students in Sweden are sanctioned for unauthorized collaboration (UKÄ, 2014).

In 2012, more than 100 students were suspended or warned but in 2013 only around 50. The collaboration-collusion continuum introduces a special difficulty for the Academy. Students need to be socialized into the particular moral orders of their future professions (Biesta, 2010) and become aware of how work is carried out. In the 1930s, Swedish teacher media articles debated whether collaboration in education should be thought of as a good thing or as cheating (Nilsson, 2008). Today, drawing on Vygotsky's (1962) idea that students have a "proximal zone of development" (ZPD) it is commonly understood that students can reach their ZPD through guidance from those who know more, whether teaching staff or their peers. It is also common in Swedish classrooms to have students collaborate in what Eklöf et al. (2014) describe as a "connected solitude." Using modern technology, students collaborate; collaboration may, however, put them at risk of being accused of collusion.

An anecdote taken from real life and relating to data gathering in a library can illustrate the problem. Students were given individual mathematics tests to complete. They knew that the assignment was an individual exercise in which the problem must be solved using course books and lecture notes. Despite this, the students immediately engaged in social networking. For a few hours they discussed examples, and posted and critiqued answers to the problems with their peers. When asked if they considered this to be collusion, they replied that it is impossible to cheat because the assignment is followed by an oral exam in which students not only present, but argue their individual solutions. They framed both physical and virtual meetings as meetings where students can discuss how they should solve the tasks. They saw those who just copied not so much as cheaters but as stupid, because they would not have the understanding required to pass the oral test. There are similarities to student learning as described by Engeström (2006) where the assignment provides the first stimuli and the affordances of Web 2.0 the second stimulus. Studies show that students collaborate in this way in distributed physical spaces and where technology helps them to meet a variety of academic demands (Eklöf et al., 2014; Richardson, Hamilton, Gray, Waycott, & Thompson, 2012).

Another case suggests that technology only reveals a tension that is already in existence. Two students from a special education program handed in identical essays and were reported for collusion. It was clear from the instructions that they must hand in individual reports. Their assignment was to carry out a pedagogical investigation and design an individual plan for a student. Since the two shared the same student, they decided to work together and to do "something useful." In accounting for their actions the students admitted to having worked together but argued that they had done the expected work, arguing that their actions were justified because the work they had done could be used later in their profession. They were found guilty of deception and suspended from studies (HKR registry 986/329-08).

Cases where students have been formally accused of deception in the form of collusion can cause confusion and bewilderment. Drawing on interviews with 17 students who had undergone disciplinary committee processes and been found "guilty" of various acts of misconduct, Sutherland-Smith (2013) concluded that

such disciplinary action does not clarify for students what constitutes acts of collusion. The Academy has yet to respond to this problem in a meaningful way. Pedagogically sound use of technology appears to become short-circuited by demands in this case for individual assessments. Sutherland-Smith argues that being involved in disciplinary committee processes does not teach students the limits of collaboration but fosters a reluctance to take part in discursive group work and that “clearly, the promised learning outcomes at discipline and university levels, in terms of collaboration and team work, are far from realized by these students” (p. 57). As already demonstrated, to neutralize a threat from technology academy needs to alter its ways of thinking about technology and realize its potential to support learning.

Tensions and Plagiarism

Plagiarism is commonly considered to be a threat to academic integrity. It is well known that there are differences between cultures and disciplines as regards what constitutes plagiarism (Pecorari, 2008). It has also been established by Ashworth and Bannister’s (1997) seminal study that it is unclear what plagiarism actually means to students. Globalization forces Swedish and other students to work with English texts. Swedish students write in English and translate into Swedish. What kind of actions should be permitted and disallowed when they work with their second language?

In 2014, a Swedish student was reported for plagiarizing (HKR registry U2014-29-1119). The student submitted an essay with a review and reflection section on a specified paper that would be characterized as a patchwork (see Howard, 1995, for a definition of patchwriting). Many of the patches had been translated in Google translate; the student did not claim original authorship. The teacher was alerted to the machine translation by a footnote converted to a number in the translated sections. The student argued that the text was difficult to understand and since this was not a test of the ability to translate, but rather, to reflect, then using machine translation was acceptable. Elsewhere in the essay, the student used poor paraphrases, without citation marks, but always differentiated in some way between his/her own point of view and that of the author. The disciplinary committee ruled that this should not be called deception and left the decision to pass or fail to the grading teacher.

Referencing is sometimes considered such an easy and standard task in higher education that any student qualified for tertiary study should master it (Standler, 2012). However, there are many different standards used in different disciplines and Internet technology affords new ways to attribute sources not yet accepted by the Academy. In 2012, a Swedish student handed in an essay of a factual nature, containing a passage the marker recognized from a report, which had been copied word for word. The report was not mentioned in either the in-text citations or in the reference list, and citation marks were not used. Instead, there were links in parenthesis that the teacher could not follow and a reference to the page in the reference list. The student was reported to the Vice Chancellor’s office for

plagiarism. The investigation showed that the links worked and directed the reader to the text the student had used. The teacher maintained that the student's work should still be considered as cheating as the discipline-specific rules for referencing had not been followed. The disciplinary committee ruled that the student's actions should not be considered deception because the student had linked directly to the source. It was ruled that the violation of disciplinary conventions was of a kind that could be dealt with by the grading teacher (HKR registry).

Angéilil-Carter (2000) asserts that students often think that providing references displays their mastery of a subject. It can be argued that the student in the previous paragraph provided sufficient information to show understanding of the subject. Direct linking to Internet pages perhaps challenges traditional views of what citation conventions should be. This techno-threat is yet to be neutralized by new ways of conceptualizing academic integrity. Howard (2007, p. 4) takes the view that the Internet "undisputedly makes text readily available for plagiarizing" but that educators should "take the question further, looking at the ways in which the Internet participates in our culture of authorship." As illustrated above, it is not just texts in a narrow sense that are made available but also empirical data, models, software code, term-paper sites, sites with templates for production, services for translation, for summarizing, and for text comparison. Most of these can be used productively as a second stimulus to support student interaction with text. A few of them should be banned because they rule out student interaction, e.g., the downloading of a paper for purchase from term paper sites (see Lancaster and Clarke in the present volume).

What's Technology Got To Do With It?

Technology alters how people do things and how they think things should be done. At the end of the day, what matters is how they perceive of technological affordances. An argument already discussed is that an uneven development in professional ethos and practices introduces a tension between learning and assessment. Aids thought to be natural in learning such as the law book, the formulary or the scientific calculator may, at any given historical period, be called tools for cheating, only later to be considered indispensable and thus permissible aids. In sociocultural theory, word processors, search engines, and referencing systems are mediating tools. Jonassen (2000) describes them as "mindtools." They act as intermediaries that can help develop and extend human minds. An implied argument is that as professional practices change professionals rely on them to carry out their work, e.g. an electronic journal to store information about a patient. They enhance students ability to store and organize content, serving as advanced organizers (Engeström, 2006). Valuing them for learning but considering them unauthorized aids in tests can be seen as yet another example of an uneven development of ethos and practice.

Another argument introduced is that learning is a social process and that humans realize their potential thorough guidance from those whose knowledge is greater. Social networking tools improve humans' abilities to communicate and collaborate,

providing blogs, and allowing joint editing and collaborative mind mapping (Richardson et al. 2012). Furthermore, professional work depends on collaboration. Students are socialized into using tools for collaboration in the learning process. To disallow them during assessment radically alters the context for representing knowledge and may also, as suggested by Sutherland-Smith (2013), confuse students about when they may collaborate and when not, during an assessment task.

That raises the question: what about plagiarism? There is nothing “natural” about referencing in academic writing. What academic integrity brings is contemporary understanding of what it means to use text in an ethically responsible manner. When foot-notes first appeared, they were the result of an adaptation of hand-written marginal notes to book-printing technology (Grafton, 2003). There was a heated debate about their use at the time, which continues to this day as technologies shift yet again. Since the advent of printing technology, texts are enumerable and referencing makes sense as a means of signaling dependence, paying homage, guiding readers, and in assessing as a means of indicating mastery of the field. This does not mean, however, that referencing is here to stay, at least not in its present form.

Modern technology introduces an almost endless array of tools that can be used to search, manage, and represent information. Berners-Lee and Cailliau (1990) dreamed about technology that would make it possible for research to be linked together in a smooth way so that relationships between projects and the development of knowledge could be tracked. Ambitious projects such as Google books have been set up to publish previously printed texts on the Internet and most publishers have made their archives searchable for the general public. Many universities and funding agencies now demand that research is published using Open Access. Technologies of this kind speak to the positive side of academic integrity, to communalism and universalism. It can be argued that the promises of the Internet invite academics to change the way they think about referencing. The architecture of the Internet radically alters the conditions for referencing in academic work. Searches in search engines take academics a long way towards finding the original behind the texts. Kane (2008) writes that plagiarism has become virtually impossible in physics research since Open Access publishing in ArXiv began, because the archive has made everybody aware of what everybody else publishes. Electronically published journals often include direct links to texts from in-text citations and to references in the reference list. Some journals even embed data to make analysis of video and audio data more transparent. In the not too distant future, readers may have tools that will suggest the most likely sources behind any section of a text, leaving all authors open to accusations of plagiarism.

Fighting a War that Cannot, and Perhaps Should Not, Be Won

Using war metaphors in education seems awkward but when it comes to contemporary discourse about cheating they are legion. That there is a war to fight follows logically from the theoretical assumption behind this chapter. That it is a war that

has reached Swedish higher education can be inferred from the rather limited Swedish research. Trost's (2009, p. 371) research on cheating in Swedish higher education supports the conclusion that a large number of students at Swedish HEIs perform actions classified as cheating in the survey instruments. Findings show that 81 % of the 322 students surveyed at 3 universities lied in order to get special consideration and 61 % declared that they copy without acknowledging sources. Altering and inventing data, however, are rarely admitted to by students. Furthermore, (Hallonsten, 2007) states that many students have a lax attitude toward some forms of cheating, and Colnerud and Rosander (2009) suggest that students tend to accept some forms of cheating as reasonable, as long as they have done the required work. From this perspective, their reception of technology may become a problem.

Following Suen and Yu (2006) this is a war that has to do with consequential validity and it has been going on since the dawn of assessment. Institutions will set up rules for academic integrity that will be transformed into rules governing how technology can be used in learning and assessment. Students will challenge and sometimes deliberately break the rules, they will be guided by grade point average perspectives (Becker, Geer, & Hughes, 1968), they will be cue seeking (Miller & Parlett, 1974), and sometimes they will even cheat. Technologies to prevent, detect, and deter deception have also been commonplace, from the cells in Chinese literary examinations (Elman, 2000), the proctored tests in England (Hilton, 1904), the seating arrangements (Houston, 1986) to the current use of biometrical authentication (Rose, 2011), and plagiarism detection systems (Nilsson, 2013; Purdy, 2009; Weber-Wolff, 2012). Dows (2005) writes about the efforts to control the pre-examination, examination, and post-examination phases and invites academics to think about technology as a means of taking control of a chain of action that starts with test design and ends with the protection of material during grading and redistribution.

The battle continues in the form of endless attempts to control technologies and their textual outputs. When students copy and paste texts without citing sources, higher education institutions introduce the use of plagiarism detection systems. As a result, students take counter measures, such as changing words and word order or inserting uncolored characters into their texts. When these methods are discovered, as eventually occurs, students may turn to contract cheating (see Lancaster and Clarke in the present volume) or summarizing systems, which can be easy to use but are difficult to detect by staff even with technical assistance. Technically, well-informed students are highly unlikely to be caught. Heather (2010) argues that the best way to attack plagiarism detection software is to stop a text from being properly extracted, suggesting three methods using PDF-files. The first one involves modifying the character map, the second rearranging the fonts in a glyph and the third converting texts to Bézier curves. The result, in all cases, will be that the software will look for something that cannot be found. A skilled student can decide which text overlap should be found and which must remain hidden. Technology is indeed a double-edged sword.

The third aspect of the battle metaphor, i.e., that the conflict should not be won, is perhaps more problematic. It stems from the understanding that students are

being educated for professional work. Professional work is fundamentally judgmental. Therefore, not only should students become qualified and socialized, they should also become subjects in their own right and be prepared for discretionary decision making that transcends the professional moral order. This is a prerequisite for being able to expand on the existing knowledge of the profession. Whereas discourse on academic integrity often presents modern technology as a threat that can cause students to cheat, collude, and plagiarize (see, for example, Bonderup-Dohn, 2009; DeVoss & Porter, 2006; Underwood & Szabo, 2003), here it is argued that “the uneven development of academic ethos and practice” presents a tension between academic integrity and technology that needs to be resolved. Engeström suggests there are good and bad ways to cheat, good cheating being, “a way to beat the system to be more clever than the given activity” (2006, pp. 19–20). Good cheating will always involve doing the work and learning before doing the test. Bad cheating is just copying answers for a test, buying a term paper or letting someone else do the test for you, none of which will contribute to the student becoming a professional capable of making independent and informed decisions.

In Swedish legislation, deception is always relative to instruction. It is seen as morally reprehensible to intentionally use aids or collaborate when it is forbidden. Sometimes restrictions will be placed on the use of technologies that do not make sense to students. It does not matter whether students demonstrate understanding – if their work is more authentic and useful, or even if their use of sources is more insightful – if they willfully violate the instructions. Much debate concerns how to adapt technology to fit present understandings of academic integrity. Should then academic integrity be adapted to fit new technology? Should, for example, the Internet be allowed to influence current views on how to reference other peoples’ texts, as have other technologies? Although there may be little support for the idea that academic referencing as it stands is outmoded, Internet and hyperlinks may very well make present forms of referencing redundant, replacing current referencing conventions with arguably superior hyperlink-based forms of attribution. Such shifts in thinking may also mark the end of present ways of conceiving of plagiarism and collusion. If present understandings of what constitutes academic integrity do not change, education will be unable to deal with processes where something unexpected is created and subjects change their lives without adhering to the preconceived courses of acceptable progress and improvement (Engeström, 2006, p. 20).

Summary

It has been argued, academic integrity is a site of interaction between management, staff, and students about the evolving uses of technology. Technology will always challenge the Academy’s views on what is good and proper. Whether academic integrity should continue to demand from writers that they reference sources used in in-text citations and reference lists (as it is today) or that referencing should be carried out through hyper linking (as already exists in many institutions) cannot be

answered. Technology supports both solutions. Students are trained for judgment-based work. Whether the Swedish examples illustrate that students are positioned as cheaters or as thought leaders in uses of technologies to come, only the future will reveal. History, however, tell those interested that students will always try to adapt their behavior to assessment in order to succeed. For some students, this means changing their test behaviors in ways that may corrupt the test results (consequential bias) and for a few, this means engaging in cheating behaviors. When there are large differences between how technology is used for learning and assessment, the Academy is likely to experience conflicts that cannot be resolved by technology alone. When, as often happens, there is talk about the threat from digital technology there is a need to recognize that technology is a double-edged sword and institutions must carefully consider how they will approach its use in academic integrity issues.

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Abstract

An increasing number of students at universities around the world seem to be submitting plagiarized texts to their instructors for credit, although no exact figures are available, either for how much was plagiarized in the past or how much is plagiarized now. Instructors, overwhelmed with an ever-increasing workload, wish for a simple method – rather like a litmus test – to quickly sort out the plagiarized works, so that they can concentrate their efforts on the rest of the students.

The good news is that software can be used to identify some text parallels that could constitute plagiarism. The bad news is that the reports are often not easy to interpret correctly, software can flag correctly referenced material as

D. Weber-Wulff (✉)

FB 4, University of Applied Sciences, HTW Berlin, Berlin, Germany

e-mail: weberwu@htw-berlin.de

non-original content, and there are cases in which systems report no problems at all for heavily plagiarized texts, as studies conducted by the author in 2004, 2007, 2008, 2010, 2011, 2012 and 2013 have repeatedly shown. Different systems have also been shown in these studies to report various amounts of plagiarism for identical texts, as they use individual, often proprietary, algorithms and sometimes only examine samples of the text under investigation. This chapter will examine the promises and pitfalls of technology-based plagiarism detection and look at some good practices for using such software in a university setting.

Defining Plagiarism

Plagiarism is not just the exact copy of a portion of text from another person, whether done intentionally or not, but can be any one of a variety of misuses of other people's work without attribution. Before speaking about technology-assisted identification of plagiarism, there needs to be a precise definition of what constitutes plagiarism. That is where the trouble begins. As Teddi Fishman has noted, "Even among academics, there is no standard or agreed upon definition of plagiarism" (2009, p. 1). Even when a university policy or other guidelines exist, there will be cases that arise for which instructors may be unsure where the line is to be drawn between sloppy scholarship and plagiarism. Fishman proposed a five-part definition (2009, p. 5) that includes using words, ideas, or other products that are attributable to another person, but are not attributed. This can include not only copy-and-paste plagiarism, but also paraphrases or patchwritings that are not attributed, as well as translated works. She does not mention intention directly, only noting that she finds it to be plagiarism when it is used for some sort of personal gain. Other definitions focus on misappropriation of intellectual property, or speak of legalistic notions such as copyright violations or stealing. Intention is mentioned as part of a number of definitions of plagiarism, in particular in university policies concerning cases of academic misconduct. In the opinion of this author, a text contains plagiarism, no matter if the person submitting or publishing it intended to plagiarize or not. A reader cannot possibly know what the writer had in mind or the conditions under which the text was produced, and an algorithm inspecting the text will most certainly not be able to evaluate intention. The appearance of intent may be an issue in determining consequences or a sanction, but it has no bearing on the plagiarism found in the text itself. It is somewhat easier to outline what is **not** covered by any definition of plagiarism: falsified data or manipulated pictures, ghostwritten papers, honorary authorship, and such. These acts are most certainly academic misconduct, but they cannot be considered plagiarism. For a more detailed discussion of plagiarism definitions, see Weber-Wulff (2014a).

Thus, it is generally not possible to construct a technological solution for the determination of plagiarism, since any definition is inevitably open for interpretation (see, among others, Pecorari and Petrić 2014). If it is not possible to precisely

define the term, it is not possible to write software that is able to reliably detect it. Instead, software is generally only able to signal identical word sequences (that could still be properly referenced) or to a minor extent text similarity. Software is useful as a tool for potentially identifying the use of words from other sources. But it cannot determine plagiarism – that is a judgment call that can only be taken by human beings, not algorithms.

Promises Made

Companies that provide so-called plagiarism detection software are eager to promise instructors what they want to hear: “Advanced online plagiarism detection” (CatchItFirst), “Originality check” (Turnitin), “Easy, quick and accurate” (Ephorus), “based on the latest research in computer linguistics” (PlagScan), “saves time” (Urkund). The expectation is that student papers and theses can be easily uploaded or sent by email to a system, which can quickly and reliably detect all of the plagiarism. Reports are expected that can be presented to an honors board or a unit coordinator that clearly identify the plagiarized portions and deliver a final verdict as to the severity of the copying. Calling the numbers reporting the level of plagiarism “originality scores” or speaking of “originality checking” is rather misleading, as originality cannot be proven. Some companies even promise that they can prove a text to be *free* of plagiarism. They offer “plagiarism-free” certificates that students can obtain to hand in with their papers. However, if no plagiarism is found, it could be that a source has not been identified because it is not available to the system, for various reasons. Only the presence of plagiarism can be demonstrated by comparison with a previously published source.

Even though the price for using some systems can be quite steep, as it is levied at a cost per student per year, institutions will purchase such software in the hope that it can be used to determine which papers are plagiarized and how much of the text is affected. Some schools even encourage the use of such software as a formative device. Students can submit a draft of their work to the system and see where they need to include additional citations, and thus learn more about academic writing. Many of the larger systems now offer integration with various learning management systems (LMS). For instructors who are used to their LMS giving them a protective environment for offering learning materials to their students, this can appear to check a student’s paper only with local databases. Actually, the papers are transmitted to the company servers, which may be located in another country, unless explicit provisions are made for an in-house solution. Some systems do offer the possibility of checking the papers only against a selected subset of the stored texts, for example, only the papers of that institution, but this still happens on the company’s servers.

Another promise can be seen to be a sort of confirmation bias that occurs when instructors test a system that successfully points out major plagiarism. The software was expected to find plagiarism, and it did in this one specific case. It is easy to then

believe that the software can thus find all plagiarisms. This is not the case, as will be addressed in the next section.

Pitfalls of Existing Systems

There is a widespread notion in the general public that computers can solve any problem, if they are just given the proper algorithms. Computer science students learn, however, that there are many simple-sounding tasks that are not solvable with a computer. Plagiarism detection belongs to this type of problem, although there exist algorithms that provide partial solutions.

General Functionality

In general the identification of plagiarism in a text consists of two stages: Identifying potential sources and then determining the amount of matching text between each source and the document being examined. Systems generally use one of two methods for finding potential sources: Either a public search machine is queried with search terms extracted from the text, or the system uses its own database of potential sources. Such databases can be constructed and searched using any of a number of different algorithms.

Interpreting the Results

As studies conducted by the author have shown, one must be very cautious about the results that systems return. Most calculate some number that allegedly represents the gravity of the text overlap found. It is important to understand that since the various systems use different and unknown algorithms and often only examine a portion of the text in question, they will return different values when testing the same text.

In one paper prepared as a test case (Weber-Wulff et al. 2013), 92 % of the words were taken verbatim from one source and disguised by applying patchwriting techniques. One system returned a completely irrelevant source; one reported plagiarism, but less than 25 %. Other systems reported 35 %, 60 %, or at most 80 % text overlap. This was quite an extreme example, but in general no two systems will report the exact same value. One system even reports a quite different value if the test is repeated just 10 min later – a different portion of the text is apparently used as the examined sample each time the program is called.

In addition to a number, most systems will generate a report. Some reports are practically unintelligible: problematic language and layout, meaningless or inconsistent numbers, confusing markup – all contribute to making it difficult to interpret the results. Others are only difficult to manage in a university setting. There can be problems encountered in passing them on to others within the institution or to

external examiners; they can be difficult to print out for storing in the student's file; and the result can be quite different if the report is later regenerated, because sources have now disappeared from the Internet. None of the systems provide information in their reports that would be necessary for preparing documentation for an academic integrity board, such as including the page and line numbers of the text overlap so that members of the board can check the accusation independent of any software. Some systems do not even provide a side-by-side documentation, so that the users have to search for the reported overlap in each document themselves. The layout and the descriptive text in the reports are often difficult to interpret – only with experience can the system reports be properly interpreted.

Many of the 15 systems in the 2013 test (Compilatio, Copyscape, Docoloc, Duplichecker, Ephorus, OAPS, PlagAware, Plagiarisma, PlagiarismDetect, PlagiarismFinder, PlagScan, PlagTracker, Strike Plagiarism, Turnitin, Urkund) were found to over-report plagiarism, that is, they reported more potential sources than were warranted, or they flagged properly quoted material as non-original, or even reported, as potential sources, documents that had no overlap whatsoever with the paper in question. The latter is quite troubling, especially if a number is reported but no evidence is provided to support that number. This is probably due to programming errors and has been seen in various systems.

False Positives and False Negatives

In addition to issues with the numbers reported and the reports, there is the frequently encountered problem of *false negatives* (Weber-Wulff et al. 2013). This is the case when plagiarism in a text is not flagged because the source was not found by the system. The source could be a book or paper that is not yet digitized, or a text that is not available on the open web and indexed by a search machine, or one that is publicly available, but not stored in the database of the software system. In any of these cases, a plagiarism detection system cannot match this source.

It is also possible that the system registers some plagiarism, but it is at such a low threshold, typically below 5 % of the text that it is considered to be irrelevant. The matches registered could be for minor identical phrases or identical reference items used. Indeed, there are even universities that specifically will not accept papers if the number their system returns is larger than some threshold, as was reported verbally at a user's group meeting the author attended in 2014. This can result in students applying superficial changes to their texts until the system returns an "acceptable" value. The text is still, however, a plagiarism, as it is not the work of the student.

The other side of the coin is *false positives*, which means that the system reports plagiarism where there actually is none. Some systems will present a number suggesting that a text is plagiarized, without being able to demonstrate how that number was calculated. It is often not clear what exactly a number means, even though sometimes presented with two decimal places or in multiple variations.

The text could be properly referenced, but indented or set off with German or French quotation marks; the system could be flagging references, which should actually be the same; or the text is joint work and two students working together submitted the same text, announcing this fact in the text itself. The system could also be registering that a text is identical to itself, meaning the text is already in the company's database.

There can be any of a number of reasons for this situation. The student could have tested their paper using a friend's account at a school that permits formative use of plagiarism detection software. The advisor could have used the system to test a first draft of the thesis, or two independent examiners both used the same software for testing a thesis. The first person to test will receive a negative report, but the second person will see the alarming notice that the thesis is a complete copy.

Database Issues

Quite a number of systems store submitted papers in order to check future papers against past papers. This perhaps sounds like a good idea for term papers that are written every semester by students on similar subjects. But the manner in which some universities use plagiarism detection services involves teachers submitting students' papers to the system. This can technically be a violation of the student's copyright, for example, under European copyright law, which is quite different from American or Canadian copyright law. Only the author, generally the student, can permit the work to be stored in a database belonging to a company. For a thesis that was prepared under a non-disclosure agreement, it is not at all possible for either the student or the teacher to legally submit it to a third-party server.

There are some systems that do not store papers in databases under the control of a company. Instead, the software is installed locally on the instructor's computer. These systems then use a search machine in order to look up phrases or text selections from the text under scrutiny. Some systems just mirror the search machine results; others collate and evaluate the results before presenting them to the user in a ranked order. However, such use of search machines is often limited to a certain number of queries per day. Unless the company offering the plagiarism detection software has a cooperation with a search machine, it may take quite some time to obtain results, especially at times of the year at which term papers or final theses are generally handed in. This type of software is quite ineffective, as it is time-consuming and the results are not very illuminative. Instructors are better off using manual plagiarism detection methods as described in the next section.

Dubious Services

There are also companies offering somewhat dubious services. There are companies that offer "free" plagiarism detection services with the intent of harvesting texts submitted for paper mill use. For example, one system states openly that

“9 months after your scan, we will automatically add it to our student database and it will be published on one of our study sites to allow other students to use it as an example of how to write a good essay” (ScanMyEssay n.d.). Another company offers a money-back deal on the purchase of their software if the buyer is unsatisfied. In Weber-Wulff and Köhler (2008) we note that the software that was delivered after the payment was made did not work, questions about the product to the support email listed went unanswered, and we were not the only ones unable to obtain a refund.

One company was also found that pitched plagiarism detection to students at an affordable price (Weber-Wulff and Pomerence 2007). Papers submitted were handed in to a pirated Turnitin account. The reports obtained from Turnitin were manipulated to make them appear to have been produced by the company in question. When questioned, the company insisted it was just chance that they had the same results. In 2010 a text was designed that was completely original and stored in Turnitin’s database as coming from a non-existent web page. All systems in the test were given this text to evaluate. Indeed, only this company registered 100 % overlap of this text with the non-existent site, proving that it was still using pirated accounts.

Collusion

There is one kind of plagiarism that some systems are able to detect well, however. This is when the software is able to analyze a closed set of documents. Each of the documents can be compared with all of the others to discover text parallels, although this is only effective for small numbers of documents, as the number of comparisons grows rapidly. It might seem unusual for there to be such a closed set available, but there are actually common situations at university in which this is indeed the case.

This is what is called *collusion*, or as Zauner (2014, p. 18) puts it, “*die böse Schwester der Teamarbeit*” (the evil sister of teamwork). Collusion happens, for example, when students have been specifically instructed to work alone and do not, or the instructions to work alone were not clearly communicated, and they work together to produce a text that each of them hands in as their own, perhaps only slightly altered (Sutherland-Smith 2013). This can happen in a large group of students who feel that their quite similar papers will not be noticed in the crowd, or when computing students are stumped by an assignment and hand in code they have copied from a fellow student or the Internet. They do not realize that there are so many ways of writing sentences or of coding algorithms that it is highly unlikely for two students to submit identical work.

A test of 18 systems focusing only on detecting collusion in texts and program code was conducted in 2012 at the HTW Berlin (Weber-Wulff et al. 2012). The test results showed that there is software available that is useful in detecting collusion, since the potential sources are among the papers submitted and not on the open Internet. However, the systems that were good at detecting text collusion were not

very useful at detecting collusion in computer programs, and vice versa. It was also easier for the software to find collusion in texts than in program code.

Manual Plagiarism Detection

The previous section has shown that there are some problems involved with using so-called plagiarism detection software. They are not the accurate and reliable, time-saving tools that instructors want. There are, however, quite a number of simple tools other than such dedicated, all-in-one systems that are available to an instructor with a suspected case of plagiarism. This section will discuss a selection of those tools and methods.

The first and foremost strategy is reading a student's paper with a critical eye, as observing small quirks and errors may help spot plagiarism. Instructors are generally well attuned to shifts in writing style. They quickly see spelling errors and detect erroneous statements of facts. There is a good chance of finding the source for a plagiarized passage with only the use of a search machine. Choosing just three to five words from a paragraph on either side of a writing style shift, perhaps including a spelling error, or the exact wording of a factual error, and using these as search terms will often return a link to the source used. Nouns tend to be effective search term choices, since verb forms are easily changed or adjectives inserted or sentences mixed up. If a spelling error is used, make sure that the search machine is actually using the misspelling and not correcting the term.

Google offers additional databases that can be searched: Google Books has digitized many scholarly books, even recent ones, and Google Scholar offers an index of scientific papers and citations. Searching for a misspelled bibliography entry in Google Scholar can lead to an original paper that was the source of a copied passage, as bibliographic mistakes are often not corrected. And even if Google Books does not show more than perhaps a page or even only a few snippets from a potential source, if the material looks promising, it can be obtained from a library using interlibrary loan.

One can, of course, compare the potential source with the page in the paper being read manually. However, if there is suspicion that extensive portions could have been taken from this source, it might be worthwhile to scan a larger portion of the book. Many libraries have book scanners available to their patrons, often costing very little to use. The pages in question can be stored on a memory stick as pictures and then run through software that recognizes and extracts the text from the pictures. This process, called optical character recognition (OCR), is sometimes even offered by the scanner software installed on the machine.

Once a suspected source has been obtained, it can be easily compared with the student's text. It is advantageous if the student's text has been handed in digitally, but if not, it can also be digitized as explained above. Using a highly effective algorithm called SIM_TEXT that was developed by Dutch computer scientists (Grune and Huntjens 1989), the similarities can be quickly marked. A contributor to the German public plagiarism documentation platform VroniPlag Wiki has

implemented the algorithm for free use in any browser (VroniPlag Wiki [n.d.](#)), as shown in Fig. 1. Since this program runs locally on the user's machine, there is no copy of the text transmitted over the Internet.

According to a study conducted by Turnitin, one of the most popular sources for students is the Wikipedia (Turnitin 2011, p. 3). Wikipedia is perhaps perceived by students as being "free," so they do not see it as plagiarism to copy from it. However, Wikipedia is under a Creative Commons license, CC-BY-SA (<http://creativecommons.org/licenses/by-sa/4.0/>), which requires that any use of text must include a link back to the Wikipedia article and the list of authors for that particular article, as well as putting the usage under the same license. Wikipedia even offers a link on every page for generating a proper citation to that page.

There is an experimental tool, PicaPica ([n.d.](#)), that compares a text with an entire Wikipedia to determine if any portions of the text are close or identical to Wikipedia pages. It is rather reliably able to detect copies from a number of languages, but it does not detect translations of Wikipedia articles (Weber-Wulff 2014b). It is also possible to search in older versions of a Wikipedia in order to see what a page looked like on a particular date or to find the date at which a particular sentence or phrase was introduced into a specific article. WikiBlame (Flominator [n.d.](#)) is a simple but useful tool that will look back through an article's revision history and attempt to identify when a particular wording first occurred.

If there is a suspicion that a student has copied a picture from the Internet, there are a few possibilities for finding it. There are tools such as TinEye ([n.d.](#)), a free online service that has indexed billions of web pictures, or Google Image search. With both tools a picture can be uploaded to the site, or the URL of an online picture entered and a search is made for sites that have versions of this picture. They can even find pictures that have had modifications made on them. If good keywords describing the picture can be found, both Google Image search and the Wikimedia Commons ([n.d.](#)) can be used to find pictures that are potential sources.

Thus, there are a number of reliable, free tools that instructors can use for finding plagiarized sources. It is not necessary for them or their institutions to purchase software for finding text matches. Such software can, however, be an additional tool to use when a text reads as if it is plagiarized, but potential sources cannot otherwise be located.

Current Research in Plagiarism Detection Technology

In order to broaden the ability of software to effectively find text matches, there are a number of areas in which current research is being conducted. However, the systems are not available as products, and none will be able to offer the "litmus test" so many instructors and administrators wish to have, even if they do explore innovative ideas for detecting text similarities.

There is a research group at the University of Weimar in Germany (Meyer zu Eissen and Stein 2006) that is attempting to automate **intrinsic plagiarism detection**, that is, determining that a paper is a plagiarism by analyzing the internal

<p>AZuRE, a scalable system for automated term disambiguation of gene and protein names</p> <p>Podowski, Raf M,Cleary, John G,Goncharoff, Nicholas T,Amoutzias, Gregory,Hayes, William S</p> <p>Researchers, hindered by a lack of standard gene and protein-naming conventions, endure long, sometimes fruitless, literature searches. A system) is described which is able to automatically assign gene names to their LocusLink ID (LLID) in previously unseen MEDLINE abstracts. The system is based on supervised learning and builds a model for each LLID. The training sets for all LLIDs are extracted automatically from MEDLINE references in the LocusLink and SwissProt databases. A validation was done of the performance for all 20,548 human genes with LLIDs. Of these, 7,344 produced good quality models (F-measure > 0.7, nearly 60% of which were > 0.9) and 13,202 did not, mainly due to insufficient numbers of known document references. A hand validation of MEDLINE documents for a set of 66 genes agreed well with the system's internal accuracy assessment. It is concluded that it is possible to achieve high quality gene disambiguation using scaleable automated techniques</p> <p>Proc IEEE Comput Syst Bioinform Conf; (2004)</p>	<p>Suregene, a scalable system for automated term disambiguation of gene and protein names</p> <p>Podowski, Raf M,Cleary, John G,Goncharoff, Nicholas T,Amoutzias, Gregory,Hayes, William S</p> <p>Researchers, hindered by a lack of standard gene and protein-naming conventions, endure long, sometimes fruitless, literature searches. A system) that is able to automatically assign gene names to their LocusLink ID (LLID) in previously unseen MEDLINE abstracts) is described. The system is based on supervised learning and builds a model for each LLID. The training sets for all LLIDs are extracted automatically from MEDLINE references in the LocusLink and SwissProt databases. A validation was done of the performance for all 20,548 human genes with LLIDs. Of these, 7344 produced good quality models (F-measure >0.7, nearly 60% of which were >0.9) and 13,202 did not, mainly due to insufficient numbers of known document references. A hand validation of MEDLINE documents for a set of 66 genes agreed well with the system's internal accuracy assessment. It is concluded that it is possible to achieve high quality gene disambiguation using scaleable automated techniques</p> <p>J Bioinform Comput Biol; (Jun-2005)</p>
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Fig. 1 Comparing text with the VroniPlag Wiki tool. One text can be pasted into the box on the left, another into the box on the right. The minimum number of successive, identical words that are to be marked can be changed using the drop-down list, four words is the default value. The resulting page colors identical text in the same color in both columns, changing to another color when some difference is encountered – a word missing or added or changed spelling. The resulting page gives a good idea about the extent of the exact overlap, and the parts that have been changed stand out clearly. Even though this is a simple method, it is effective and it is possible to print out the results

structure and uncovering changes in style instead of finding possible sources. This is closely related to the authorship identification problem. That is, given a document of unknown authorship and a collection of documents for which the author is known, can the text be classified as having been written by one author in particular? A yearly workshop (PAN 2015) is held in which research teams train their experimental systems on data provided and see how well they fare on unknown data.

A research group at the University of Constance in Germany has been looking into **citation-based plagiarism detection**. In this method, the text is ignored and only the identity and order of the references and the citation patterns are compared. Currently, the citations have to be hand-coded, so this precludes the use of the technique on a larger scale. But it has been shown that, for example, translation plagiarism can be detected if the citation patterns used in the text have a strong overlap (Gipp 2014).

There are quite a number of **semantic plagiarism detection** methods under investigation by various research groups around the world. These highly experimental techniques try to map the meaning of a text and look for documents that display a similar meaning structure. This can be as simple as looking for synonym replacement, or word insertion and deletion, or word rearrangement. There are also experimental systems that attempt to glean the meaning from paragraphs for comparison to others, but here, too, there are no systems even close to being available for general use.

The Practice of Software-Based Plagiarism Detection

Software cannot accurately determine plagiarism; it can only indicate potential plagiarism. The decision whether or not a text parallel indeed constitutes plagiarism can only be determined by a person, as has often been stated in this chapter and elsewhere in this handbook. The interpretation of the reports generated by such systems is not an easy task. Training is required in order to be able to use the results to arrive at a conclusion. Basing a decision or a sanction only on a number produced by an unknown algorithm is irresponsible, as this indicates a lack of true understanding of the meaning of the numbers. Different programs will generate different numbers; some will even report a different value if the text in question is re-examined. How should institutions use such software, if at all? It is important that the promises of the software, whether implied by the company marketing the software, or imagined by the purchaser, be tempered with a realistic view of the capabilities of the systems. The pitfalls are many, and they can lead both to false accusations of plagiarism as well as the incorrect assumption of originality. If the use of the systems is so difficult, the question arises as to whether or not text-matching software should be routinely used in a university setting. Since there are three major roles at a university that are affected by plagiarism, each of them needs to be considered independently.

Should *students* be given the opportunity to use such software as a formative device for checking their papers before turning them in? As much as they might want to do so, it is wishful thinking to hope that software can prove originality. This use of the software could encourage novice writers to write to the software, that is, change around their wording enough or substitute enough synonyms for the software not to report too much identical text. There are even free tools available to students that will automatically replace enough words with a synonym so that plagiarism detection software will not identify a text match. The results of such machinations are quite unreadable, and this leads away from the goal of teaching students how to write coherently in their own words.

Should *instructors* be able to use the software on the papers their students write? In general, a comprehensive use of software on all written material from students can send the wrong message that students are assumed to be guilty until “proven” innocent. Instead, a university may wish to make one or two systems available for situations when instructors are suspicious of a paper and have not been successful in finding a source using search engines on the web. Since the use of the systems can be difficult and the interpretation of the reports is not necessarily a simple task, there should be a central service point, perhaps in the university library or computer center, tasked with helping instructors use the systems. Even if many software companies prefer to have all papers submitted because they keep copies in their databases, it is important that the universities make it clear that they are the customers and that they expect to have appropriate pricing models for their desired manner of use. Having multiple systems at the instructor’s disposal is important, as different systems do report different results, depending on the algorithms and databases used.

An extremely important point is to be clear about the copyright situation. Since the students are the authors of their papers, they are the copyright owners. A university may need to adjust their regulations so that students give implicit permission to check their texts if they are enrolled at the university, or they must give explicit permission to use their texts for plagiarism detection every time they submit, since a copy of the paper will be uploaded for checking to a server that is somewhere outside of the control of the university. Even if the software company promises that they do not retain a copy, it must be ensured that this is indeed the case.

Should *researchers* be able to use the software on scientific papers that they have written? This should definitely be an option, but the same caveats apply both with respect to false positives and also to false negatives. Testing their own papers and seeing the results on something that they know they wrote themselves can be sobering—and temper premature accusations against students.

Dealing with plagiarism after it has happened is time-consuming and frustrating. It is better to prevent it from happening in the first place. By far the most effective means of combating plagiarism is to educate students in the art of referencing and about scientific writing. It must be made clear that referencing is not a painful sort of academic torture, but is done for a number of justifiable reasons (Williams and Carroll 2009). Diane Pecorari (2013) has collected many ideas on how to teach students good source use, especially for second-language writers. Students must be taught how to write and given ample opportunity to practice. Other chapters of this handbook provide more detail on this topic.

Summary

This chapter has looked briefly at the promises made by companies marketing plagiarism detection or text-matching software and the expectations of the users at universities for such software, and then some of the many pitfalls and problems that are associated with their use were described. The unclear meaning of the numbers returned by the systems, the reports that are difficult to interpret, and the indication of plagiarism where there is none (false positives) as well as not reporting plagiarism where there is indeed some (false negatives) are the major problems in the use of such systems.

The promises of plagiarism detection systems are plentiful, but the pitfalls are complex and deep. In practice, the software should not routinely be used on all student texts, but only used as an additional tool in the academic integrity toolkit of an institution. Software cannot be the only instrument for determining plagiarism, as algorithms can be badly modeled or wrongly implemented. They can only deliver evidence that must be evaluated by a human being in order to determine if a text is a plagiarism or not.

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Abstract

This chapter reviews the issues associated with contract cheating, loosely defined as the outsourcing of student work to third parties. The chapter is intended to serve as an overview of current research while also providing practical instruction and guidance to academics and educators.

The discussion begins by introducing contract cheating and comparing this specific form of academic misconduct with student plagiarism. The suggestion is made that current anti-plagiarism methods are not suitable for contract cheating, defined as where a student is requesting an original bespoke piece of work to be created for them. Six types of services that students can use to have work produced for them are listed; these are (1) essay writing services; (2) friends, family, and other students; (3) private tutors; (4) copyediting services; (5) agency websites; and (6) reverse classifieds. Specific challenges associated with each service are provided.

T. Lancaster (✉) • R. Clarke
School of Computing, Telecommunications and Networks, Birmingham City University,
Birmingham, UK
e-mail: thomas.lancaster@bcu.ac.uk; robert.clarke@bcu.ac.uk

Findings related to the wider contract cheating area are given. This includes particular discussion of the research into agency sites, where a student makes the offer of work available to a large number of people who then bid to complete it. The student selects one of the bidders to complete the work based on a form of cost-benefit analysis. Issues considered include the extent of contract cheating, the cost and quality of outsourced work, and the range of subjects in which students are cheating.

The chapter concludes with a discussion of the main methods that can be used to prevent contract cheating. Research into technical solutions, such as stylometrics, put in place to find automated technical solutions to detect contract cheating, is also presented.

Introduction

Contract cheating has been defined in the academic literature as the phenomenon through which students employ or use a third party to undertake their assessed work for them (Clarke and Lancaster 2006; Lancaster and Clarke 2007b). Of much interest to researchers and academics in this field are the mechanisms through which contract cheating is being enabled, the published and verifiable research into contract cheating, and what individual lecturers and teachers can do about this form of academic misconduct.

This chapter begins with a proviso. The contract cheating field is unusual as far as academic research goes in that published academic research is limited, although such research from a variety of academic contributors is included in this chapter. Some potentially contentious information sources stem from investigations conducted by the media. Other information comes from the large archive of presentations given by the originators of the term contract cheating, Clarke and Lancaster, which expand upon much of the traditionally published work. These varied sources are used to support the chapter and to provide an up-to-date overview of the field.

A particular background source used for preparing this chapter has been a set of detailed open educational resources and training workshop materials produced for the Higher Education Academy (HEA) (Lancaster 2014b, c). These are referred to extensively where appropriate, as they provide both a summary of work within this field and many practical examples. The HEA also supports discussions about contract cheating through a designated online Contract Cheating Special Interest Group (n.d.) which has helped to grow the field of knowledge.

A further complication is that the contract cheating research also overlaps with other forms of academic misconduct. As an example, students using an essay writing service to produce work are committing a form of contract cheating, since they are paying to have work completed for them. There is no attempt in this chapter to review every published paper which refers to behaviors similar to contract cheating. The intention of this chapter is to bring together information of interest to the learning community about the contract cheating field and to deliver this in a clear structure.

Due to its very nature as an activity which students would seem to not want to openly admit, much of the detail about contract cheating is unknown. For instance,

there are no complete and reliable results that confirm the true extent of contract cheating, and there is little evidence to support the fallacy that students who are contract cheating are being detected.

Background and Examples of Contract Cheating

The first use of the term contract cheating dates back to a study by Clarke and Lancaster (2006). This study explored how students were using the Rentacoder website (n.d.) to pay other people to do their work for them. Rentacoder is no longer in operation, having been taken over by a competitor, but the type of site, of which there are still many, has since become more formally defined as an agency site (Lancaster and Clarke 2012). Some sources also refer to Rentacoder as an auction site.

Like many agency sites, Rentacoder operated a public bidding process, whereby a student or business could post the work they wanted completed online. Once a job of this type was posted, other parties would bid to produce this work for them. For businesses, these requests for work usually fell within the wider field of technological needs. For students, this typically constituted a request to produce assessed work. Students would usually look to employ a worker who would complete assessments for them for a low amount of money. Rentacoder initially raised the interest of researchers since the requests for work to be completed and the records of the bidding process were public. This meant that statistical data on the use of the service could be collected.

Due to the operational nature of Rentacoder, which began as a service for companies to get technical solutions produced for their information technology problems, much of the student work found on Rentacoder came from the computing academic discipline. Simple examples included programming assignments in languages such as Java and C, database assignments, and spreadsheet work.

Students outside the computing discipline requiring written work typically have other options available. Here, essay writing services state that they will produce assessed work for students, with examples of these cited by Stavisky (1973) back to the 1950s. Modern essay writing services may instead call themselves consultancies, but the underlying principle is the same. While a typical essay may seem like the most common assessment option needed by students, other types of work can also be provided by such services. For instance, the provision of PowerPoint slides and associated scripts, admission essays for college or university, or full research dissertations and project work has also been commonly seen online (Lancaster 2014c).

A further consideration is that students have been seen asking for longer work to be produced in stages. Lancaster and Clarke (2009) show a simple example of this where a student is required to provide a technical design and then review it after feedback and further instructions. This feedback can all be passed on a hired contractor. Further examples of staged work include early plans for essays or chapter-by-chapter delivery of dissertations.

A clear distinction between contract cheating and wider forms of plagiarism is useful here. Plagiarism is usually defined as being where a student takes the ideas or words of another person and uses them as if they were their own and is defined as much in many sources (Culwin and Lancaster 2001; Lancaster (2003, 2013b). Contract cheating represents a form of plagiarism, since a student is using work produced by a third party.

The challenge of contract cheating comes largely during attempts to detect this form of academic misconduct. Whenever a student has plagiarized by taking material from a textbook, journal paper, website, or other location, a source document for that work is available. Modern similarity detection engines, such as Turnitin (n.d.), work because they are based on having access to a whole series of text documents against which plagiarism attempts can be mapped (Lancaster 2013d).

Contract cheating is constructed by a writer for submission and has to be considered as original work. This means that a similarity detection engine, such as Turnitin, will not identify that the work submitted matches other external sources. Hence, current technical methods for detection will not work, unless the contracted writer has themselves taken shortcuts and re-used material from other sources. This is unlikely, as it would not provide that worker with a long-term business model once their use of shortcuts became known.

Since contract cheating is being considered to produce original work, this also means that a tutor looking to take a contract cheating case forward to an academic integrity panel will not usually have the benefit of being able to show where the student copied the work from. Alternative mechanisms and evidence are sometimes available. For instance, this may include a copy of the online public bidding process showing the request made online by a student to have the work produced for them.

Six Main Contract Cheating Services

The HEA workshop materials on contract cheating have suggested six categories of sources used by students for the purpose of contract cheating (Lancaster 2014c). These are

1. Essay writing services;
2. Friends, family, and other students;
3. Private tutors;
4. Copyediting services;
5. Agency websites; and
6. Reverse classifieds.

1. Essay writing services

Essay writing services seem to be positioned and advertised widely to students. In a media interview one UK-based site stated that they had supplied 11,470

custom essays in 2012 (Matthews 2013). Essay writing services are often found online, so these sites that can be used for cheating are immediately available to students based across a large geographical area. Essay writing services can also operate at a local level. An example of this, as shown in Lancaster (2014d), is where business cards advertising essay writing services have been distributed directly to students.

Essay writing services alone have been estimated to produce \$100 million USD per year in revenue, of which half of this is said to be profit (Owings and Nelson 2014). This suggests that such services operate on a large scale and pose an immediate threat to academic integrity.

2. **Friends, family, and other students**

The role of friends and family in contract cheating-like processes is of concern to academic institutions. When any work is completed independently from a classroom setting, it is difficult to confirm which person has produced it. Friends and family able and willing to write essays for students seem easy to find for many. This could be well meaning but exceed the boundary of where a student should be expected to produce their own work. Likewise, other students on the module can be asked to provide an additional version of an assessed piece of work for a friend. It also seems likely that students in a higher year can offer support to students in lower years, particularly where this work seems easier to them than their current assessments.

3. **Private tutors**

Using a private tutor can be a routine method for students to obtain extra support with subjects that they find challenging. The difficulty, from a pedagogical perspective, is ensuring that the private tutor does not end up producing the assessed work, or creating so much of it that it is impossible to distinguish the student's work from the tutor's. Further, some private tutor's advertising appears to thinly disguise that they are really providing a contract cheating service. For example, Lancaster (2013c) provides an example of an academic researcher who is advertising online both private tutoring services and the offer to produce original work for students.

4. **Copyediting services**

Copyediting services are designed to review and improve the writing style in work originally produced by a student. Depending on the level of editing, the finished student assessment may bear little resemblance to the work that the student themselves created. Hersey (2013) found that requests for work to be completed were ingrained within copyediting processes. As an academic also working as a copyeditor online, she witnessed a move toward students asking for work to be completed for them from scratch. She also noticed that many other company workers were willing to produce work for a student, even if she was not.

A related possibility here is that copyediting services found within academic institutions could be misused. For instance, it has been identified that a student could request help multiple times from multiple people until the new work bears little resemblance to their original (Lancaster and Clarke 2008).

5. Agency websites

Agency websites are those where a student can outsource the production of their work based on a competitive bidding process (Clarke and Lancaster 2006). Here, a student posts details of the work they want completed. Workers then quote the price that they would like to complete the work for the student. The student can then select from among those workers putting in a bid.

Much of the current research looking at the extent of contract cheating works through an analysis of the agency site model. This is because records of the requests for works and the bids made by workers are public, providing information that a researcher can use. Due to this, there are examples available of how students are using these sites to cheat and how cheating behaviors can sometimes be detected (Lancaster 2013b). Some essay writing services have also been observed to operate internally using a private version of the agency site model (Bartlett 2009; Hersey 2013). This means that prospective writers see the selection of essays that have been requested inside a private website. They can then themselves bid to write these assignments, potentially helping to keep the cost of the essay writing service hiring workers down.

6. Reverse classifieds

The reverse classified method of cheating is where a student elects to advertise that they need work created for them. This has been observed to happen when students use small ads or classified sites on the Internet. For instance, Lancaster (2014c) provides an example of a student posting on an online forum for people looking to buy and sell digital information. That example is a request for a 2,500-word English language college-level essay, for which the requester will offer \$50 if the work is returned today. Further details about the assignment are not known, as it is assumed that interested parties would then change to private communications to find out more.

Requests to have work completed have also been seen posted in subject-specific online forums. For instance, Clarke (2008) includes a list of sites on which requests for students to have work completed for them have been observed. Examples of sites for programmers, as used in the computing discipline, are particularly prominent on this list.

Contract Cheating Research Findings

Much of the work on contract cheating is facilitated through the use of the Internet. This is a fast moving field and so research findings can be used to indicate contract cheating as it is now, but cannot be considered fully definitive for future reference.

The first contract cheating study, published in 2006, looked at exclusively at the agency site Rentacoder (n.d.) to see the extent to which it was being used for contract cheating (Clarke and Lancaster 2006). An exhaustive search examined 803 requests for work of all types to be completed that were posted over a three-week period. The study showed that 99 out of 803 (12.3 %) of the requests were from students looking for contract cheating solutions.

A second part of the initial study into contract cheating reviewed a sample of 236 users, all of whom had placed at least one contract cheating request on Rentacoder over a 2-month period. The results suggested that repeat offenders were common, with over half of the users having placed between two and seven requests for contract cheating. It could also be inferred from these repeat attempts that the students who were cheating were not being caught at their local academic institution.

A final part of the study identified that six out of 236 of these users had placed 51 or more requests on Rentacoder. Analysis showed that these requests covered such a wide range of subjects and that they were not likely to be requests from a single student. Subsequent research has named these users as intermediary contractors (Lancaster and Clarke 2012). This might represent a third party who is taking orders for assignments to be completed from a range of different students, then themselves outsourcing these through an agency site. The intermediary contractor could profit by charging the students a higher price than they pay the worker they employ, a form of arbitrage.

The academic disciplines that students were requesting contract cheating from have also been analyzed across multiple studies, outlined below. While the initial studies of Rentacoder mainly identified cheating on computing subjects (Clarke and Lancaster 2006; Lancaster and Clarke 2007a), a study of a more general site which is no longer operating in its original format, EssayBay (n.d.), showed a wider spread of subjects (Lancaster and Clarke 2012). The study identified 627 requests for assignments to be produced. The top academic subjects found, ranked by the number of requests, were (1) business and administration studies, (2) social sciences, (3) history and philosophical studies, and (4) subjects aligned to medicine.

A 2014 study of the website Transtutors (n.d.) showed that 71 out of 174 (40.8 %) assignments posted were from the field of business and finance and 40 out of 174 (23.0 %) were from computing (Lancaster and Clarke 2014b). These are two fields for which contract cheating seems particularly prevalent. Other papers have also indicated that contract cheating within the wider business academic discipline is of particular concern (Wellman and Fallon 2012), with a suggestion that as much of 40 % of assessed work on one business course was externally purchased.

Students have been shown to be willing to cheat and to assist other people with cheating. The behavior has been mathematically modeled (Rigby et al. 2015). This saw a study of 90 second and third year students at three British universities in humanities and science subjects. The universities from which the students were sampled were not identified in the paper. The study saw students randomly presented with eight fictitious offers to purchase an essay for their module, along with prices and the expected grades that they would receive. They were asked to confidentially indicate if they would be willing to purchase the essay. The resulting decisions were combined into groups and larger-scale implications were inferred using the choice experiment method. 50 % of students said that they would purchase at least one essay, with 7 out of 90 students willing to purchase on all eight occasions. The other 50 % of students said that they would not purchase any of

the custom essays offered. Students who were likely to fail the module were shown to be more likely to agree to contract cheating than those who were expected to succeed.

Students have confessed to purchasing work in other investigations. A media survey of 180 students at East Carolina University (Ruiz 2014) found that 15 out of 180 students (8.3 %) said that they had paid someone to do their work for them. A higher number, 18 out of 180 students (10 %), said that they had been paid by another student to complete assessments on their behalf. Trushell et al. (2012) found that 45 % of students on a final year education module in a modern British university admitted cheating behaviors. This extended beyond contract cheating, including using tactics such as social engineering, strategic choice of essay titles, using technically impressive jargon, and falsifying references.

Several investigations have looked at the quality of work produced by contract cheating and found it to be variable. In an early media investigation, three written to order essays on copyright law were all found to be below the United Kingdom upper second standard, the standard expected to be achieved by the majority of higher education students. Despite not reaching this standard, all were said to be good enough to pass (Levinson 2005). Similar observations about the quality of work were made during investigations undertaken with the British Broadcasting Corporation (BBC) in 2012 and 2014 (Coughlan 2012; “MP to raise essay-writing firm concerns,” 2014). In these cases, the quality of the work was also said to be neither too good nor too poor, to raise the suspicion of academics grading the purchased work.

The price of work produced by contract cheating has also proven to be varied. In 2005, an investigation by Oppenheim identified costs between \$216 USD (United States dollars) and \$328 USD for a 1,500-word essay created through standard essay writing services (Levinson 2005). An essay of similar length outsourced through the Unemployed Professors (n.d.) agency site in 2014 cost \$130 USD (Fenn 2014). A 2014 media investigation contracted an essay writing worker through a local US classified site. That essay cost \$95 USD (Lavin 2014). The prices listed here are converted to US dollars if this was not the original currency, based on one British pound being worth \$1.60 USD, and are rounded to whole dollar values.

A 2013 investigation looked at the cost of outsourcing a 10,000-word undergraduate dissertation in a business discipline (Lancaster 2013c). Outsourcing using an agency site found multiple offers at prices as low as \$250 USD, with a typical essay site pricing the production of this dissertation at \$762 USD. The same investigation observed that outsourcing a solution from a UK-based supplier, presenting themselves as delivering a premium service, was quoted at \$6,400 USD. This included the option of delivering the dissertation in sections to gain feedback from the dissertation supervisor.

A 2013 study of 336 requests for work on the Freelancer (n.d.) agency site found an average cost of \$101 USD each, although this covered a wide range of potential types and lengths of work (Clarke and Lancaster 2013). By contrast, a specific study outsourcing the production of computer code priced assessments at between

\$8 USD and \$26 USD each (Jenkins and Helmore 2006). This may suggest that contract cheating services, when used strategically, can prove to be a good value.

The effort required for a contractor to complete a piece of work on behalf of a student has been identified. Bartlett (2009) found contracted writers producing ten essays or more per week. Lavin (2014) spoke to a writer delivering between 40 and 50 essays a month, particularly in the nursing discipline, which is a similar figure to that identified by Bartlett (2009). A more formal 2014 study of the turnaround time of contract cheating through agency sites suggested a maximum of 5 days (Wallace and Newton 2014). The observations directly from contractors suggest that multiple assignments can be produced in a single day, if necessary. All of these indications suggest that there is a ready and waiting pool of workers there to do work for students for cash.

The Detection and Prevention of Contract Cheating

Since contract cheating produces original work, detecting it, either manually or through the use of specialized software, has proven to be difficult. It is therefore helpful to think of both the prevention and detection of contract cheating as linked concepts. The threat of detection also provides a deterrent to students. Automated detection techniques are currently at an early stage of development, so this is an area which could benefit from further research.

Much of the success of an approach like this requires the support of teaching staff. Systematic professional development on contract cheating, involving all staff, may be a solution. If so, framing this around detection and prevention may be one approach to engage staff in the local discussions needed.

This section contains suggestions about how contract cheating can be prevented and detected. These are largely distilled from a previous contract cheating workshop (Lancaster 2014b), except where otherwise indicated.

Detection of Contract Cheating

Most contract cheating is currently found using a manual approach. This role is currently dominated by a small number of people, referred to as contract cheating detectives, who voluntarily look for cheating attempts on agency websites. An example cited in many talks, such as in Lancaster (2013c), is that of Robert Clarke, who provides information to other academics when a request for their work to be completed can be identified online. The role is also more formally defined as part of a contract cheating detective process but is noted to be labor intensive for individuals (Lancaster and Clarke 2012).

The detective role could be expanded at a local academic institution level with tutors looking online for their own assignment details. The use of a reward mechanism, where students can identify where other students have cheated, is possible, but there may be ethical issues to consider before this could be adopted.

Manual methods of detection can be difficult due to the lack of tool support. The use of Google Alerts (n.d.) may provide one method that academics can use to receive an immediate and automated communication when a new or edited web page refers to their assignment.

Google Alerts, or manual searches, can be aided by making assignment details unique and easy to search for. As well as using standard search terms, such as their name or course code, academics can also include unique or unusual words or word combinations within their assignment details. When these words then appear in a Google Alert, it is very likely that the listed web pages are related to the assignment being discussed. This may alert academics to contract cheating attempts, or just a breach of the copyright of their materials. An example of a suitable search term would be a unique place name which has been identified solely for use within this piece of assessment. However, such a mechanism would only work if students knew not to change the place name to something that would be searched for.

The way in which an assignment brief is constructed is also important. In order to aid in the attribution of a particular academic or institution, visible embedded text markers (known as watermarks) that are hard for students to remove are needed. Ideally, these will include contact names and contact details, such as a direct email address. A further suggestion is that the assignment briefs are provided in a secure PDF format, so as to make sharing their contents more difficult (O'Malley and Roberts 2012).

Attribution of individual students can be improved if each student receives a unique version of their assignment brief. That assignment brief should have the student details embedded within it. The use of invisible watermarks, such as unique line spacing, can also be useful if a student attempts to remove the visible identifying features before placing the assignment brief onto an agency website. Previous examples of individualization have shown that giving students a unique set of exercises will allow for the identification of a particular cheating student within a larger cohort (Lancaster and Clarke 2010).

More sophisticated suggestions relating to detection have proposed automated detection processes for contract cheating, based around monitoring the contents of agency websites (Clarke and Lancaster 2007). A proposed six-stage process, comprising of (1) publication, (2) collection, (3) identification, (4) attribution, (5) notification, and (6) investigation, modeled the way in which assignment briefs could be submitted to a suitable database. When a request for that assignment brief to be completed appeared on an agency site, it would then be possible for an automated or computer-assisted process to notify the academic who originally proposed that assignment.

A further development of this process has proposed the use of context-aware technology, relying on artificial intelligence techniques to learn about particular students (Lancaster 2013a; Lancaster and Clarke 2014a). At a very simplistic level, a contextual comparative might include the stated location of a student asking for work to be completed, which could be checked to see if this was near an academic institution. It would take multiple contextual comparatives used in parallel to provide an artificial intelligence system with a high degree of confidence in its results.

One of the current areas that seems to show promise, perhaps due to its overlap with computational linguistics and the ability to tap into the skill base of that academic discipline, is stylometrics (Culwin 2008; Stevenson 2010; Wieder 2011). This computational approach requires the writing style of individual students to be automatically tracked throughout their course by collecting all pieces of writing electronically. The intention is that software would identify when the current writing style of a student differs from what the style of assessments that they wrote previously. This may suggest that someone other than the student wrote that particular assessment. It has been suggested that similar methods will also work for computing assignments involving programming (Koumantaris 2011). The use of visualization techniques, so that suspect students and sections of writing can be identified, has also been suggested to offer potential guidance for humans investigating plagiarism and contract cheating (Lancaster 2003; Lancaster and Culwin 2004; Lancaster 2004).

Despite the research interest, there are some challenges with stylometrics that still need to be overcome. The common application of these techniques requires gathering a large amount of work that is known to be written by the student in question. This can be difficult early on in a course, or when a student has already been using a third party to produce work for them. Such writing samples would therefore likely need to be gathered during supervised conditions. Further, any software would need to allow for the improvements in student writing style that could be expected to take place during an advanced academic course of study.

To aid detection, an appropriate tool, such as Turnitin, should be used for written work. While Turnitin will not detect contract cheating, studies have shown some initial success in picking up indicators of contract cheating based on small fragments of identifying text (Lancaster and Clarke 2014b). Further, Turnitin has been shown to help with the process of attributing the academic institution and the teaching staff who originally set the assignment briefs found posted on agency websites (Lancaster and Clarke 2014c).

Prevention of Contract Cheating

Progress toward the detection of contract cheating seems to be slow. It is perhaps, therefore, in the prevention and deterrence of contract cheating where progress can more quickly be made. As with the detection sections, these suggestions are largely distilled from previous workshop efforts (Lancaster 2014b) unless otherwise stated.

One area identified with potential immediate impact would be instilling upon students the benefits that come for them when they produce their own work. It would help students to have an understanding that they are being assessed in order to help them to develop their own skills and to ensure that they can demonstrate that they have subject expertise. Taking shortcuts will not help students in the longer run if they are missing the skills needed to have a successful career. Further independent suggestions have been made that this can be accompanied with a

discussion of wider ethical implications of deception as well as the failure to gain essential skills (Walker and Townley 2012).

To prevent contract cheating, it is essential for institutions and individual academics to consider the ways in which they formulate assessment. Much work has already been done to educate academics that they need to carefully design assessments to prevent plagiarism, so further education to prevent contract cheating seems like a natural extension. There are many discussions available of methods through which academics can write suitable assignment briefs, for instance, in Sutherland-Smith (2008). Some examples of methods applicable to different subject areas may be through industrial simulations or by requiring students to develop a professional portfolio; this could also be used to aid students in their future employability.

Alternatives to coursework can also be considered. These might include examinations, tests, and practical assessments in various forms (Lancaster 2014a). There are several options. Such an examination can entirely replace the use of coursework in a module. An examination could also be used as a smaller portion of a larger module. The examination could also be a component of the module in which it is necessary to achieve a pass. If the exam was failed, the entire module could be scored as a fail, regardless of the performance by the student in the coursework component. However, such an approach is dependent on the individual policies of academic institutions and moving toward an examination-based system may be considered as a retrograde step.

A test can also be directly linked with a piece of coursework. For instance, a student could be asked to improve upon, reflect on, identify the sources used for, or make a small adjustment to a piece of coursework that they have submitted under examination conditions. The idea is that a student will be much more familiar with work that they have put the time and effort into creating themselves. A student showing less understanding than would be expected at this point may not have been fully involved during the creation process.

Similarly, if assessment regulations allow, a viva voce examination with spoken questions can also be used during a longer assessment process. In this form of assessment, a student can be quizzed on the contents of their assessment and asked to clarify and explain particular points. Alternatively, a spoken examination can be used as the sole item of assessment for the module. The main disadvantage of the viva voce approach is the time-consuming nature for large classes. A second disadvantage is the need to ensure that all students are asked questions that are of equivalent difficulty but also provide them with the opportunity to showcase their wider understanding of the area of topic. Some students may also find this type of assessment difficult due to anxiety, which could hamper their performance.

The way in which assignment briefs are structured can be amended, so as to make these difficult to complete by a third party. For instance, this can be done by requiring the additional of localized knowledge which cannot easily be replicated from a remote setting. As well as geographical knowledge, this can be as simple as requiring students to incorporate examples that have been verbally discussed during

their course. A reflective element can also be added to assessments, perhaps through relating them to a larger course of study as a whole.

One approach, used for a science subject, saw students required to write up the results of their experiments under supervised conditions, akin to an examination (Cogdell and Aidulis 2007). Students were also required to attend appropriate workshops. These included a workshop on writing, where students were required to demonstrate core skills, such as referencing and summarizing. This also included a workshop on research and workplace ethics. Such a multi-tailored approach, incorporating assessment redesign with an ethical and practical education, was seen to work well and could be applicable for contract cheating.

Many assessments are taken by students individually, which immediately provides them with a lack of supervision and eliminates peer pressure. Team elements can be added to these assessments, requiring students to work together. As well as simulating an industrial setting, this makes it hard for a student to escape from their team commitments and so does not give them the opportunity to outsource the production of their work. However, the problem of social loafers, which can lead to some students receiving qualifications that they do not deserve, has also been identified, and so careful assessment design to reduce the impact of this issue is needed (Brooks and Ammons 2003).

The use of Honor Codes is a related area, where all students are expected to report their suspicions of cheating by their peers. A student who does not report cheating that he or she suspects is said to be complacent in it and so will be considered to be equally culpable. The literature on Honor Codes seems mixed about how successful Honor Codes are. For instance, established Honor Codes seem to largely provide an effect of deterrence (McCabe and Trevino 1993); however, the diversity of student groups and the American feel of Honor Codes have also been found to be restrictive to further extension of their use (Yakovchuk et al. 2011).

A solution, reported by the media to be used at East Carolina University (Ruiz 2014), is to have so many deliverables in a course that cheating becomes financially untenable. In the article, Dr. Stan Eakins is cited as saying that he requires students to complete 60 deliverables for his course. However, such an approach may not be realistic in many academic institutions, where the issues of assessment loading on students and marking loading on staff have to be considered.

Summary

The wider issues relating to contract cheating are there for universities and higher education institutions to solve. The academic community needs to decide how it can be that writers can move from one academic discipline to another, sometimes turning out multiple assignments in a single day and still be producing work that is judged to be of a passable quality.

Technology means that more students are being exposed to the opportunities presented to them to commit contract cheating. They are also having such cheating

opportunities advertised to them through social media from an earlier age in the educational sphere. The technologies that are causing problems need to be repositioned and used instead to the benefit of academics and to reward the substantial majority of hardworking students.

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Miguel Roig

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Abstract

The concept of self-plagiarism has been typically examined as a type of research and/or writing malpractice often associated with forms of publication misconduct, such as duplicate publication and data disaggregation. In these and related transgressions, previously published text, data, or other intellectual materials are misrepresented as new content in subsequent publications. These forms of inappropriate re-use will be explored in the context of traditional publication domains, such as journal articles, as well as in other domains of research and scholarship not often addressed by the existing publication ethics literature. The chapter's discussion of recycling work is grounded in the notion that authors of scientific and scholarly material enter into an implicit contract with their readers,

M. Roig (✉)

Department of Psychology, St. John's University, Staten Island, NY, USA

e-mail: roigm@stjohns.edu

such that a reader will process this type of content under the assumption that such works are accurate, original to the author, and not previously disseminated. Accuracy in science and in scholarship is always a given. However, as researchers and academics often rely on the work of others, readers must be alerted as to when content (e.g., ideas, text, data) are the authors' own and when they are derived from others' work. Similarly, as previously disseminated work is sometimes re-examined, readers must always be informed as to the provenance of such work.

What Constitutes Re-using Others' Work (i.e., Plagiarism)?

For many who teach in the tertiary arena, such as colleges and universities, it is difficult to imagine a student who, at this point in time, is not familiar with the concept of plagiarism. Indeed, although evidence indicates that most students are able to define plagiarism (Barry 2006; Power 2009; Yeo 2007), other studies suggest a considerable amount of confusion and/or ignorance about plagiarism-related matters, such as the appropriate use of citations (McGowan and Lightbody 2008; Power 2009; Sutherland-Smith 2005a), quotations (Löfström and Kupila (2013), and proper paraphrasing (Hale 1987; Landau et al. 2002; Pecorari 2003; Roig 1997, 1999; Walker 2008). Study after study indicates that many students admit to plagiarizing. For example, the work of Donald McCabe and his colleagues who have surveyed thousands of students indicates that approximately 62 % of undergraduates and 59 % of graduate students admit to having plagiarized at least once (McCabe 2005). Moreover, instructional staff are not always in agreement about what forms of writing constitute plagiarism (Roig 2001; Sutherland-Smith 2005b). And judging by the many editorials (see Roig 2014) and articles that have appeared in the biomedical and social sciences literature (see Habibzadeh and Marcovitch 2011) and by the many articles that are retracted for plagiarism or self-plagiarism (Fang et al. 2012), far too many of those scientists and academics who should know better engage in plagiarism, as well as in many other forms of scholarly and scientific misconduct (Martinson et al. 2005). But, unlike outright fabrication and falsification, the ongoing situation with the misappropriation of others' work should, perhaps, not be all that surprising, given the apparent lack of objective, quantifiable criteria for determining whether plagiarism has occurred. After all, there does not appear to be a widely accepted operational definition for what constitutes paraphrasing versus plagiarism, i.e., how many consecutive words from another source may an author include in a phrase or sentence and/or how many copied phrases or sentences merit a plagiarism charge (Roig and deJacquant 2000)? Thus, in spite of relatively detailed institutional policies on plagiarism (Pickard 2006; Sutherland-Smith 2011) and other existing guidance on this topic, instructors and journal editors may encounter many "borderline cases" involving plagiarism of text.

Plagiarism of other intellectual content (e.g., ideas, processes) presents additional challenges that make such transgressions much more difficult to

operationalize. Moreover, the problem of intentionality (Sutherland-Smith 2011) and the seriousness of these infractions (Howard 1999) have been a source of concern for some instructors. Consequently, because of a certain degree of ambiguity inherent in how plagiarism is typically defined, some cases are likely to be classified by the “I know it when I see it” (Famous expression used in a US Supreme Court case to explain the difficulty of determining whether material in a film should be considered obscene. *Jacobellis v. Ohio*, 378 U.S. 184 (1964)) approach (see, e.g., Pecorari 2008, p. 38).

Self-Plagiarism

An analogous situation with respect to the quantifiable criteria occurs in some instances of self-plagiarism (Peh and Arokiasamy 2008), a somewhat controversial term used to describe situations in which authors re-use their previously disseminated work and pass it off as new. Even the term, self-plagiarism, has been the subject of recent criticism in the sciences (e.g., Andreescu 2013), with some observers pointing out that it is impossible to steal from oneself (Bird 2002; Callahan 2014). In spite of such criticisms, Bruton (2014) notes that “the term self-plagiarism has become too widespread for it to be replaced by different terminology anytime soon . . .” (p. 77).

Relative to its more famous cousin, self-plagiarism is often said to lie in a gray area (e.g., Bird 2002; Jacobs 2011), and it is generally not considered to be research misconduct according to the United States Public Health Service’s (PHS) Office of Research Integrity (ORI). In this regard, Dahlberg (2007) has noted that “ORI often receives allegations of plagiarism that involve efforts by scientists to publish the same data in more than one journal article. Assuming that the duplicated figures represent the same experiment and are labeled the same in both cases (if not, possible falsification of data makes the allegation significantly more serious), this so-called ‘self-plagiarism’ does not meet the PHS research misconduct standard” (p. 4). In the academic context, self-plagiarism is generally considered a form of cheating, and many tertiary institutions caution students against this dishonest practice in their university websites (Bretag and Mahmud 2009). However, other institutions do not mention this specific form of misconduct (Salhaney and Roig 2004), and the concept is unclear to some instructors (Hallupa and Bolliger 2013).

Unfortunately, the same questions about a lack of an operational definition of plagiarism apply equally to self-plagiarism. Moreover, when this type of transgression is covered in academic dishonesty policies, it tends to simply forbid the re-use of papers in new courses that have already been submitted to another course for credit (Bretag and Mahmud 2009). Thus, questions about what constitutes acceptable forms of re-use are seldom addressed in these policies. For example, students may understand that they cannot re-use a previously submitted paper, but what if they re-use three quarters of a paper, or half of a paper, or a quarter of a paper? These questions notwithstanding, awareness of self-plagiarism as a problematic practice does not seem to be as prevalent as that for plagiarism. In addition, given

that many students seem to believe that plagiarism itself is not a serious transgression (Park 2003), the question remains as to the proportion of students, and even instructors (see Hallupa and Bolliger 2013), who view self-plagiarism as a form of cheating. With respect to instructors, and assuming that a large portion of contributors to science and scholarship are also university instructors, some evidence suggests that a significant proportion of them might not consider the practice as unethical. For example, Price et al. 2001 presented various ethically questionable research scenarios to health educators and found that 64 % of the sample considered self-plagiarism behaviors acceptable. Certainly, the views of editors and authors can also differ substantially with respect to what constitutes appropriate re-use (Yank and Barnes 2003).

Self-Plagiarism in Science and Scholarship

Several basic forms of self-plagiarism have been identified in scholarly periodicals, and these are briefly summarized below. It should be noted that a common feature of all of these malpractices is that: (1) there is substantial recycled material (text and/or data) in the new paper from the previously published paper and (2) the reader is never informed about the nature or extent of the re-use. In some cases, citations to the earlier published work are, in fact, provided in the new publication, but this is sometimes done in such an ambiguous manner that the reader is unable to determine the extent of and/or true nature of the re-use, let alone whether re-use has taken place. All such cases in which readers are not informed, or are misled, about the re-use should perhaps be termed “covert” (covert duplicate publication, covert salami publication; see, for example, Tramer et al. 1997; Roig 2006). von Elm et al. (2004) and, more recently, Bruton (2014) provide a more extensive treatment of the various forms of this type of “double-dipping” in journal articles. A brief review of common forms of self-plagiarism in the sciences follows.

Duplicate publication. A common form of self-plagiarism, and one that appears to be on the rise since the mid-1990s (Larivière and Gingras 2010), occurs when an author submits a previously published paper to a different journal. There are many ways in which this type of duplication occurs, and these can range from publishing an identical copy of the earlier published version to one that contains some minor changes. The end result is that the “new” paper may appear to be different on the surface, but it is likely to contain substantial amounts of recycled text and, especially, old data that are presented as new. Tramer et al. (1997) have demonstrated the danger of this type of misconduct when duplicated data are interpreted as new data in a meta-analytic study. Yet, it is likely that some meta-analytic studies are contaminated by duplicates. For example, Choi et al. (2014) have reported that 69 % of the meta-analyses carried out by Korean biomedical researchers included duplicate publications. Similar to the Tramer et al. 1997 study, these authors also showed how, in two instances, the inclusion of the duplicates had led to higher effect sizes than would have occurred without inclusion of the duplicates. It bears repeating that presenting old data as new data is tantamount to data fabrication, a

major type of research misconduct, because the “new” data are data that, in reality, do not exist and, therefore, end up skewing the scientific record.

Another way in which duplicate publication may manifest itself is through translations of previously published works. For example, a paper that was first published in a low-circulation journal in one language may be later translated and then published in a journal of greater circulation or vice versa. An argument in support of this type of duplication is that such duplicates in a different language serve a greater purpose when others who cannot read in the language of the original paper can benefit from the wider dissemination of the research. Few would disagree with such noble purpose, and, in fact, some journal editors (e.g., Dickens et al. 2011) will accept such manuscripts provided that the authors disclose the prior publication. Obviously, this approach is only meaningful and appropriate when the authors acknowledge the prior published version to readers, as per long-established criteria for republishing already-published journal articles. Thus, according to the guidelines published by the International Committee for Medical Journal Editors (ICMJE 2014), authors may submit for publication a previously published paper if the editors of both journals give their approval. The secondary publication must aim at a different audience; it must “faithfully” reflect the data and interpretations of the primary publication and respect the primary status of the prior publication. There must also be full disclosure to readers and all other relevant parties, such as documenting agencies, about the previous publication including its full citation. Finally, the title of the secondary publication must indicate that it is a secondary publication (i.e., a translation) of the original. Although these guidelines serve the biomedical research community, they should be equally applicable to other scientific and scholarly disciplines in which the scientific status of a claim rests on the number of independent observations made in its support. The overriding concern here is that the provenance of evidence must always be made clear to readers.

Augmented publication. A particularly problematic type of self-plagiarism occurs when a set of data is published once, but it is then republished again with additional observations (see Smolčić and Bilić-Zulle 2013; also known as data aggregation, Kim et al. 2014). For example, consider the following fictitious scenario: Three surgeons decide to describe the effectiveness of a new surgical procedure with the results of twenty successful cases. Subsequently, two other surgeons who adopt the new technique contribute additional cases to the original database, and the combined data are analyzed and presented in a new paper with a modified title, a few additional authors, a larger set of cases, but no mention of the earlier publication (i.e., cross-referencing). In some cases in which the previous publication is cited, it is done in an ambiguous manner such that readers are misled into believing that the new data set is independent from the old one. As with the traditional duplicate publications, the new publication is likely to have significant portions of verbatim text from the earlier published version. However, the more fundamental problem with cases of data augmentation is that old data are mixed with new data, and the combined data are presented as new, thus likely contributing to the skewing of the scientific record. An example of this type of self-plagiarism is

briefly described by Bonnell et al. (2012) (see also level 4 of duplicate publication in Davidhizar and Giger 2002).

Salami publication. Generating two or more published papers from the same study is generally known as “salami slicing” (Hoit 2007; Huth 1986; Nature Materials 2005), but terms such as “data disaggregation” (Houston and Moher 1996) and “least publishable unit” (Broad 1981) have also been used. As an example, consider a fictional large-scale retrospective study on health gains and health-care cost outcomes in a sample of type II diabetes patients who are examined according to their dietary and exercise activity. The results of the study are published in a diabetes journal. Sometime after publication, the authors (again, and for a variety of reasons, new authors may be added and old authors dropped) decide to reanalyze the data by including other demographic variables that were not examined in the previous study and excluding a very small number from their sample, such as underweight subjects; they publish the results in an obesity journal with only ambiguous cross-referencing or no cross-referencing between the papers (see Houston and Moher (1996) for a detailed description of one case). Instances such as the one depicted in the above scenario are likely to mislead readers into believing that the later study provides new data that are interpreted to be independent from the data reported in the previously published paper.

In other versions of salami publication, there may not be any recycled data. That is, prior to any publication, the authors may decide to segment the data set into separate discrete units in order to maximize the number of publications produced from the larger, original data collection effort. For example, they may decide to publish the results of outcome costs in one journal and the results of the health gains data in another journal (see Martin 2013; Smolčić 2013 for additional examples). Although both papers will obviously share some text similarities in terms of sample descriptions and perhaps some other methodological characteristics, much of the rest of each paper could conceivably be very different from the other. It is perhaps for these reasons that at least one author has questioned the inclusion of salami publication as a type of self-plagiarism (Bruton 2014).

Admittedly, some instances of salami publication are entirely justifiable. For example, certain types of complex longitudinal studies will yield data about outcomes at various points during the course of the study, and such data need to be published, including later studies from additional follow-up analyses. A similar situation may occur with multicenter clinical trials in which it may be meaningful to report the results from a single center (see Houston and Moher 1996 case). Some cases of fragmented publication (Smolčić and Bilić-Zulle 2013) are the exact opposite of augmented publication in that rather than adding more data to the original data set, some of the data from the original set are excluded, and this may be done for a variety of legitimate reasons. But, again, the key issue is the lack of transparency regarding the provenance of data in terms of how these studies relate to each other. Thus, authors must always disclose relevant details regarding the provenance of the data and any related publications.

Text recycling. By far the most common form of self-plagiarism in science and scholarship occurs when authors re-use substantial portions of their own previously

disseminated text in new publications. Evidence indicates that some academics recycle relatively minor portions of text (Bretag and Carapiet 2007; Roig 2005). However, other evidence suggests that, in some instances, the amount of re-use can be considerably greater than 50 % or 60 % (see, e.g., Neligan et al. 2010). Before reviewing this relatively common malpractice or “misdemeanor” so termed by Zigmond and Fischer (2002), it may be useful to discuss an approach to writing papers that would drastically reduce most instances of plagiarism and self-plagiarism.

Reader-Writer Contract

The reader-writer contract is an approach to reading and writing that has its origins in the humanities (Tierney and LaZansky 1980). This approach holds that readers of academic work operate under three basic assumptions about the material being read. The first assumption concerns the creation and ownership of the work, which conveys to readers that the material presented is the exclusive creation of the listed authors. In instances in which others’ ideas are being conveyed, the authors indicate others’ ownership of that material using standard scholarly conventions, such as citations, footnotes, or other literary mechanisms. In addition, the reader-writer contract stipulates that any facts, figures, and ideas are accurately represented by the authors to the best of their ability. Finally, readers are assumed to approach these works with the understanding that the material is new and that in instances where such is not the case, readers are, again, informed about prior disseminations using established scholarly conventions (e.g., citations or footnotes). For example, the author of a work that has earlier been published in another language informs the reader of this fact in the front cover, title, or elsewhere in a prominent manner or as per ICMJE conventions. A new edition of an older textbook is identified as a newer version of the previous edition by either the phrase “revised edition” or the edition number. In both of these latter cases, there is, or should be, a clear understanding on the part of the reader that a substantial amount of material has been recycled from the previous edition. With this context in mind, the problem of self-plagiarism is explored further.

The first two elements of the contract, originality and accuracy, are consistent with basic standards of ethical scholarship found in traditional writing guides for research papers, theses, and dissertations. These elements are also covered in many scholarly and scientific journals’ instructions to authors and in related guidance issued by professional organizations (e.g., ICMJE). The third element, which compels authors to be transparent with their readers regarding any prior dissemination of their work, is central to the problem of self-plagiarism. Various aspects of self-plagiarism are also addressed in the sources outlined above. However, the topic is often discussed in the narrower context of duplicate publication and/or duplicate submission of manuscripts and of copyright violation. Moreover, when the topic of potential duplication arises, the cautionary advice to authors is to inform the editor about any potential overlap so that she/he may decide whether a manuscript is

sufficiently original to be published. In instances where the degree of overlap is acceptable to the editor and the paper is published, it is sometimes unclear whether readers are fully informed about any duplication.

Several authors (Bruton 2014; von Elm et al. 2004) have described the various forms of this transgression as outlined above, but mainly within the biomedical and, to some extent, the social sciences fields and almost always within the domain of academic and/or scientific journals. However, recent retractions in other disciplines (e.g., Bo et al. 2014; Leonard 2015; Saurin et al. 2014; Statement of retraction 2015a, b, c) suggest that many of the key issues related to self-plagiarism are equally applicable to other scientific disciplines as well to other domains, such as theses, conference presentations, and books.

Beyond Recycling in Journal Articles: Some Considerations of Re-use in Other Scholarly Activities

Books

From old edition to new edition. As noted above, textbooks and similar works that are republished as revised editions of earlier works will contain significant amounts of recycled material; that is, the reader may not be directly informed that significant portions of textual material from an earlier edition will appear largely unchanged in the new edition. However, this is never considered an instance of self-plagiarism. For example, most university textbooks are revised a number of times over their lifetime, and each subsequent edition will likely include many portions of verbatim text of varying length without any modifications. The absence of changes may simply represent well-written content from the previous edition that continues to be relevant at the time of the revision. There may even be situations in which textbooks republished in a subsequent edition two or three years later that contain only very minor revisions, as it might be the case in certain disciplines, such as mathematics or statistics in which content does not change as rapidly as it might in other subject areas, such as biology, chemistry, and psychology. While the ethics of such faster-rate publishing tactics may be debated, these types of situations are not labeled as self-plagiarism as there is, or should be, a general understanding on the part of the readership that repetition of verbatim text from one edition to the other is a given. Thus, in these cases, it is not necessary to alert the reader that recycling of earlier material has taken place. A similar situation occurs with concise/abridged versions of full-length textbooks. The concise version may even contain new writing, graphics, etc., and may even be titled somewhat differently. But the general assumption is that the work is, essentially, the same as the full-length version, though with fewer details and/or narrower coverage.

Re-using Portions of Chapters or Entire Chapters from One Book to Another. There are other situations where the re-use is less clear and may confuse readers. For example, an author of a textbook in, for example, general psychology who later writes a textbook in child development using the same publisher may decide to

recycle large portions or entire sections of some of the chapters from the general psychology textbook (e.g., conditioning, perceptual development) in the new textbook on child development. Alternatively, if different publishers are involved, permission may be obtained to re-use the material allowing the author to re-use the content. The question arises, however, as to whether there is an expectation of novelty, on the part of readers regarding the content of the second book relative to the first book. For this reason, readers should be informed as to the extent of the re-use.

From journal article to book. One can envision instances in which re-use from one source to another may be problematic, such as when authors are asked to write a review paper or a book chapter in their area of specialization. In these situations there may be a very strong inclination to re-use, without informing the reader, portions of literature reviews and discussion sections that have already been published by the same author in other journal articles, edited books, or monographs (see Martinson et al. 2011 for an example). However, in addition to potential copyright issues, a reader who has already acquired the earlier works may be expecting a fresher, more up-to-date perspective from the author. From a purely pedagogical perspective, if the primary purpose of academic work is to educate others, it would be more effective to convey the information in a different manner, rather than to merely repeat the same message verbatim.

Conference Presentations

Same paper presented at multiple conferences. In some disciplines, questions have been raised about the appropriateness of presenting the same or roughly the same paper at different conferences (Sigelman 2008). Certainly, issues regarding the provenance of data and the need for transparency with the audience may be similarly applicable in these situations. For example, as with many journals, some conference sponsors insist on original presentations that are exclusive to that conference, while other organizations do not have such requirements. Moreover, there are various types of presentations, such as invited addresses, conference submissions, and presentation formats that may determine the appropriateness of recycling previously disseminated material. Although a thorough exploration of recycling across conference domains is beyond the scope of the present work, authors should consider the principles of the reader-writer contract in guiding their conference presentation practices and alert their audiences about any material being recycled.

From conference presentation to journal article. In most disciplines, papers that are presented at conferences are subsequently submitted for publication to peer-review journals. In some disciplines such as psychology and education, it is common for the published papers to include an author note indicating any previous presentation of the paper. However, other disciplines, particularly within the biomedical sciences, may not follow this practice and doing so may depend on the individual journal's policy as detailed in the journal's instructions to authors.

Although the publishing of expanded versions of presented papers has a long-standing tradition that should continue to be strongly encouraged, some issues can arise when authors fail to indicate a paper's prior dissemination history. For example, in the past, conference proceedings were only available in print and were usually distributed mainly to association members or conference registrants. However, the advent of the Internet has made many conference proceedings widely available for dissemination. If the title and authorship of a conference proceeding is different than that of the subsequently published paper, confusion can arise for those who might interpret each product as an independent contribution. Complicating the situation is the fact that conference proceedings come in many forms, ranging from compilations of paper titles with authors to compilations of full versions of presented papers. The latter situation can lead to confusion if changes are made to the structure of the paper in the published product to the structure of the paper (e.g., change in the language and/or authorship, including the addition or deletion of only a few data points which will most certainly change all of the data tables and perhaps even figures, such as line graphs). Thus, the question arises as to whether a reader would be able to recognize these two products as being the same. In addition, the full-paper as proceedings presents additional challenges for authors and editors in some disciplines because many journals are reluctant to publish papers that are largely based on work that is already fully available online, whether in conference proceedings or from some of the fully searchable online repositories or preprint servers. Even more problematic are instances in which an association journal will publish the proceedings of its conference as full papers. Under some conditions, such instances represent primary publications according to long-established guidelines and republication of a paper elsewhere, even if the paper is an expanded version of a conference proceeding, may be viewed as an instance of duplicate publication, not to mention the potential for copyright violation (see Vasconcelos and Roig ([in press](#)) for an example of this situation). In sum, in the absence of clear guidelines, authors can avert any confusion by being mindful of the reader-writer contract and ensuring full transparency with the editor and, especially, with their readers.

Doctoral Dissertations and Theses

From dissertation or thesis to publications. There is a tradition in many disciplines for authors to repackage portions of their dissertations such as dissertation chapters or empirical studies into one or more publications, such as journal articles or books. Doing so is perfectly acceptable and, in fact, some journals' instructions to authors specifically accept this practice. Many authors include a note in the published work to indicate that it is a derivation of, or it is based on, their thesis or dissertation work. However, it appears that this clarification is not always made by authors in some disciplines, though from the perspective of the reader-writer contract it should always be made. An area of concern with respect to publishing portions of theses/dissertations in more than one journal article is whether it makes scientific or logical

sense to break the thesis/dissertation work apart (see section on “Salami Publication”). Thus, to maintain transparency with readers and to avoid potentially misleading them about the context of the research, authors should be required, when appropriate, to indicate in the subsequent journal articles, books, or book chapters the existence of related publications that were also derived from the same thesis/dissertation.

From publications to doctoral dissertations. It is quite possible for some students who are completing doctoral work to have already published in the same area of research and, consequently, may wonder about re-using the content of such publications. There are two important issues to consider in this scenario. Copyright issues aside, and assuming there are no department or institutional guidelines against the practice, re-using content from the student’s earlier publications is entirely acceptable provided that there is full transparency between the student and dissertation committee members and, of course, full transparency with the readers. It should be noted that at some institutions a doctoral dissertation consists of an assemblage of journal articles published by the doctoral candidate as part of his/her dissertation work with perhaps the addition of a more comprehensive introduction and discussion of the entire corpus of work. In instances where the latter is not the standard procedure and assuming that the academic department accepts other forms of re-use of already-published material, there is a possible complication in situations where the published material was co-authored with other individuals. If the dissertation committee members are able to establish that the student’s contributions to the published work are sufficiently substantive and they accept this type of re-use, then permission from the co-authors must be requested to avoid issues of plagiarism. Obviously, such request should be made at the earliest possible stage of the dissertation process.

Why Should Authors Be Concerned About Re-using Their own Previously Disseminated Work?

The apparent rise in student plagiarism in recent years has also given rise to technology that facilitates its detection (Royce 2003; see Scaife 2007 for a review). Thus, services like Turnitin[®] (<http://www.turnitin.com/>), which retain in their database a copy of every document that is submitted for analysis, should give students and others pause before they consider re-using, in part or in whole, an earlier submitted paper to satisfy the requirements of a new course. At the professional, academic level, the increasing digitization and wider availability of scholarly and scientific print material means that a point will be reached soon – at which all academic written work will be easily identified, retrieved, stored, and processed in ways that are inconceivable at the present time. Actually, evidence suggests that students may already be sensitized to this possibility. For example, requiring them to submit their academic work electronically results in an increase in their awareness of various forms of plagiarism and possibly deter some of these behaviors (Mazer and Hunt 2012). Consider the fact that many academic journals use some

type of plagiarism-detection software, such as Crosscheck[®], to screen submitted manuscripts being considered for publication (see <http://www.crossref.org/01company/06publishers.html>). Editors using this technology have become alarmed at the large number of submissions containing plagiarized content (Baždarić et al. 2012; Bazdaric 2012; Shafer 2011) and likely self-plagiarized material as well. In addition, it is possible that other tools, such as eTBLAST and its resulting database, Déjà vu (Errami et al. 2008), which has already led to various retractions in the biomedical literature (Errami et al. 2008), are likely to become an established tool for use in screening scientific journal articles and perhaps other non publication domains, such as grant proposals.

Summary

In view of the increasing attention being given to the topic of self-plagiarism and of the recent developments in software technology designed to detect text re-use, students and professionals may need to reconsider previous practices with respect to publication. Doing so will be difficult for some, particularly for those who fail to see self-plagiarism as a questionable practice for those who may have limited language/writing skills and have relied heavily on the practice of recycling their previously written content. At a time when calls for transparency in science are at all-time high, keeping in mind the reader-writer contract throughout all stages of their scholarly activity may lead authors to adopt writing and other research practices that are more sensitive to the principles of responsible scientific and scholarly conduct. In turn, it is possible that these same attitudes may extend to other areas of personal and professional academic behavior.

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Section VII

Discipline-Specific Approaches to Academic Integrity

Tracey Bretag

Tracey Bretag

Abstract

This section of the *Handbook* aims to address the oft-repeated calls for discipline-specific education about academic integrity, with contributions about distinctive academic integrity understandings and issues in the humanities, the social sciences, legal education, Science, Technology, Engineering and Mathematics (STEM), medicine/health, and non-text based disciplines such as computing and design.

From the early 1990s, instructors, librarians, and scholars have been calling for discipline-specific education about academic integrity. Currie (1993) noted that in addition to managing a range of cultural, cognitive, and social demands, students new to the university must develop a range of skills, abilities, and knowledge particular to their disciplinary community. However, the author lamented that “little is done actively to initiate students into the intellectual and discursive conventions of the various disciplines” (Currie 1993, p. 102). Wilhoit (1994, cited in Lampert 2004) called for instructors in every field to define plagiarism from that discipline’s perspective, noting that plagiarism in a science class would look and sound very different to that in a music class. Abasi and Graves’ (2008) research concluded that students’ citation practices are linked to “students’ socialisation into the academic disciplines and their gradually taking up of disciplinary ways of speaking and writing” (p. 225). Calling for collaboration between librarians and faculty, Lampert (2004) argued that we need to develop “effective ways to capture student attention about required citation styles, the ethics of information in various disciplines, and assess [students’] understanding of these concepts” (Lampert 2004, p. 347).

T. Bretag (✉)

School of Management, University of South Australia, Adelaide, SA, Australia
e-mail: tracey.bretag@unisa.edu.au

This section of the *Handbook* aims to address these oft-repeated calls for discipline-specific education about academic integrity, with contributions about distinctive academic integrity understandings and issues in the humanities; the social sciences; legal education; Science, Technology, Engineering, and Mathematics (STEM); medicine/health; and non-text-based disciplines such as computing and design.

Cheryl Stenmark opens the section with a chapter entitled ▶ [“Ethics in the Humanities” \(Chap. 47\)](#). Stenmark makes the case that much of the research and training efforts around ethical behavior have focused on the “hard” sciences and business, but wherever a number of people work together, there is a need to clearly explicate expectations for ethical behavior. Stenmark’s chapter describes the ethical issues faced by professionals and academics in the humanities, including such fields as architecture, the arts, history, and photography. The chapter calls for more research in these areas, given the paucity of research on ethical issues faced by humanities professionals and scholars.

Colin James outlines the importance of academic integrity in legal education. He suggests that law students have a special need to understand and practice ethical decision-making given their future roles which will involve making decisions and giving advice that affect the liberty, rights, and property of others. In addition, many jurisdictions require applicants for legal practice to disclose any finding of academic misconduct against them during their education and training. According to James, teaching students about academic integrity may be “the strongest asset law schools have” to facilitate the development of ethical law graduates.

Erika Löfström discusses “academic integrity in social sciences” with a focus on university teaching and learning processes to inculcate integrity among students in business and the behavioral sciences. In company with other contributors to this volume, Löfström notes that much of the existing literature focuses on negative aspects, such as dishonesty, cheating, and the lack of integrity. However, there is also a substantial body of work which provides evidence of practices that promote academic integrity in social sciences. These include formal ethics and integrity education; integrated ethics content; early exposure to ethics content; a focus on trainers, senior academics, and community members; integrity policy; and research practices. Löfström also discusses some of the challenges to building a culture of integrity, such as conventions and practices in thesis supervision which differ markedly among different fields in the social sciences.

In ▶ [Chap. 50, “Prevalence, Prevention, and Pedagogical Techniques: Academic Integrity and Ethical Professional Practice Among STEM Students,”](#) Joanna Gilmore, Michelle Maher, and David Feldon contend that the public needs to be reassured and have faith in the research outputs generated in these fields. For this reason, any definition of academic integrity in STEM should reflect professional standards for ethical practice in these disciplines. The authors review those standards and discuss how they can inform conceptualizations of and policies for academic integrity in STEM education. The chapter further explores the prevalence and causes of academic integrity breaches in STEM and suggests methods for promoting academic integrity in these disciplinary fields.

According to Annette Braunack-Mayer and Jackie Street health care/medicine is a distinctive environment for some of the most egregious breaches of academic integrity, due to the “potentially conflicting web of personal, professional, and financial relationships between researchers, students, government, and industry.” Braunack-Mayer and Street trace the recent history of scientific misconduct and the attempts to control and regulate it, beginning with the Nuremberg Code. The authors provide examples of noteworthy cases of misconduct such as the Tuskegee Syphilis Study in the United States and the Cervical Cancer Study in New Zealand. The chapter outlines the efforts to manage scientific misconduct which have focused on the development of human research ethics guidelines and committees, codes of conduct, and guidelines for publication of scholarly work in medical journals.

The final chapter in this section deals with perhaps the most complicated fields in which to develop shared understandings of academic integrity practices and responses to academic integrity breaches. Simon explains that the requirements of academic integrity have traditionally been framed in the context of written prose; yet there are many academic disciplines in which the assessment items bear very little resemblance to written prose. Simon draws on the academic integrity literature in the diverse disciplines of computing and the visual arts, with reference to other fields where assessments are non-textual. He argues that the different expectations and practices in these professions impact on the assessment types and standards and therefore on the methods used to detect academic integrity breaches.

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Abstract

Ethical behavior is critical in both academic and professional life. Because most professionals and academics work collaboratively with other people, it is important for them to behave ethically in order to develop quality collaborative relationships, so that they can trust each other. Because of the importance of ethical behavior in academic and professional settings, research and training programs aimed at improving ethical behavior, and the cognitive processes underlying ethical behavior are becoming increasingly widespread (National Institutes of Health 2002; Steneck 2002).

These research and training efforts have largely focused on professionals in the sciences and business. Ethical behavior, however, is important in any

C.K. Stenmark (✉) • N.A. Winn
Department of Psychology, Sociology, and Social Work, Angelo State University,
San Angelo, TX, USA
e-mail: cstenmark@angelo.edu; winn.nicolette@gmail.com

endeavor which involves multiple people working together. The Humanities have largely been ignored in explorations of ethical issues, particularly with regard to research ethics. This chapter argues that extending knowledge of ethical issues into the Humanities domain is important in order to identify the ethical problems faced by individuals in the Humanities, so that tailored research and training on these types of situations can help these individuals to deal with such problems.

Introduction

Ethical behavior is important in both academic and professional life. Because most professionals and academics work collaboratively with other people, it is important for them to behave ethically in order to develop quality collaborative relationships so that they can trust each other. Even if they are not working directly together, most professional and academic pursuits involve people in one way or another; thus, ethical issues are inherent. Finally, most fields involve competition for resources, monetary or otherwise; the competition and pressure to gain those resources has the potential to lead people to engage in unethical behavior to obtain them. Because of the importance of ethical behavior, research and training programs aimed at ethical behavior, and the cognitive processes underlying ethical behavior are becoming increasingly widespread (Steneck 2002).

Research and training efforts on ethical decision-making and behavior have largely focused on professionals in fields including business (e.g., Sekerka 2009; Waples et al. 2009), medicine, engineering, and other sciences (e.g., Kligyte et al. 2008; Mumford et al. 2008); however, ethical behavior is critical for professional work in all fields, including the often-overlooked fields in the Humanities. It is possible that ethics in the Humanities has been ignored because people may not realize that work in the Humanities does, in fact, involve ethical issues. Exacerbating the lack of focus on ethics in the Humanities fields may be the belief that individuals in the Humanities fields do not conduct research. However, ethical problems and the potential for research misconduct are not limited to the sciences and business, but span the academic spectrum. Ethical behavior is important in any endeavor in which multiple people work together or work for each other. Because individuals in the Humanities also face ethical problems, research on such problems is necessary in order to understand the professional and research ethics involved in these fields. At present, research on ethics in the Humanities is being largely ignored, in favor of ethics in business and science.

A sociocognitive approach to addressing ethics training and the identification of ethical issues has been successful in the sciences (Mumford et al. 2008), and it has been applied to the Humanities (Stenmark et al. 2010). Gaps remain, however, that must be filled in order to understand the various ethical issues faced by individuals within the Humanities. This is especially apparent with regard to an understanding of the research ethics involved in the Humanities fields. Perhaps people do not regard individuals in the Humanities as conducting research. Individuals in the

Humanities, however, do indeed conduct research, and the pitfalls associated with the ethical conduct of Humanities research must be outlined in order to help researchers make ethical decisions. There are, in fact, a number of similarities among the ethical issues faced by professionals in the Humanities, as compared to those in the sciences. Extending the knowledge of ethical issues into the Humanities domain is important because research and training on these types of ethically ambiguous situations can help these individuals deal with such problems. The purpose of this chapter is to highlight the need for increased research into training and developing individuals in the Humanities with regard to decision-making, by describing the ethical issues faced by individuals in the Humanities fields. Of particular note are ethical issues pertinent to the conduct of research in the Humanities.

For example, historians' research often does not involve living subjects; ethical conduct in historical research is important, however, because it is vital that historians do not plagiarize others' work and that they honestly present the findings of their research with as little bias as possible. Doris Kearns Goodwin, a Pulitzer Prize-winning author, presidential biographer, and political commentator who wrote a 1987 New York Times bestseller *The Fitzgeralds and the Kennedys*, was accused of plagiarism in said book. She was accused of using portions of other copyrighted sources without giving credit to the original authors. While plagiarism can be considered a straightforward breach of ethical conduct, Goodwin submitted that what appeared to be blatant plagiarism was actually due to deficient research procedures and was, in fact, unintentional (Lewis 2002).

This example highlights the complexity of ethical issues faced by individuals within the Humanities. Ethical behavior does not necessarily constitute following the "rules" and laws (e.g., do not plagiarize, do not fabricate information); a focus on severe misbehaviors does not address many of the ambiguous, day-to-day dilemmas which people are more likely to face (De Vries et al. 2006). Day-to-day, ambiguous situations are just as important to address, if not more so, in order to help individuals avoid misconduct. Empirical research is needed in order to identify the ethical issues individuals in the Humanities face on a daily basis. Furthermore, empirical research is needed in order to develop training that would allow individuals in the Humanities to be aware of and understand the ethical problems they may face and how to think about those problems in a constructive way. Specifically, in order to improve ethical decisions, and ultimately behavior, interventions designed to minimize misconduct must focus on changing the way people think about ambiguous, "gray" issues.

Unfortunately, there has been little empirical research on the ethical issues faced by individuals in the Humanities fields. One could begin by examining the codes of conduct associated with the various Humanities fields. Ethical codes of conduct, however, tend to emphasize severe ethical violations (Resnik 2003; Steneck 2002). This approach leaves out a number of important ethical considerations. Additionally, this approach focuses on the outcomes of the behavior rather than the process involved with making the decisions (Mumford et al. 2009). Thus, focusing only on codes of conduct would likely result in a very limited view of these ethical issues.

What Are the Humanities?

Stanford University defines the Humanities as “the study of how people process and document the human experience” (Stanford Humanities Center 2015). They go on to note that we use the Humanities fields of “philosophy, literature, religion, art, music, history, and language to understand and record our world.” Additionally, architecture is included in the discussion in this chapter because of its emphasis on designing and producing structures that are both aesthetically pleasing and structurally sound. Certainly, architecture shares similarities with engineering, but the aesthetic nature of the field of architecture as well as the role of architecture in the study of history and the record of human experience is highly relevant to the Humanities.

The Humanities, as considered here, consists of a wide diversity of fields. Because of the diversity of the Humanities fields, it can be useful to classify the fields into two subgroups in order to compare and examine the ethical issues faced by individuals in these fields: scholarship and performance. Scholarship individuals, such as those in history, philosophy, and language, focus their work on analyzing and critiquing the human condition. Performance individuals, such as those in the arts, architecture, and photography, create something new and disseminate these ideas to the public or construct useful products from these ideas. This distinction is instructive for organizing the fields within the Humanities in a discussion of the ethical issues individuals in these fields encounter; however, different jobs within the field might be more on “performance” or “scholarship” than others. For example, music, here, is considered largely a performance field. There are, however, a number of music scholars who analyze music in their research; their work would more likely fall into the scholarship category. In addition to the variety of fields in the Humanities, there are a variety of different occupations within those fields, which would involve different ethical issues. For example, consider the field of photography. Family photographers may need to obtain written consent from clients, while nature photographers may be more concerned with abiding by trespassing laws, rather than acquiring the signature of a bald eagle.

Codes of Conduct in Humanities Fields

Despite the limitations of codes of conduct mentioned previously, an examination of codes of conduct is a valuable place to begin an investigation of ethical issues. Codes of conduct are an indication of what ethical issues are most important to the individuals in the field and what types of ethical problems they may face. In the hard sciences, most fields have their own code of conduct addressing the unique problems that professionals in those fields may encounter. Perhaps due to the variety of different job possibilities within Humanities fields, however, it can be challenging for each field to create one ethics code that is inclusive and applicable to each job. While a rare few of the Humanities fields have professional societies with standardized codes of conduct, the majority of the fields have various

unofficial organizations, each with its own ethical code of conduct. Indeed, many individuals within the Humanities remain adamant that a standardized code of conduct is necessary (Kuta 2014).

Scholarship Fields

History and Language: The American Historical Association (AHA) and the Modern Language Association (MLA) present similar conduct guidelines for their members (AHA 2011; MLA n.d.). These codes are among the more thorough and specific codes in the Humanities fields, and they stress the importance of several characteristics for members to uphold. These characteristics include honesty, integrity, and trustworthiness. Both codes call for members to be aware of their own biases, because such biases may influence the way they interpret and report history. According to the guidelines, members should always conduct research with an appropriate methodology even if what they find does not match their personal opinions. Historians often communicate with the public via speaking seminars; thus, it is important that they tell the truth so that history is conveyed as clearly and accurately as possible. Furthermore, when accepting financial sponsorship, historians should always give due credit to the funding source, while being conscious of where this funding is coming from, as funding could potentially bias the research and reporting of history.

Additionally, these codes emphasize the importance of bibliographies and annotations. This creates a record that allows for easier mapping of history and more efficient research. Also, members should always give credit when utilizing others' work and never plagiarize. Furthermore, the guidelines acknowledge ethical workplace practices, encouraging members to be fair in the recruitment and hiring processes. Rewards and disciplinary actions should also be fair, with rewards only being given on merit of professional accomplishment. Similarly, the codes note that historians should be aware of conflicts of interest that may interfere with work obligations.

Philosophy: The American Philosophical Association (APA) does not have a code of conduct; however, some of its members are currently circulating a petition calling for one (Kuta 2014). Currently, APA directs its members to reference the code of conduct developed by the American Association of University Professors (AAUP 2009). First and foremost, the AAUP code states that its members should be truthful and respect students by refraining from discrimination or harassment. Professors should also evaluate students fairly, maintain appropriate professor-student confidentiality, and have appropriate relationships with students. Professors should also respect their colleagues and give credit to them when referencing their work. Additionally, members of AAUP are encouraged to do their part to help govern their academic institute. Alongside this responsibility, professors should heavily consider the importance and impact of their work when they consider taking on work outside of their university, as they may be considered to be representatives of their university.

Performance Fields

Art: Art is yet another Humanities field that lacks an official code of conduct. The College Art Association (CAA 2011), however, provides some conduct recommendations for its members. These recommendations stress honesty, integrity, disclosing conflicts of interest, and abiding by the law. While they are ethically free to challenge limits, artists must take legal responsibility for their actions. Furthermore, safety is highly valued, as artists should report any danger involved with their art. They should be mindful of what materials they are using because the materials could pose a hazard, and they should also strive for sustainability in their art.

This code also encourages artists to treat people properly. For example, it is recommended that all artists copyright their work and avoid infringing on the copyright of fellow artists. If they are working as a team, artists should create a contract to protect the rights of all contributors. Studio assistants, who may be independent contractors, should be provided with a safe work environment. Contracts containing topics such as job requirements, pay, etc., are also encouraged to ensure that all parties have common expectations about the work. Proper paperwork should also be completed with sales. When selling works of art, CAA members should always use a bill of sale that includes the specifics of the sale. Contracts should also be completed with businesses, such as consignment shops and art galleries. Items to be acknowledged in such contracts include expenses, accounting, and duration of the contract. Clarifying as many details as possible in a legally binding contract allows artists to maintain accountability.

Photography: Photography also lacks a standardized code of conduct. One of the most detailed codes of ethics within photography is one by the American Society of Media Photographers (ASMP 1993). This code of conduct emphasizes honesty and fairness while providing high-quality service. It is also important for photographers to respect copyrights and refrain from exaggerating professional qualifications. ASMP encourages photographers to donate time to mentoring fellow photographers, and while constructive criticism is welcome, malicious criticism is highly frowned upon.

This code of conduct also includes business practices. Photographers should never accept bribes, nor should they enter agreements that are unfair. Clients should be respected, and this includes respecting their rights and not misleading them into signing releases or contracts. Written contracts should be used with clients, and confidentiality should be maintained. Photographers should always honor legal, financial, and ethical obligations, and if any alterations are made, without permission, to a photographer's work, he or she should report it.

Theater: Theater also has no standardized ethical code. Many theaters have their own codes of conduct, and different codes exist for various specialties within theater. Despite the partitions within the field, there are some common themes within the codes of conduct found in theater (Thielke 2009). These expectations include always being on time and present for rehearsals and performances while maintaining enthusiasm. Actors and actresses should never change lines without proper consultation, and they should never miss an entrance. Appropriate language

should be used, and respect for fellow coworkers is expected. Constructive criticism is encouraged in order to help improve performance. Respecting the play and the workplace is also highly valued in theater. Workers are expected to put the play before their egos and help keep the workplace clean. Theater professionals are encouraged to leave their theater better than when they originally entered it.

Journalism: Journalism also has no singular code of conduct; however, *The New York Times* provides a code for its journalists (New York Times 2004), which is representative of other similar journalism codes of conduct. This code requires journalists to be truthful, open, and never plagiarize. Journalists should remain neutral and be careful about romantic relationships. If a journalist develops a romantic relationship with a news source, for example, the relationship should be disclosed to the journalist's editors. While such relationships are not forbidden, bias and favoritism may occur or be perceived to have occurred, due to the relationship. Journalists should not accept bribes and must be careful of gift giving and gift acceptance. There are a number of rules in the code that describe different financial situations and what is acceptable. For example, journalists should not accept gifts from people they write about; however, a nominal gift valued at \$25 or less, such as a mug with a company's logo, may be accepted. Declining a gift that violates the code should be done respectfully and followed by an explanation as to why the journalist cannot accept the gift.

Journalists are often recognized as representatives of their respective workplaces, so it is important that they maintain the workplace's image and neutral stance. While pursuing news, journalists should obey the law. When speaking, even in their personal lives, journalists should make sure that any opinions are viewed as that of their own and not those of their workplace. Another way to maintain workplace neutrality is to avoid being involved with politics. Journalists have a legal right to vote, but they should not donate to political parties.

Architecture: The American Institute of Architects (AIA) is one Humanities field that has a well-established code of conduct that is overseen by AIA's National Ethics Committee (NEC; AIA 2012). This code states that architects should strive for professionalism, integrity, and competence while working to raise the standard of excellence within their field. This can be achieved by continually improving one's skills as well as being aware of the social and environmental impacts of one's work. Furthermore, it is important for architects to maintain natural and cultural heritage. They should uphold human rights and avoid discrimination. When considering gift giving or acceptance of gifts, AIA members should never bribe a public official, nor should they accept any bribes as gifts. If an employer wants a member to conduct himself or herself in a way that would require the member to help build a structure that violates laws and endangers people, that member should advise the employer against the action, refuse to participate, and report it to the proper authorities.

Architects must also strive to meet certain standards with colleagues, clients, and the general public. For example, it is expected that members provide pro bono services to help better society as well as focus on educating the general public about architecture. When serving clients, architects should always be timely and

competent while abiding by laws and regulations. If an architect does not possess sufficient knowledge, he or she should consult a qualified architect. Confidentiality and honesty with clients is of utmost importance. Additionally, members should only take on projects for which they are professionally qualified and should be impartial with building contracts. With respect to one's colleagues, members should treat them well and nurture their professional development. With regard to interns, credit should always be given where credit is due. They should also encourage their coworkers to follow the AIA Code. If a member believes that another member has violated the code, he or she should report this to the NEC. Importantly, the AIA states that all professional architects should abide by the code or face disciplinary action.

The diversity of the ethical issues that are addressed in the different fields' codes underscores the complexity of ethics in the Humanities fields. There are a number of critical gaps in some codes of conduct, such as the lack of mention of the ethical conduct of research in many of the fields. This complexity and the gaps are evidence that the Humanities is an interdisciplinary area in great need of research on the ethical problems involved in these fields. Indeed, even architecture's code of conduct, which is the most well-established code of conduct among the Humanities fields, has been criticized for missing important elements for architects to consider in making ethical professional judgments (Sadri 2012). Other scholars point to a lack of ethics focus in the educational training programs for professionals in the Humanities fields (Ohiri 2012). These observations highlight the need for a great deal more attention to be paid to the ethical issues faced by individuals in these fields.

Research on Ethics in the Humanities

Most investigations and interventions on ethical issues in the sciences initially focused on the most severe issues (Steneck 2002). Although severe instances of misconduct are indeed worrisome, the bulk of the misbehavior taking place in the work of professionals appears to be much more subtle in nature. It is the ambiguous, "gray" issues, which are faced on a daily basis that are of concern to most professionals (De Vries et al. 2006). Indeed, even in the Humanities, codes of conduct tend to cover mostly egregiously unethical behavior; they often do not cover the day-to-day ethical problems faced by professionals. Thus, a promising approach to investigating ethical issues is to generate a taxonomy of the problems these individuals encounter.

Helton-Fauth et al. (2003) generated a taxonomy for the social, biological, and health sciences with four broad categories: data management, study conduct, professional practices, and business practices. Such a taxonomy is important because it allows researchers to delineate the domain, which aids research on ethical issues, allows for targeted measurement concerning ethical issues, and, ultimately, facilitates the development of focused interventions to improve ethical behavior. While codes of conduct are a useful starting point in examining the

ethical issues faced by Humanities professionals, empirical research is also vital in determining what types of issues these professionals face on a daily basis. Furthermore, applying a taxonomical structure to ethical issues may aid in the identification of gaps in the recognition of issues faced by individuals in these fields. Thus, recent research has generated a taxonomy of the ethical issues experienced in the Humanities fields (Stenmark et al. 2010; see Tables 1 and 2). Despite the preferential treatment of the sciences and business with regard to ethics research, individuals in the Humanities fields face many similar ethical problems to individuals in the sciences and business. There are, however, a number of unique ethical concerns which plague the Humanities fields as well.

Professional Practices

Professional practices involve the obligations that professionals have to other professionals. Individuals in both the scholarship and performance fields face ethical issues relevant to professional practices, especially in terms of teaching, mentoring, and interpersonal relationships and dynamics. Academics in the Humanities fields teach students to grow as creators and performers, and this can involve strong emotional responses to the course material. This emotional response can raise ethical concerns. Furthermore, academics in these fields provide mentorship on students' development as artists and the value of their work. They work closely together on creative products that involve people's self-identities, which can lead to ethical concerns. The self-relevance of the work also leads to ethical issues in other interpersonal relationships because people's identities are often tied up in the work. Also, sometimes success can be tied to whom is known and name recognition. This aspect of the work means that personal influence might be used to gain favor or status, which may create opportunities for inappropriate, unprofessional behavior.

For both groups, a number of other professional practice dimensions apply as well. For example, it is important that individuals in these fields do not perform work in areas for which they are not qualified or trained. Additionally, protection of public welfare is relevant because it is important that individuals in these fields are aware of the potential impact their work may have on public policy and other issues that may impact the broader society, such as the way history books are written. Furthermore, issues of collaboration are also important for these fields.

Business Practices

While many individuals in the Humanities do not consider their work to consist of business dimensions, most fields do, indeed, include some business dimensions. For instance, most fields deal with contracts or bids, even if they vary from a rather small book contract for a historian to a large-scale production contract for an architect. All fields also deal with issues of conflict of interest and management of their workers and resources used to do their work.

Table 1 Scholarship taxonomy

Broad dimension	Sub-dimensions	Description
Information management and reporting/publication	Publication practices	Procedures for reporting information collection and analysis, including procedures for determining authorship
	Information interpretation and reporting	Issues pertaining to being honest and transparent in the interpretation and reporting of data
	Information/source sharing	Procedures for deciding when and how to share data with other academics and professionals
Study conduct	Institutional review board practices	Procedures for following guidelines for carrying out studies and collecting data from human and subjects
	Informed consent and debriefing	Obtaining informed consent prior to collecting data and fully debriefing participants
	Confidentiality/data protection	Keeping sensitive data confidential
	Treatment of human subjects	Not putting human subjects at greater risk than necessary
	Selection of data sources	Procedures for selecting information sources to minimize potential bias
Professional practices	Objectivity in evaluating work	Applying consistent standards when evaluating others' work
	Recognition of expertise	Conducting work only within one's area of expertise
	Adherence to professional commitments	Avoiding allowing political implications to influence work and being conscious of the impact of one's work on the field as whole
	Collaboration	Fairness in contributing to and managing collaborations
	Protection of intellectual property	Giving appropriate credit when referring to others' ideas
	Protection of public welfare	Being aware of the potential influence one's work may have on public policy and other societal factors
	Teaching	Guiding students development in the classroom and fairly and openly evaluating student work given the subjectivity of the fields
	Mentoring	Guiding students appropriately and encouraging the students' work; preparing students for the social and political dimensions of their field
	Interpersonal relationships and dynamics	Maintaining appropriate professional relationship so as to avoid unfair personal influence on judgments of work

(continued)

Table 1 (continued)

Broad dimension	Sub-dimensions	Description
Business practices	Conflicts of interest	Disclosing affiliations or personal or financial interests involved in work
	Deceptive bid and contract practices	Using grant or contract funds only for appropriate expenses related to the work; being open, honest, and realistic in proposals for contracted work
	Inappropriate use of physical resources	Using professional resources only for professional work
	Inappropriate management practices	Monitoring the progress of a project and procedures being carried out by staff

Performance: Business practices are especially important for performance individuals. Conflicts of interest may be particularly relevant for these individuals, as individuals in these fields must be sure not to review or critique work for which they would be somehow biased (either for or against). Deceptive bid and contract practices are another important ethical issues faced by performance individuals. For example, architects should be honest about costs and time estimates when bidding for a contract to build a structure. Additionally, performance individuals must take care not to engage in inappropriate use of physical resources; for example, it is important that artists and theater individuals do not use physical resources, such as art media or stage props, for personal use. Finally, management practices issues are relevant because if monetary profits are generated from a performance, it is important that the money is distributed back to the company appropriately.

Scholarship: For scholarship individuals, business practices are not as relevant, but ethical concerns regarding these issues very well may occur in some cases. Conflicts of interest are important considerations in most fields. With the scholarship group, these individuals must be sure that they do not review the work of others with whom they have a personal relationship. With regard to deceptive bid and contract practices and inappropriate management practices, it is less likely that individuals in these fields will apply for grants and contracts or that they will work on large projects that require “management,” but it is not so rare that these issues are irrelevant for people in these fields to know about and consider. Finally, improper use of physical resources is pertinent to most fields, in terms of using organizational resources for personal use.

Data Management

The data management dimension for the sciences captures how scientists manage original data that they collect and how they report and publish that information for others. For the Humanities, this can be more broadly considered as working with information and putting it into some publication or media outlet that is disseminated to others. It is important to note that the Humanities encompasses a wide variety of

Table 2 Performance taxonomy

Broad dimension	Sub-dimensions	Description
Information management and publication or dissemination	Publication/dissemination practices	Procedures for reporting information sources and disseminating work to the public, including procedures for determining authorship or who deserves credit
	Information interpretation and reporting	Issues pertaining to being honest and transparent in the interpretation and reporting of information
	Information/source sharing	Procedures for deciding when and how to share data with other academics and professionals
Professional practices	Objectivity in evaluating work	Applying consistent standards when evaluating others' work
	Recognition of expertise	Conducting work only within one's area of expertise
	Adherence to professional commitments	Being conscious of the impact of one's work on the field as a whole
	Collaboration	Fairness in contributing to and managing collaborations
	Protection of intellectual property	Giving appropriate credit when referring to others' ideas
	Protection of public welfare and the environment	Being aware of the potential influence one's work may have on society
	Teaching	Guiding students' development in the classroom and fairly and openly evaluating student work given the subjectivity of the fields
	Mentoring	Guiding students appropriately and encouraging the students' work; preparing students for the social and political dimensions of their field
	Interpersonal relationships and dynamics	Maintaining appropriate professional relationships so as to avoid unfair personal influence on judgments of work
Business practices	Conflicts of interest	Disclosing affiliations or personal interests involved in work
	Deceptive bid and contract practices	Using grant or contract funds only for appropriate expenses related to the work; being open, honest, and realistic in proposals for contracted work
	Inappropriate use of physical resources	Using professional resources only for professional work
	Inappropriate management practices	Monitoring the progress of a project and procedures being carried out by staff

fields, in which professionals conduct a wide variety of studies, using many different types of information. Because Humanities research often does not resemble research in the sciences, people have ignored the importance of ensuring responsible conduct of research in this field. This is a mistake which can be rectified with more research and training on these issues, tailored to the way those individuals in the Humanities fields conduct research.

Scholarship: For individuals engaged in scholarship fields, data management can be considered to be about information management and reporting/publication, reflecting the fact that these fields do not generally collect data in the traditionally quantitative sense; their data are more qualitative. The qualitative nature of the data used in the scholarship fields requires the consideration of issues of information interpretation and reporting. This involves being transparent in the analysis of the information in publications and the sources used to collect information. Another important issue for individuals in the scholarship fields, which is unique from the sciences and engineering, is information/source sharing. For example, journalists may be unwilling to name confidential sources, but experience pressure to do so. Finally, publication practices are an important issue as well, as these academics must cite their sources appropriately and publish only their own original ideas.

Performance: For performance individuals, the data management dimension can be considered to be about information management and publication/dissemination, as individuals in the performance fields typically do not collect original data, but they might examine existing information and disseminate their creative work to the public.

Information interpretation and reporting are also important for performance individuals. This dimension highlights the importance of reporting the selection of information sources so that consumers are aware of any potential biases inherent in the source or method of gathering the information; if the researcher selectively chooses information, the reader should know how the information was chosen. While individuals in the performance fields are free to interpret information as they wish, they should be sure to tell readers where the information came from. Additionally, information/source sharing, as already mentioned for the scholarship fields, is important for individuals in the performance fields for the same reason. Finally, publication/dissemination practices are also important in the performance fields. In these fields, it is important to clearly represent the origin of work and never to represent another person's work as your own.

Study Conduct

The study conduct dimension for the sciences captures the manner in which researchers interact with and treat the subjects of their research and compliance with institutional research policies. This concept is not relevant to individuals in performance fields, as they usually do not collect original data from human participants. However, there may be performance individuals, for instance, musicians, as

mentioned previously, who work less in the performance aspects of music and more in the analysis and interpretation of human responses to music. In this case, these individuals might fall more into the scholarship area or be some mixture of performance and scholarship. Indeed, this is another example reflecting the diversity of the Humanities fields.

Scholarship: For individuals engaged in scholarship fields, issues of study conduct do apply. In fact, many Humanities individuals conduct research similar to the social sciences. A number of research concepts, including institutional review, informed consent, confidentiality protection, and protection of human subjects apply, due to the fact that individuals in the scholarship fields often collect data from human subjects, and this research is often subject to IRB regulations. Furthermore, study conduct issues are particularly important in the scholarship fields because researchers may be uncertain about whether they should obtain IRB approval and follow IRB regulations. Thus, this issue is critical for these researchers. Selection of data sources is also important for individuals in the scholarship fields. It is not only vital for scholarship individuals to describe their sources of information and how they chose their sources, but these researchers must also be sure to select sources that are most likely to be unbiased. At the very least, these researchers must be cognizant of the selective way that their sources are likely to interpret the information.

Discussion

It is clear that ethical issues do exist in academic fields beyond the sciences and business. In fact, there are a number of issues that individuals within the Humanities are concerned about. For example, they are worried about maintaining objectivity in reviewing and critiquing others' work for monetary awards, as well as maintaining appropriate teacher-student relationships and mentorship practices. Furthermore, due to the self-relevant, highly creative nature of these fields, individuals in these fields are also especially concerned about the security of their intellectual property and the information they collect. In the scholarship fields, unlike the sciences, expectations about collaboration and sharing of information are less standardized. In fact, many Humanities individuals perceive research to be an individual effort.

Importantly, as in the sciences (De Vries et al. 2006), although major ethical issues such as plagiarism are relevant, the issues that concern people in these fields most are the day-to-day, ambiguous issues. For example, while an art instructor wants to push students to the limits of their aesthetic comfort zones, questions arise about where the line should be drawn in order to safeguard students from experiencing so much discomfort that they withdraw and no longer gain value from class exercises. Shifting the emphasis of ethics research and interventions to identify these ambiguous, "gray" areas is vital for changing the way people think about ethics and helping people to make better decisions.

After thoroughly exploring the codes of conduct of each of the previously mentioned Humanities fields, it remains evident that the vast majority lack a singular professional society with a standardized professional code of ethical conduct. Furthermore, of the fields examined here, architecture is the only field that has an ethical violation reporting system, as well as a board that monitors the code and such violations. This is something all of the other Humanities fields lack. While some similarities exist among the codes, numerous differences exist, even when comparing the codes within the scholarship and performance classifications. Establishing singular codes of conduct within professions may help improve professional behavior. Having one code allows members to clearly view what is expected of them without the conflict of reading different expectations from different organizations.

In comparing the codes of conduct published by organizations in the Humanities fields to the taxonomy of ethical issues that has been generated by empirical research, there is some overlap. Indeed, most codes of conduct mention general issues that are reflective of the broad dimensions defined by the taxonomy, such as business practices (e.g., conflicts of interest). There are, however, a number of important gaps that were identified by the research that are not covered in the codes of conduct, the most important of which is an emphasis on research conduct in the Humanities. Aside from discussing the major issue of plagiarism, there is little mentioned in the codes of conduct within the Humanities fields regarding responsible conduct of research, especially concerning ambiguous, “day-to-day” issues. The empirical research on ethical issues in the Humanities, however, has identified a number of important ethical considerations involved in Humanities research.

Indeed, the scholarship fields are actually strikingly similar to the sciences in terms of data management and study conduct. The differences lie only in the type of the data and where and how it is gathered. Issues of informed consent and IRB are critical because there is a lack of clarity about when IRB regulations apply and when they do not in the Humanities fields. For the data management dimension, while researchers in the scholarship fields do not generally collect quantitative data, they do collect qualitative data, which must be managed and disseminated properly. For the study conduct dimension, scholarship researchers must be transparent in the methods and sources they used to gather their data.

Individuals in the performance fields generally do not collect original data from human subjects, so the study conduct dimension does not apply. They often collect information, for example, in reviewing or critiquing another’s work, but this information would be archival, published, or historical information, and this work does not involve collecting information directly from humans. Issues of data management do apply to performance individuals, however, as the publication and dissemination of their work must be appropriate, especially in terms of avoiding plagiarism.

With regard to professional and business practices, there are a number of similarities between the codes of conduct and the empirical taxonomy as well, although the taxonomy includes more details on many issues. The professional practice dimension is relevant to professionals in the scholarship fields due to the

social, interactional environment in professional and academic work. While collaboration is limited in these fields, scholars are frequently reviewing others' work and recommend awards, both of which must be handled appropriately and objectively. Finally, the business practice dimension applies in a limited context, including the appropriate management of projects, especially as it relates to managing money and resources.

For the performance area, business practices are especially relevant, as many of these professionals make products or performances for money, and they work with businesses, so contracts and the exchange of money are involved. For example, when a theatrical group performs play, the profits must be managed in appropriate ways, in terms of which areas (e.g., costumes, sets, actors) receive what amounts of money. The professional practice dimension is relevant to performance fields because they should be unbiased in their critiques and reviews, especially when awards are at stake.

Additionally, there are a number of areas which are unique to the Humanities fields, which do not apply to the sciences and business; thus, they tend not to be covered in traditional ethics research and interventions. In particular, teaching, mentoring, and interpersonal relationships and dynamics are especially important in the Humanities. Although the sciences and business do deal with teaching and mentoring, these seem to be especially important in the Humanities, as do social interactions and relationships, hierarchical authority, and power issues. While it is true that these ethical issues may also arise in the sciences and business, they seem to be less markedly relevant because of the nature of the work in these fields. Work in the Humanities, as mentioned previously, is much more personally relevant; thus, these interpersonal issues need to be included in a discussion of ethical issues in these fields. It may be relevant, however, to consider addressing such interpersonal dimensions in the science and business ethics research and training interventions, as these issues are likely to face all individuals in their work.

Overall, delineating ethical issues in the Humanities fields is invaluable to promoting progress in ethics research and practical strategies for addressing issues of ethics and integrity in these fields. Empirical research on these areas is critical, however, in order to determine if any important gaps exist in how we think about ethical issues in these fields. Additionally, empirical research on the ethical issues involved in these fields allows a comparison of the issues faced by these professionals so that commonalities may be found and targeted interventions can be developed. Finally, an examination of the ethical issues involved in the Humanities fields can demonstrate that professionals in these fields face similar ethical problems as the sciences. Thus, it is equally important to discuss ethical issues in the Humanities, as to discuss the issues faced by professionals in the sciences. In conclusion, despite the fact that the sciences often receive the most attention in the study and training of ethical decision-making and ethical behavior, ethics and professional integrity are crucial in all fields. Members of all academic and professional fields have the right and the need to receive training in proper conduct, and research and training development in these areas is warranted.

Summary

Ethical behavior is critical in both academic and professional life. Because most professionals and academics work collaboratively with other people, it is important for them to behave ethically in order to develop quality collaborative relationships, and so that they can trust each other. Because of the importance of ethical behavior in academic and professional settings, research and training programs aimed improving ethical behavior and the cognitive processes underlying ethical behavior are becoming increasingly widespread.

These research and training efforts have largely focused on professionals in the sciences and business. Ethical behavior, however, is important in any endeavor which involves multiple people working together. The Humanities have largely been ignored in explorations of ethical issues, particularly with regard to research ethics. This chapter has argued that extending knowledge of ethical issues into the Humanities domain is important because, if professionals and academics in the humanities fields have common ethical problems, tailored research and training on these types of situations can help these individuals to deal with ethical problems.

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Abstract

Academic integrity is an asset in legal education because it enables law students to practice ethical decision-making as the foundation of a positive professional identity necessary for life as a lawyer. The consequences for a law student found to have breached the rules of academic integrity may be serious because it is a breach of trust, which is a hallmark of the legal profession. Many jurisdictions require applicants for legal practice to disclose any finding of academic misconduct against them during their education and training.

Law schools can do more than teach legal ethics in meeting the high professional standard that contemporary societies need in law graduates. The regime of

C. James (✉)

ANU Legal Workshop, ANU College of Law, Australian National University, Canberra, ACT, Australia

Faculty of Business and Law, Newcastle Law School, University of Newcastle, Newcastle, NSW, Australia

e-mail: colin.james@newcastle.edu.au

academic integrity may be the strongest asset law schools have to assist in that task. Like professional legal ethics, academic integrity involves a system of ethical practice, bordered by rules with real implications for breach. In creating ethical professionals, law schools can inspire students to engage with academic integrity constructively and use it to prove their competence as well as developing a positive professional identity with integrity at its core.

Introduction

This chapter examines the role of academic integrity in legal education in the context of legal ethics in common law jurisdictions. Plagiarism and other breaches may be increasing because of increased use of electronic communication and popular trends in contemporary cultures that tolerate the unattributed re-use of content (Flanagan and Maniatis 2008; NBAR 2013). In most countries the rules for academic integrity in tertiary education are adopted by the university and are broadly the same in all disciplines: students are required to submit for assessment only their own work unless otherwise acknowledged. However, there is a significant difference in legal education. A breach of the rules by a law student is considered to be particularly serious because of the importance of honesty in the legal profession, and the breach may need to be disclosed when the student applies to become a lawyer. Consequently, due to the rigorous requirements of admission to the legal profession, law students are urged to adhere to strict compliance with the rules of academic integrity. Rather than presenting solely as a hazard for students, the heightened importance of academic integrity in legal education empowers it potentially as a model for law students to practice and develop their positive professional identity as a lawyer and to assist in building the moral character they will need in legal practice.

Some law students may be more susceptible to academic misconduct because of their high motivation to achieve. Research shows many law students are motivated by competition, perfectionism, status, and other extrinsic values (Tani and Vines 2009), and these types of motivation could increase the likelihood of some students breaching the rules. Other research suggests that legal education can cause students to shift from intrinsic towards extrinsic values through the emphasis on prestige of winning medals and academic competitions and the potential of employment with a large corporate firm (Sheldon and Krieger 2004). Legal educators who are aware of these risks may want to motivate high performance in students without diminishing their intrinsic values and the integrity of their choices during their law school experience (Larcombe et al. 2012).

The challenge for law schools is to inspire students to embrace academic integrity and engage positively with the rules about referencing, citation, and non-collusion to demonstrate actively how they aspire to be an ethical lawyer. The challenge for law students is to envision the kind of lawyer they want to be and to put that character into practice as a student. Learning the law and procedure is a lifelong project, but adopting a positive professional identity based on academic integrity and its inherent values of showing respect by giving credit can start now.

The Reputation of the Legal Profession

The most profound and troubling questions in the practicing lawyer's life involve matters of ethics. (Turow 1988, p. 50)

Analysts have noted the importance of being able to trust lawyers as a profession, which is crucial for the legal system to ensure the social, cultural, economic, administrative, and political systems are adequately transparent and effective (Tamanaha 2014; Huberts et al. 2008; Brennan 2007). In common law societies, courts often articulate the importance of lawyers' professional integrity. According to the Chief Justice of the Supreme Court of New South Wales, "The legal profession has long required the highest standard of integrity." He then describes the "four interrelated interests," in that lawyers have a duty of trust to clients, fellow practitioners, the judiciary, and the public (Spigelman CJ. in *The New South Wales Bar Association v John Daniel Cummins* [2001] NSWCA 284).

In cases where lawyers are found to have acted dishonestly, courts often apply the law strictly, distinguishing the legal profession as needing to demonstrate the highest standards of integrity (Glaetzer 2014). In one case, the Victorian Supreme Court said:

Indeed, the demands of honesty and fair dealing are probably greater in the legal profession than any other profession. . . . There must be no hesitation on the part of any member of the legal profession when confronted with a situation which could involve dishonesty to immediately desist from any dishonest conduct. (Gillard J. in *Frugniet v Board of Examiners* [2005] VSC 332 [14])

Despite these assertions, even in our most developed countries, the perception of lawyers' honesty is not good. In Australia only 30 % of survey respondents rated lawyers as "high" or better for exhibiting "ethics and honesty" (Morgan 2012). In the USA, it is well understood that most of those who faced criminal charges over the Watergate scandal were lawyers (Harris 1974; Weckstein 1974–1975). Lawyers have also played key roles in major frauds, including financial disasters with international impact such as the collapse of Enron (Ackman 2002; Nicholson 2002–2003; Hodes 2002). Apparent dishonesty among lawyers is not restricted to the USA and has been examined in Europe and developing nations as well (Levi et al. 2004; Oko 2008–2009). Australian lawyers were involved in the collapse of HIH insurance group and have enabled profiteering from deadly products (Birnbaumer 2004). In a speech by Chief Justice Wayne Martin (then QC, counsel assisting the Royal Commission into the collapse of HIH), decisions leading to the loss of over \$5 billion involved the culpability of consultant lawyers whom Chief Justice Martin said owed duties to the company and all shareholders, not just "the managerial clique who may have been responsible for the engagement of the lawyer" (Martin 2003).

Despite some high profile cases (*McCabe v British American Tobacco* [2002] VSCA 197, *ASIC v Hellicar* [2012] HCA 17, *Shafron v ASIC* [2012] HCA 17, *White Industries (Qld) Pty Ltd v Flower & Hart*, [1998] FCA 806), the great majority of

lawyers are hardworking and honest, and there is no shortage of applicants for law schools or the legal profession (Tadros 2014). Many lawyers in public and community service are dedicated to improving society by working directly within its democratic institutions. According to a former Attorney General of Australia, lawyers “. . .those of a noble profession, shaped the ideals and traditions we still cling to today as the very basis of our enlightened society” (Roxon 2006). Further, in a longitudinal study of cases against lawyers in NSW between 2004 and 2010, Hall found less than 1 % of complaints resulted in disciplinary proceedings and that actual proceedings against lawyers related to less than 0.07 % of legal practitioners in the jurisdiction (Hall 2013). It is unfortunate that relatively few cases against lawyers attract significant media attention that feeds an inaccurately negative stereotype of the profession.

Legal Ethics as the Answer

It was only late in the twentieth century that legal ethics became a mandatory subject in legal education in many developed countries. Some critics claim the concept of legal ethics is barely more than “normal ethics,” in that it reflects rules of practice with little connection to the social construct of ethics, and is without a central theme (Bagaric and Dimopoulos 2003). However, in the USA in 1974 following the Watergate scandal, the American Bar Association (ABA) mandated legal ethics as a course for law school accreditation, a decision which seemed to impact on common law jurisdictions around the world. More recently in the USA, the ABA extended the requirement obliging law schools seeking accreditation to mandate a course on the “history, goals, structure, values, and responsibilities of the legal profession” (ABA 2014a, Standard 303(a)(1), p. 16).

In Canada some law schools resisted mandating legal ethics (Arthurs 1998; Cotter 1992); however, a “new cadre of legal ethics scholars” ensured Canadian law students did not miss out for long (Dodek 2008). In England and Wales, where there are several routes into the legal profession (Sherr and Webley 2006), the Lord Chancellor’s Advisory Committee on Legal Education and Training obliged legal educators to ensure students were aware of their obligations to the wider community, not just their clients (Grimes 1996). Some critiqued the reform as representing the “unhelpful disjuncture between academic and professional legal education” (O’Dair 1998). After the Law Council of Australia recommended ethics in the form of “professional conduct” (LCA 1994), the Australian Law Reform Commission criticized the report and Australia’s continuing overemphasis on “what lawyers need to know” instead of “what lawyers need to be able to do” (ALRC 1999). The Council of Australian Law Deans (CALD) argued for the need to develop in students an “ethical responsibility” (CALD 2009). In a more practical vein, Kift et al. published the *Threshold Learning Outcomes* (TLO) for the Bachelor of Laws (Kift et al. 2011). The TLOs require graduates to demonstrate “a developing ability to respond to ethical issues likely to arise in professional contexts” (TLO 1 and 2).

Internationally, consistent with globalization of commerce and industry, the International Association of Legal Ethics formed in 2012 and the International Bar Association, representing 206 national bar associations and law societies, published an “International Code of Ethics” and a “Statement of General Principles for Ethics of Lawyers” (IBA 2014). While these requirements impose high standards of honesty and integrity on the legal profession, questions remain on the role legal education should play aside from teaching a legal ethics subject.

The challenge for law schools is to keep up with the changes that have increased expectations on law graduates to navigate conflicting ethical situations in practice. There is a recent change towards “practical ethics” in the USA with an experiential focus on ethical education of lawyers, and in Australia the idea of “applied” ethics in legal education has emerged (Huang 2015; Parker and Evans 2014; McCulloch 2012). The problem is complex, according to a Canadian researcher, because the enthusiasm to “instill ethics and morality in law school graduates” risks confusing the role of lawyers and for some remains “a claim in need of an argument” (Woolley 2014, p. 20).

In the USA, some law schools have begun investigating the character of people applying to study law (Dzienkowski 2004). In Australia, some jurisdictions allow applicants to obtain certification from the admitting authority on the suitability of their character prior to applying for admission (e.g., *Legal Profession Act NSW*, s. 26). Despite the unsettled nature of legal ethics and the “law of lawyering” in many countries, there is an increasing role for law schools in preparing students for admission, which includes assuring the suitability of student’s character for the legal profession.

Teaching Fidelity and Proving “Character” for Admission to Practice Law

Most countries expect members of the legal profession to be trustworthy, and lawyers who are found to be dishonest can be prosecuted and lose their license to practice law. Similarly, many nations require applicants for the legal profession to “prove” their integrity by making a public declaration that they have never broken the law or cheated during their legal education and training (ABA 2014b; LACC 2011; SRA 2011).

In the USA, the ABA provides model rules of which Standard 504 sets the “moral character and fitness standards” for applicants that have been in place since 1987. Specifically, the “revelation or discovery” of an applicant’s academic misconduct “should be treated as cause for further inquiry” before concluding the applicant “possesses the character and fitness to practice law” (ABA, Comprehensive Guide, 2014b, p. viii). Although it is rare for state bar associations to refuse an applicant admission based on plagiarism as a student (Bast and Samuels 2007–2008; Thomas 2013), the embarrassment alone of making the disclosure may be an effective deterrent especially following the latest statements from the ABA (2014b).

In Canada the National Admission Standards require applicants for the legal profession simply to “be of good character” (FLSC 2014). The requirement is clearer in England and Wales, where Rule 4.1 of the Solicitors’ Regulation Authority’s “Basic Requirements” for admission states:

Unless there are exceptional circumstances we will refuse your application if you have committed and/or have been adjudged by an education establishment to have committed a deliberate assessment offence which amounts to plagiarism or cheating to gain an advantage for yourself or others. (SRA 2011, Rule 4.1)

In Australia it is stringent, with legislation requiring applicants for the legal profession to evidence their integrity and character, in addition to their legal qualifications and professional training (e.g., *Legal Profession Act* 2004 (NSW) s.9(1)(a)). The process in NSW is typical and requires three written character references where each referee is expected to comment specifically on the honesty and integrity of the applicant. The application form contains a number of declarations by applicants which include the following:

6.8 I am not and have never been the subject of disciplinary action in a tertiary education institution in Australia or in a foreign country that involved an adverse finding.

Consistent with the legislation, some Australian courts have applied a strict approach to the need for applicants for legal practice to disclose incidents of academic misconduct (Wyburn 2008). For example, in Queensland in the case of *Re: AJG* [2004] QCA 88, an applicant, found to have copied another student’s work in a professional legal training course, was refused admission and prevented from reapplying for 6 months even though the Solicitors Board (Legal Practitioners Admissions Board) had not opposed the application. A similar result occurred in *Re Liveri* [2006] QCA 152, where the application was refused due to “serious plagiarism” and which forms what was called “the leading case on academic misconduct in Queensland” (Thomas 2013, p. 86), despite the later case of *Re: Humzy-Hancock* [2007] QSC 034 which showed a more lenient approach to the applicant (see below). Nevertheless, Thomas cautions law schools that both cases of *Re: Liveri* and *Re: Humzy-Hancock* demonstrate that courts are able to “look behind the findings of academic bodies regarding academic integrity” when determining an applicant’s character and fitness to enter the legal profession (Thomas 2013, p. 89). The same caution should arise from the Tasmanian case of *Richardson* where the court reexamined the reasoning of the university’s academic misconduct committee when it decided a law student had breached the rules (*Law Society of Tasmania v Richardson* [2003] TASSC 9).

An inference can be drawn from the Australian court cases with possible relevance elsewhere that judges tend to decide admission cases with a “mindset” that a person’s character is fixed and cannot be further developed (Dweck 2007). In the words of one judge: “. . .some matters in the past may be so incompatible with being a barrister. . .that the court will not be persuaded that the applicant is a person

fit and proper for admission.. Character does not change readily. . .” (*Re B* (1981) 2 NSWLR 372 [Moffitt P at 381]). However, a different outcome eventuated in the similar case of *Richardson* [2003] TASSC 9 where a lawyer had failed to disclose a finding about a breach of academic integrity when applying for admission. The court refused the Law Society’s application to remove Richardson from the roll because he had acted in reliance on the advice of two experienced lawyers, albeit his parents. However, in the subsequent Victorian case of *Re OG* [2007] VSC 520, a lawyer was struck from the roll because the court found he had misrepresented the reasons he had received no marks for a marketing course in a business degree.

The lack of clarity in the court decisions on disclosure for admission has led to differences in how students are advised, and consequently the number and extent of disclosures made by applicants for admission. Accepting that disclosures may relate to mental health or other issues aside from breaches of academic integrity, in one study Victorian applicants were 17 times more likely than applicants in NSW to disclose matters that might impact fitness to practice (LACC 2010, Bartlett and Haller 2013). Applicants and their advisors in Victoria, but not elsewhere, seem to take literally the advice of Judge Pagone: “Revealing more than might strictly be necessary counts in favour of an applicant – especially where the disclosure still carries embarrassment or discomfort” (*Frugniet v Board of Examiners* [2002] VSC 140, [5]).

Some applicants have attempted to defend their breach of academic integrity rules by referring to the stress they were under as law students. However, at least in Australia, judges have rejected appeals to stress as a defense or mitigating circumstance, again on an assumption that character is fixed and a student who cheats under stress will likely be dishonest under the stress of legal practice. According to Chief Justice de Jersey,

It is inappropriate that we should, without pause, accept as fit to practice an applicant who responds to stress by acting dishonestly to ensure his personal advancement. (*Re: AJG* [2004] QCA 88, 3)

In Australia, the movement towards nationalizing the profession provides an opportunity to rationalize the various rules of admission and different expectations of disclosure. However, the admitting authority has appeared to favor the Victorian approach in requiring applicants to make full disclosures, including incidents that did not involve a formal finding of breach (LACC 2015). In other countries, there is also variation within jurisdictions and between law schools as to how they respond to student breaches of academic integrity (James and Mahmud 2014; Bermingham et al. 2010). Tennant et al., for example, found inconsistency in the UK across the higher education sector as well as within institutions, although there was a movement towards improved transparency (Tennant et al. 2007). Bermingham et al. also examined the situation in the UK and found significant use of discretion in both the internal regulations and how they were applied (Bermingham et al. 2010). In the USA, the ABA encourages the state admitting authorities to adopt its “Code of Recommended Standards for Bar Examiners” which includes academic misconduct as one of the 13 types of conduct that raise “cause for further inquiry” before

deciding the applicant has the character and fitness to practice law (ABA 2014b, p. viii). Although significant cheating by US law students has been identified in some studies (Jacobson 2007), that issue seems to be one of the many and is not likely to attract change in practice in the short term.

Some researchers would agree that a student who cheats by plagiarism or collusion may be dishonest in the workforce (Nonis and Swift 2001). Some argued after examining the cases on lawyers' disclosures upon admission that: "Failure to live up to expectations at university thus raises serious questions as to a person's capacity for the similar dedication demanded of legal professionals" (Corbin and Carter 2007, p. 66). Despite these views, there is a significant body of psychological research to support the "growth mindset" alternative, which holds that individuals can change and develop their beliefs, attitudes, and capacities with the right kind of motivation (Burnette et al. 2013; Dweck 2007; Schroder et al. 2014).

Legal Education to Legal Practice: The Paradox of Different Rules

Academic integrity is a form of best practice in research and writing, but it applies to academic discourse only. While plagiarism is a breach of academic integrity, it also occurs outside of academia as in breaches of copyright and other forms of intellectual property cases. However, in legal education students need to understand that the system of rules for referencing and giving credit for other people's writing and the rules against collaboration in the form of collusion are not identical to rules outside the academic domain. "Academic misconduct" in its various forms ceases to apply after graduation.

In legal practice, the use and re-use of precedent documents, forms, and paragraphs is common and expected, as is collaboration in drafting documents that could be collusion and a breach of the rules in academic discourse. The change in focus for law students upon entering the legal profession has been described as a "cataclysmal shift away from academic insistence on proper attribution" which can shock new lawyers, although law schools often expect students to "intuit the difference" in legal practice (LeClercq 1999, p. 250). Wyburn has critiqued the strict rules in Australian law schools by suggesting it is unfair to hold students to be accountable to a policy that is much stricter in legal education than applies in legal practice (Wyburn 2009). However, it is the decisions of the courts that have led to the strict approach in law schools, anxious to discourage misconduct and prevent the need for student disclosures.

Honor Codes and Practices in Law Schools

Many colleges and universities have an honor code system, often as a passive, aspirational online document or in the form of a pledge a student signs when commencing university, or a cover sheet when submitting each assessment item (McCabe et al. 2002). In legal education honor codes could serve as a model for

students who as lawyers will need to comply with the rules of legal practice upon admission to the profession (Carlos 1997). Some honor code projects in American colleges are suited to legal education and are adaptable by law schools in other jurisdictions. One is the “Character Counts” model, which focuses on six “pillars” of character – trustworthiness, respect, responsibility, fairness, caring, and citizenship (Josephson Institute 2014). Other universities have a similar policy, such as the University of Newcastle, Australia, where the “code of conduct” applies to everyone including staff, students, and visitors and involves honesty, fairness, trust, accountability, and respect (UoN 2014). Another model is the Academic Integrity Standards Project in Australia which adopts a similar list of values (Bretag et al. 2011) and is applied by the *Exemplary Academic Integrity Project* (EAIP 2013).

A difficulty with honor codes and other academic integrity practices in some law schools is their secret operation (Bassler 2014). Confidentiality for law student breaches does not reflect the reality of full publication of breaches by lawyers, often in law society journals. For admitting authorities, confidentiality may also reduce their ability to get the details of a breach to determine whether an applicant has a suitable character for practicing law. Law schools are conflicted by having to ensure student privacy, while holding them accountable for breaches and appearing consistent with policy and practice (Bassler 2014). In Australia, the admitting authority in some jurisdictions requires applicants to provide a report from their university detailing their academic integrity history (Board of Examiners, *Practice Direction No.3*, 2009, Victoria).

The simplicity of honor codes belies their potential as a focus for developing practical steps for building capacity and motivating students to take academic integrity seriously. Holding the image of a future self that embodies the values articulated in the code may help students get through the difficult times in their assessments when they may be confronted with an easy option to cheat by plagiarizing or colluding in breach of the rules (De Cremer et al. 2010).

In legal practice, however, the rules are understood as a “bottom line” and not an adequate measure of what it takes to have professional integrity. The complexity of legal practice may require lawyers to reassess new situations against their existing personal standards, engaging their values to inform decisions in complex circumstances with ethical implications and conflicting duties. Similarly, while basic honor codes serve a purpose in legal education by communicating the minimum threshold of behavior, aspirational codes give law students the opportunity to reflect on their current practice alongside the positive professional identity they wish to present when seeking admission to the legal profession.

A Positive Professional Identity: “I Need to Start Being that Person”

In jurisdictions where courts take disclosures of academic misconduct more seriously, the rules of academic integrity can be incorporated as a resource for professional development within the curriculum rather than an administrative burden for

law schools. The strategy is to help students adopt “best practice” in academic integrity and motivate them to construct their unique professional identity with integrity at its core. The basic rules of academic integrity are not complex – do not cheat and give credit – and after induction most first-year law students understand and know how to comply. However, breaches still occur in law school, and the reasons vary according to one study from “the insouciant to the intentional” (Devlin and Gray 2007, p. 193).

Motivating ethical development is consistent with a “growth mindset” theory (Dweck 2007) that professionalism can be taught and assessed and that it is crucial for effectiveness in legal practice (Parker and Evans 2014; Hamilton et al. 2012; Hamilton and Monson 2011a, b; Hamilton 2008; Sullivan et al. 2007). Professionalism in this sense is the key ingredient in building a “positive professional identity,” which includes strategies for helping law students develop the kind of personal resilience they will need in legal practice. This identity is a dynamic concept that includes how the law student sees themselves, including how they develop in the context of professional expectations held by them and perceived in others (Hall et al. 2010).

Positive professional identity for lawyers is an application of identity theory in the legal profession and is grounded in professional integrity. Identity theory is informed by research on the advantages of having self-awareness aligned with ideal capacities in a work context, including enhanced abilities to deal with adversity and stress, to engage effectively in unfamiliar knowledge domains, to learn from different cultural experiences in order to enhance performance, to adapt to changing work settings, and to take leadership initiatives in groups to foster positive outcomes (Dutton et al. 2010). Related concepts from the perspective of the legal profession include behavioral integrity (Simons 2008; Trevino et al. 2014) and positive business ethics (Stansbury and Sonenshein 2012), which are consistent with a growing discourse in legal education on the value of enabling students to develop their own positive professional identity (Field et al. 2014; James 2013).

Academic integrity enhances the project of law students developing positive professional identities. More than a resource to teach research and writing, it is a model ethic for law students to practice in developing the professionalism they will need as lawyers. The ethical focus in the domains of academic integrity and professional integrity is similar, in that both assume honesty within specific cultural contexts and are limited by rules of practice. Law students can engage with academic integrity to demonstrate their developing professional identity, as they learn the law, legal process, and transition through law school. Demonstrating academic integrity is necessary, although not sufficient, for entry to the legal profession because it enables applicants to evidence their positive professional identity which includes a suitable “good fame and character” that is “fit and proper” to practice law (s.25 *Legal Profession Act 2004*, NSW).

Teach, Inspire, Challenge, and Motivate

A challenge for law schools is to apply academic integrity policies that enable best practice legal education and development and help align the views of educators responsible for assessments in deciding the boundaries, context, and consequences of a breach of the rules (Bretag et al. 2011, 2013). Discussion has begun on ways to motivate students to make better decisions in academia and aspire to integrity, rather than relying solely on penalizing students for academic misconduct (Lathrop and Foss 2005). While it is important for law schools to inform students about the potentially serious consequences of breaching the rules of academic integrity, how that communication is made can vary significantly at the discretion of legal academics, rather than reflecting a considered policy of the law school or university (James and Mahmud 2014). It is difficult for staff to decide what amounts to breaches of policy because of differing appreciation of the role of intention and other circumstances in each case (Sutherland-Smith 2005). The cases of *Richardson* and *Humzy-Hancock* discussed above show that intention may be relevant, and courts may decide to reinvestigate an academic determination on whether a student had an intention to breach the rules. However, other cases suggest that intention does not need to be proved, or at least the facts enable it to be assumed (Cumming 2007). According to Posner,

Negligent copying can do the same harm as deliberate. Law has a concept of negligent as well as of intentional misrepresentation, and imposes liability for both. . . . Plagiarism can be deliberate or negligent, but at least when it is extensive, it is never unavoidable. (Posner 2007, p. 78)

Some judges have stated that evidence of a student's stress will not be accepted as a defense or mitigation for academic misconduct, although there is a growing body of research on how fatigue, stress, and poor sleep habits impact on decision and judgment (Kouchaki 2014; Riddle 2013; Vohs et al. 2008). Other research suggests how "decision fatigue" can deplete cognitive resources leading to poor quality decision-making among professionals, often in situations when good analysis and decisions are most needed (Campbell et al. 2009; Kouchaki 2014). However, it appears that by encouraging a "moral identity" in individuals, the risk of unethical behavior can be reduced (Trevino et al. 2014).

A study on how legal academics understand academic integrity helps explain the different ways of teaching it and responding to students who breach the rules. Most law lecturers understand academic integrity broadly as being underpinned by values or best defined by what it is not, which is misconduct in various forms (James and Mahmud 2014). There seem to be two main approaches to responding to students who breach the rules. Some lecturers believe in a strict response as a deterrence, to identify and record even minor breaches by a student, so that the student learns early and any future breaches can be more seriously dealt with. Others think a more

nuanced approach is essential, taking into account the serious consequences for a student needing to disclose any breaches when they apply for admission to the legal profession. The two views reflect a similar division in the case law described above regarding judicial attitudes to students who breach the rules.

Given these two approaches in both legal education and legal practice, law schools can initiate discussions with staff and students, examining the disclosure requirements in the local jurisdiction as well as the current case law. It is essential that the discussion does not restrict academic integrity to rule compliance. Instead, it needs to be presented as an opportunity for each student to model how well they can demonstrate their individual integrity by skillful referencing. Similarly, in the area of legal ethics, educators can engage students in case studies, role plays, assessments, and open questions to help them understand and distinguish the principles of academic integrity and legal ethics and the different discourses in which they occur and to realize the broad responsibility of practicing law as “public citizens” (Parker and Evans 2014; Corbin 2013).

In this way law schools can encourage students to reflect on their potential role as a lawyer throughout their legal education. They can draw on academic integrity as a model of the kind of integrity required for developing their individual identity in legal practice. Law students may recognize how the theory of academic integrity can inform their personal values and practices, as in their honesty, trustworthiness, and giving credit where it is due, in ways that not only help them in legal education but also leading to become better lawyers. Empirical research has suggested that intrinsic goal framing, setting one’s intention to achieve goals that one values highly, enables deeper engagement in learning activities, as well as higher persistence and better performance (Vansteenkiste et al. 2006). Students who develop a reflective practice will have begun to align their education and assessment practices with the values of a positive professional identity (Casey 2014; James 2011; Fishman and Lorilei 2011). These studies support the potential of motivating students using academic integrity as a resource for ethical development in legal education.

Shaping Aspirations: Teaching Ethics by “Doing” Academic Integrity

In law, as in other things, we shall find that the only difference between a person without a philosophy and someone with a philosophy is that the latter knows what his philosophy is. (Northrop 1959)

The strategy to help law students accept the importance of academic integrity during their legal education is to engage them in designing the policies that will apply. Students can be invited to examine, analyze, and revise the existing policy and practices, including aspirational codes, processing steps such as text-identification software, and penalties that pertain to identified breaches (Borson and Gordon 2005). While some students will argue for minimizing the penalties,

most will understand the behavior-modifying power of penalties for students at risk. Many will understand that how a law school responds to cheating sends a message to the world about its values and the quality of its graduates. Student discussion can include the role of honesty in the legal profession, whether honesty can be developed in law students through policies of academic integrity, and the impact of policies on students' susceptibility to common problems such as perfectionism, procrastination, multitasking, disorganization, overwork, personal problems, and anxiety from the risk of being accused of academic misconduct.

A student code that students helped formulate may have enhanced capacity to influence behavior. If academic integrity policies can incorporate students' values and priorities, students will appreciate not only the respect afforded them by the process, but will take academic integrity more seriously by understanding its significance to their own development and how it is viewed by their peers. Some students will shift their perspective from reluctant compliance to motivated ambition. By learning it is important to do the right thing, even when "no one is watching," law students will better understand the principle of academic integrity and more easily develop a positive professional identity required for legal practice.

Conclusion

This chapter has argued for engaging the rules of academic integrity to leverage professional development and motivate law students to adopt and practice the professional identity they aspire to be in the future. Academic integrity can be an empowering developmental aspect of the law curriculum instead of an ordinary system of rule enforcement, using fear to motivate compliance. In all countries the legal profession is crucial for social and economic stability and development, despite broad differences in legal systems and changing conventions. In developed nations, the legal profession is fundamental to social stability, and reliance on the integrity of lawyers is assumed, despite occasional and well-publicized breaches. Law schools have a big role in developing the integrity of the legal profession and can do so by engaging academic integrity as a powerful tool to leverage motivation in each student towards being an excellent lawyer.

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Abstract

This chapter focuses on academic integrity in social sciences with an emphasis on university teaching and learning processes. There is a substantial body of work on integrity among business students and students in behavioral sciences. These constitute the main foci of this chapter. The chapter synthesizes the literature in these areas and identifies practices through which academic integrity has been promoted in social sciences. While much of the existing literature focuses on negative aspects, that is, dishonesty, cheating, and the lack of integrity, some literature on teaching and learning provides evidence of aspects

E. Löfström (✉)

Institute of Behavioural Sciences, Centre for Research and Development of Higher Education,
University of Helsinki, Helsinki, Finland
e-mail: erika.lofstrom@helsinki.fi

that promote academic integrity in social sciences. These include formal ethics and integrity education, integrated ethics content, early exposure to ethics content, and a focus on trainers and senior academics, as well as the community, integrity policy, and research practices. Some features in the different fields of social sciences may bring about specific integrity challenges. Where pertinent, such features are discussed. For instance, conventions and practices in thesis supervision may differ markedly among fields, creating specific challenges. Possible caveats for integrity are identified and discussed.

Introduction

The aim of this chapter is to outline how academic integrity has been approached in the literature within social sciences and to identify whether based on the literature, there are special integrity concerns in this discipline. A second aim is to identify measures taken in the social sciences to promote high integrity standards. In order to identify perspectives, concerns, and remedies, key trends have been sought among academic integrity studies in different fields of social sciences. The core observation is that the perspective taken in research on academic integrity in social sciences often pertains to the student perspective. Yet academic integrity concerns in social sciences are often more structural in nature and cannot be solved by individuals alone without also addressing system level issues. Finally, research on teaching and learning suggests that there are ways in which academia and its members can promote academic integrity in positive ways. This chapter presents an overview of the cumulative knowledge base. In doing so, it draws on two types of studies, namely, studies that: (1) highlight aspects for which a relatively substantial research base can be found (e.g., conceptions of misconduct among business students) and (2) present perspectives that shed light on aspects that may be either typical or unique for the social sciences and which could have a bearing on academic integrity (e.g., prevalence of project work, distance studies or ways of organizing doctoral supervision).

Since the focus is on academic integrity, the reviewed literature necessarily relates to aspects of research ethics. However, the primary focus is specifically on academic integrity as honesty and as an attitude or a value pertaining to various aspects of academic life. In line with Jordan's taxonomy of concepts, academic integrity is here defined as "logically coherent positions on ideal moral behavior, backed by actions that demonstrate this position, practised by individuals or institutions in an education, research or scholarship setting" (Jordan 2013, p. 252). Issues pertaining to professional ethics are beyond the scope of this chapter.

Social sciences (e.g., sociology, economics, psychology and counseling, education, anthropology, political science) (cf. Klemke et al. 1980) excluding law, which is discussed in a separate chapter in this volume, include a relatively broad collection of fields with different emphases on basic and applied research. This chapter summarizes research on integrity (and the lack of it) mainly in behavioral sciences and business and economics. There is less research evidence from other social sciences fields.

Research on Integrity in Social Sciences: Focus on the Student Perspective

Behavioral Sciences: Education and Psychology

There is extensive research on academic integrity – both the lack of it as well as the learning of it – in behavioral sciences. Research has focused on conceptions of dishonesty, misconduct, and related behaviors. In a seminal study on dishonesty in the field of education, Ferrell and Daniel (1995) identified cheating on tests and assignments, inappropriate use of resources, and manipulation among undergraduate teacher education students. According to education students, the most severe forms of academic misconduct were related to fraudulent behaviors, such as taking an exam for another student, copying or buying papers, and using cheat sheets. These are clearly behaviors that lack integrity and that could allow the perpetrator to gain an unfair advantage over honestly behaving individuals.

Simultaneously, research shows that students do not reject some behaviors that are generally considered unethical or as misconduct in academia, such as fabricating references (Royal et al. 2011). Records on school psychology students' academic integrity breaches include cases of cheating, changing grades, forging letters of recommendation, stealing money from the university, fabricating assignment protocols, and fabricating attendance hours (Tryon 2000). Beyond professional ethics breaches, plagiarism in dissertation and course work, collusion, and falsification, including various forms of exam cheating, tend to be the most common academic integrity breaches among psychology students (Fly et al. 1997; Tryon 2000). Students in social sciences may not differ from students in other fields in terms of judgment of situations and behaviors (e.g., authorship and beliefs about reporting a dispute). Students estimate the consequences of informing on another person as severe, the likelihood of reporting a perceived wrongdoing as low, and the effect of doing so as only moderate (Rose and Fischer 1998).

Sometimes the expectations that senior researchers in behavioral sciences may have of their junior colleagues are high in terms of moral judgment. Perhaps as a consequence of the extent of exposure to moral content in their studies (e.g., Butterfield et al. 2000), psychology graduate teaching assistants have been documented to be required to take on responsibilities for which they are too inexperienced and hardly prepared or trained (Branstetter and Handelsman 2000). Many of the practices, such as teaching courses which they are insufficiently prepared to teach, are considered unethical. Graduate students find themselves in situations that they perceive to be unethical and which require actions that do not meet their conceptions of integrity. Graduate students may have been socialized to “cutting corners,” or they may have gained an increased sense of competence and power that comes with experience, but which may lead them to taking ethical shortcuts (Branstetter and Handelsman 2000).

Doctoral education and academic supervision practices in social sciences tend to differ from those in natural and life sciences. In social sciences, although team-based models of conducting research are becoming more and more frequent, it still

appears to be more common for student-supervisor interactions to take place within a one-on-one or personal relationship rather than a team-based model of research work and supervision (e.g., Delamont et al. 2000; Hakala 2009). This means that in these fields the students' research tends to be based on their own initiative rather than being a part of the supervisor's project. This is a matter of convention and disciplinary practice, and there may not be one single supervision model that fits all fields. However, the model for organizing academic supervision may bear consequences for the type of integrity issues that arise.

In the dyadic model of supervision prevalent in many fields in the social sciences, doctoral students gravitate toward individual professors. This provides a good ground for negotiating and assuring the commitment of both parties, but it may also increase the risk for a solitary process and for narrowing the theoretical and methodological perspectives which may infringe on a student's autonomy (Löfström and Pyhältö 2014). Students in these fields may be less exposed to researcher malpractice due to limited interaction with faculty but also less exposed to situations that will benchmark the expected standards and exemplify good practice. Doctoral students in the behavioral sciences have been found to experience a wider range of ethical and moral problems in supervision. Breaches of beneficence and autonomy-related ethical issues have been found to be more commonly emphasized in the behavioral sciences (as opposed to natural sciences) (Löfström and Pyhältö 2014). Academics in research environments that largely rely on dyadic models of guidance and interaction must exercise great caution and be alert to integrity concerns involving exploitation or loss of their own objectivity (Holmes et al. 1999).

It has been suggested that compared to students of other subjects, students of psychology, due to the nature of the subject itself, may become more exposed to ethical issues and moral language (Butterfield et al. 2000). Furthermore, disciplines such as psychology, which utilize assignments that are open ended in nature, may have fewer cases of unauthorized collaboration (Barrett and Cox 2005).

Economics and Business Studies

In comparison with most other social sciences fields, there is a substantial research base covering integrity and misconduct in economics and business subjects, perhaps as a result of the corporate collapses attributed to unethical behavior (O'Leary and Cotter 2000; Smyth and Davis 2004; Beauvais et al. 2007; Mirshekary et al. 2010). Concerns have been expressed over business schools teaching students to be successful without placing sufficient emphasis on moral responsibilities (Stevens et al. 1993).

In studies comparing the cheating behaviors among students in different fields, business students have been shown to be more likely to cheat than others (McCabe and Treviño 1995; Smyth and Davis 2004; McCabe et al. 2006) and more tolerant of unethical behavior (Segal et al. 2011). Common forms of dishonesty among business students include exam cheating and unauthorized collusion

(Brown 1995). Self-reported incidents of dishonesty range between 13 % and 91 % in studies on business students and students taking business or marketing classes (for reviews see Brown 1995; Teixeira and Rocha 2010) depending on how dishonesty or misconduct has been defined. Students' conceptions of integrity and dishonesty have bearings not just for how they study but also for how they approach responsibilities assigned to them in other contexts. Students with a greater tolerance for cheating and dishonesty have been shown to be more likely to behave in a dishonest manner in their subsequent work (Nonis and Swift 2001). Business students' comparatively greater tolerance for unethical behavior has been associated with self-selection and students' understanding of business as amoral (Segal et al. 2011). The relationships between the evolution of values, features of the learning environment, and disciplinary norms and cultures deserve more attention in future studies.

In addition, high levels of self-reported ethical orientation and a low level of self-reported tolerance for cheating (Mirshkary et al. 2010) have been observed among business students. A large number of undergraduate business students agree that cheating is unethical, but a significant number find cheating to be the norm of otherwise socially acceptable behavior (Smyth and Davis 2004; Chapman et al. 2004), suggesting that peer pressure may work against the students' own moral evaluation of a situation. In addition to peer behavior, perceived certainty of a peer informing on them and the level of understanding and acceptance of institutional integrity policies have been shown to influence business students' behavior (McCabe et al. 2006).

Research suggests that cheating takes place more commonly among friends and residential peers (Smyth and Davis 2004; Kidwell and Kent 2008; Teixeira and Rocha 2010) which could pose a challenge in business studies, in which there is an emphasis on collaborative project work (Chapman et al. 2004). However, teamwork skills are a necessary graduate attribute, and the research findings emphasize the importance of communicating expectations to students. The fact that in disciplines such as business, distance education opportunities are provided relatively frequently does not appear to be a threat to integrity (2008). Instead, dishonesty appears to reflect the students' age and lack of maturity and life situation (Kidwell and Kent 2008).

However, business is a field that attracts international students (Bretag et al. 2014). This fact could bear consequences for the type and magnitude of academic integrity-related issues in the fields of business and economics. International students may struggle with the English language, may require induction to their new learning environment, and may need support in accommodating to western conventions of referencing (Bretag et al. 2014). Business students' apparent acceptance of cheating behavior and conceptions of the teachers' role in controlling student behavior may also be associated with cultural differences (Lupton et al. 2000). Students from cultures in which social connections and reciprocal favors play an important role in academic life may have problems navigating systems that emphasize merit through personal achievement (Macfarlane et al. 2014).

While findings show that academics in management (Gao et al. 2008) and economics (Laband and Piette 2000; Necker 2014) agree on the nature of a range of behaviors, there is still substantial disagreement on the morality of various behaviors related to teaching and research. Such behaviors include acceptance of gifts, disclosure of student grades, administration of student evaluations when a negative response is expected, self-plagiarism, simultaneous submission of a manuscript to different journals, review of a known colleague's manuscript, objective evaluation of a friend for tenure and promotion, and recruitment practices based on gender, religion, ethnicity, race, age, sexual orientation, or disability (Gao et al. 2008). Moreover, some differences appear to be attributable to academic and disciplinary background. Academics in accounting and finance, which are largely based on quantitative approaches, have been shown to regard selling complementary textbook copies and norm-based grading as morally justifiable to a greater extent than their colleagues in management and marketing, where qualitative approaches are the norm (Kidwell and Kidwell 2008). Necker's (2014) study suggests that economists in academia share a consensus about integrity norms. Nevertheless, they admit to employing questionable practices, which appear to be positively related to the pressure to publish. The behaviors of academic staff signal to students the prevailing norms, and where disagreement on a large scale exists, the signals students read will be contradictory and confusing.

Sociology and Social Work

Sociology students have been found to subscribe to academic counter norms to a much lesser extent than students in chemistry, microbiology, and civil engineering (Anderson and Louis 1994). This may be because programs in which the subject itself is grounded in values and ethics (such as social work), and in which formal codes of ethics are applied, may pay particular attention to student misconduct or integrity breaches (Collins and Amodeo 2005). In common with students in psychology (Butterfield et al. 2000), students in sociology and social work may be frequently exposed to moral content and language in their subject studies.

It is evident that much of the research on academic integrity is framed in terms of the lack of it, i.e., misconduct (Macfarlane et al. 2014) involving presenting others' work as one's own, inaccurate or misleading referencing, data fabrication and manipulation, concealing information when disclosure is essential, or engaging in the planning and management of research that does not adhere to ethical standards and practice. Both students and academics in different fields of social sciences experience ambiguity about which behaviors are morally acceptable (e.g., Holmes et al. 1999; Robie and Kidwell 2003; Robie and Keeping 2005). Policy, however, and honor codes may impact on students' perceptions of problematic situations and their likelihood of reporting an academic integrity problem both in behavioral sciences (Rose and Fischer 1998) and in business subjects (McCabe et al. 2006; Bryan et al. 2009). Although the student perspective is more commonly studied than the researcher perspective, studies on researchers' integrity also focus on

misconduct and encompass themes such as fabrication, falsification, and plagiarism (Macfarlane et al. 2014). Much of the literature comes from the USA and is focused on tenure-related issues in academia (Macfarlane et al. 2014). What can be learned from the relatively substantial body of research on academic integrity in the context of business and economics is that teaching, learning, and doing research interact in complex ways with values, contextual aspects, and external pressures and incentives. Thus, future research on academic integrity must necessarily address a variety of aspects and their dynamics beyond merely individual factors.

Integrity Caveats in Research in Social Sciences: Focus on Publication

Academics in all fields face the pressure to publish and attract research funding. The pressure to publish could lead to unethical behaviors, such as tweaking data and “improving” or falsifying outcomes, and may affect implementation of research protocols. In addition to the potential conflict with research integrity, publication pressure may lead to de-emphasis of research that fails to support tested hypotheses, thus distorting the cumulative knowledge base in the long run (Gerber and Malhotra 2008).

Evidence suggests that researchers working in highly competitive environments publish more “positive” results (Fanelli 2010). The association between positive results and competitiveness of the research environment has been established across all fields. Economics and business, social sciences, and psychology do not appear to stand out as particularly problematic in this regard (Fanelli 2010). This suggests that the risk of publishing pressures distorting the objectivity or integrity of research in these fields is no greater than in others.

This, however, does not mean that the impact of publishing pressures is not a concern for all disciplines of academe. Evidence of publication bias in studies relying on statistical analyses of data has been reported in the fields of social sciences, sociology, social work, psychology, psychotherapy, education, political science, and economics (Gerber and Malhotra 2008). Gerber and Malhotra (2008) suggest preregistry of intended research, similar to the practice adopted by some journals in the field of medicine, as a remedy for correcting publication bias.

While research utilizing qualitative data typically does not aim to generalize its results, there could be other types of biases in the literature depending on which questions are deemed worthwhile or which perspectives are seen as desirable. Social scientists operate from within a variety of paradigms concerning ontological, epistemological, and methodological assumptions. Assumptions about reality, social interactions, and knowledge creation underpin the choices of theory, research questions, research methods, and avenues for disseminating results (Drisko 1997; Payne 2000). These assumptions involve “personal and social values that can have moral consequences through the choices and actions that researchers take” (Payne 2000, p. 308), such as the treatment of questions that involve marginalized groups. The compelling issue is that the assumptions underlying the research are often

implicit and left unexplored. Greater specificity regarding goals and audiences, methodology including data analysis, identification of biases, maintenance of ethics, and the consistency of conclusions with the underlying assumptions of the research enhance the academic integrity of (social work) research (Drisko 1997). Furthermore, in conditions where researchers deal with diversity, variables, and “noise,” the data do not speak for themselves, but rather it is the responsibility of the researcher to identify and determine much of the theory, method, and findings. Social scientists have many degrees of freedom to decide how to go about their research, including interpreting results (Fanelli 2013, p. 124). The importance of transparent reporting practices has been emphasized in these fields (Fanelli 2013).

Efforts to Promote Academic Integrity in the Social Sciences

This section explores measures taken in social sciences to promote high integrity standards. These include institutional measures, such as strategies and policies, and field-specific measures, such as undergraduate, graduate, and doctoral education.

Formal Ethics and Integrity Training

Mere exposure to ethical behavior does not seem to be sufficient, considering findings such as the ones in Branstetter’s and Handelsman’s (2000) research. In their study, advanced graduate students in psychology engaged in more unethical behaviors than their junior peers. Such findings speak for the necessity of formal integrity training. Case studies accompanied by discussion have been successfully used to introduce ethics content into undergraduate psychology education (e.g., Fisher and Kuther 1997; Zucchero 2008), business studies (e.g., Nonis and Swift 2001), and accounting (e.g., O’Leary and Cotter 2000).

The many studies suggesting that business students have a greater tolerance for unethical behavior raise questions about how to approach integrity. It has been suggested that teaching in business should take more advantage of the “can do” ethos in the world of business (Segal et al. 2011). Rather than approaching the topic by telling students what not to do, emphasis should be on what can be achieved through focus on ethical decision-making and ethically sustainable decisions. It is likely that students and academics in many other fields as well may benefit from this kind of positive approach (e.g., Brown and Howell 2001; Sutton and Taylor 2011).

There is also contradictory evidence as to the success of formal integrity training programs (e.g., Anderson et al. 2007; Bernardi et al. 2011). Students taking a compulsory ethics course may not benefit as much as students who take ethics as an elective course (Bernardi et al. 2011). One reason for why formal ethics and integrity education may fail to achieve its goals might be that the

training fails to introduce students to tools for making ethical decisions (Fly et al. 1997). Contextualization and the use of real or realistic examples facilitate the transfer of knowledge from generalized principles to ethics and integrity in practice (Löfström 2012).

Integrated Ethics and Integrity Content

It has been suggested that greater attention should be paid to the notion of honesty in ethics education and that ethical issues need to be addressed in several courses across the curriculum, including practice and placement, for the ethics to truly “seep in” and have an effect on students’ thinking and behavior (Tryon 2000). Short ethics courses may not be the most fruitful method of engaging students in ethics and integrity. Providing ethics content by involving students in personal action and integrating it with subject matter content has been proven to be an effective means of instilling integrity and ethics in communication studies (Canary 2007). Similarly, the increased presence of various aspects of ethics content in an introductory course in psychology (including professional ethics, research ethics, integrity in studying, and clinical practice) has been shown to not only improve students’ knowledge of ethics but also the students’ ability to recognize unethical behavior (Zuccherro 2008). In the teaching of ethics content to communication students, case studies and subsequent discussions in class have proven successful in terms of raising students’ awareness of ethics and integrity. Such issues may not register with students if only presented in a lecture (Canary 2007). Developing students’ abilities to reason about ethical and moral dilemmas necessarily requires engagement with the task and discussion.

However, there is research evidence of contradictory outcomes of integrated ethics training. The incorporation of ethics into curricula and subject matter content may in fact lead to the faculty spending less time on ethics than it would if ethics were dealt with through a single course or separate ethics courses (Beauvais et al. 2007). This evidence suggests that it is important for the faculty to consider how ethics and integrity contents fit in with the overall program and course objectives and at what points in the curriculum this content is best addressed and why.

Early Exposure to Ethics and Integrity Content

Several studies have argued for students’ early exposure to ethical and moral dilemmas (e.g., Fisher and Kuther 1997; Tryon 2000; Zuccherro 2008; Löfström 2012). The greatest gains may, however, appear after the age of 24 (Segal et al. 2011). More mature students may rely more on their own moral code than do younger students, who may be more vulnerable to peer pressure and other external factors (Kidwell and Kent 2008). PhD and research students are generally older than their undergraduate peers, and in that sense they may be more receptive

to discussions about integrity. There must be ways, however, of also engaging those students who will be out of college by the age of 24. To this end, it may be necessary to pay more attention to assessment practices and to designing learning environments in which integrity is clearly beneficial to the student.

Focus on Senior Academics

It has been proposed that ethics and integrity training should begin with academics instead of focusing on students meeting course requirements (Stevens et al. 1993). A rare large-scale study on researcher mentoring and training in responsible research conduct showed that the US National Institutes of Health-funded researchers in the social sciences received more mentoring (and some specifically received ethics mentoring) than researchers in certain fields of science and life sciences. While mid-career social sciences researchers reported relatively few problematic behaviors, their early-career peers were more likely than some other groups to report integrity issues in peer review and assignment of authorship (Anderson et al. 2007). These findings suggest that mentoring may be a powerful tool in terms of both decreasing and increasing behaviors that are problematic from an integrity point of view. Despite the influence that mentors and other senior academics exert on their younger colleagues and students, the training of these individuals in integrity and responsible research conduct in social sciences has received very little attention in the literature.

Academic staff members who have received ethics and integrity training feel more comfortable and spend more time teaching these and are more likely than non-trained faculty to incorporate ethics content into their teaching (Beauvais et al. 2007). University teaching staff should not only be aware of the professional standards pertaining to their field but also be able to apply them in discussions of ethical and moral dilemmas arising in their particular areas of specialization. This will facilitate student involvement in an environment where ethical decision-making is practiced on a regular basis and as part of any issues pertaining to academia or future professions (Tryon 2000).

The faculty can also show ethical behavior through their commitment to teaching and classroom presence (Nonis and Swift 2001). Showing an interest in students' learning has been shown to increase trust and reduce students' tendency toward cheating in the context of business studies (Chapman et al. 2004). Moreover, feedback from senior academics helps students in developing their ethical judgment (Branstetter and Handelsman 2000).

Special attention should be paid to teacher training for graduate teaching assistants and junior staff, such as PhD students, with teaching and supervision duties. Psychology graduate assistants with teacher training have been shown to exhibit a greater likelihood of ignoring cheating. While these students may have become more aware of academic integrity, they may also have increased their awareness of the difficulty of dealing with dishonesty (Branstetter and Handelsman 2000). It is therefore vital that junior staff members are not left alone to deal with suspicions of

potential misconduct incidents but are supported by their seniors in the community, who have the authority and responsibility to follow through with alleged cases.

Focus on the Community

Irrespective of the kind of ethical and behavioral norms that are taught explicitly, students will respond to the actual norms of the scholarly community by participating in the activities of the community and by observing senior peers and academic staff in various teaching, learning, and research activities (Kitchener 1992). Education and psychology students who have figured out the norms and values, and consolidated the institutional values with their own values, also express willingness to apply them in practice. Thus, it appears that the commitment to ethical norms and behaviors is mediated by the adoption and consolidation of related values (Rissanen and Löfström 2014), and it is of vital importance that there is an alignment of what is explicitly taught through the curriculum and what is practiced in the various activities of the scholarly community.

Shifting the focus toward the scholarly community is particularly pertinent in the case of social and behavioral sciences, in which supervision is often perceived of as a dyadic relationship (Delamont et al. 2000). In these fields, labs and teams are generally not typical supervision arrangements, and the individual relationship gains importance. When the supervision relationship remains a dyadic relationship, it is hard for others to intervene if there are problems. Research suggests that the dyadic model of supervision may be more vulnerable to integrity-related problems such as the intrusion of supervisor values, abuse, and misappropriation (Löfström and Pyhältö 2014). However, conceptualizing supervision as a community-level activity rather than the activity of individuals could help to alleviate such problems (e.g., Martinson et al. 2005).

Integrity Policy

Research on psychology and business students suggests that students look for clear guidance and descriptions of best practices rather than warnings about plagiarism and misconduct (Brown and Howell 2001; Sutton and Taylor 2011). Educators may be more successful if they describe the desired behaviors and practices rather than threatening misbehavior with dire consequences. Vague definitions of key concepts related to integrity and “friendly” warnings are not effective means of influencing students’ assessment of situations incorporating an ethical issue (Brown and Howell 2001). Instead, Brown and Howell (2001) propose that key concepts be clearly defined in universities’ integrity policies to avoid ambiguous interpretations. While specificity in integrity policy is necessary, academics themselves need to understand and communicate to students what is essentially meant by misconduct (Collins and Amodeo 2005). Research in the fields of psychology and business suggests that researchers and students alike may be confused about what constitutes

ethical behavior and under what conditions (e.g., collaboration versus collusion Barrett and Cox 2005; Sutton and Taylor 2011; Löffström et al. 2015).

To summarize, research on how to promote academic integrity in the social sciences suggests the following:

- Voluntary courses may carry more impact in terms of ethics competences than compulsory courses; however, relying on students to take ethics courses voluntarily will not satisfy the need of universities to assure that all students have a baseline understanding of the behaviors and practices expected of them as students and researchers-in-training.
- Ethics education in the curriculum should begin as early as possible.
- Weaving integrity content into the subject and acknowledging integrity in the curriculum will help ensure that it is sufficiently focused on in the overall program.
- Case studies are an effective means by which students can engage with questions about ethics and integrity and connect ethical content with real-life situations and practice.
- Warning students of integrity problems is not sufficient; guidance on good practice and desirable behaviors is necessary.
- Emphasis on “positive ethics” introduces a perspective that may align well with the ethos in some fields of the social sciences.
- Mentors and senior academics are important role models when it comes to signaling ethical norms and integrity standards, and thus, their training requires more attention.
- Key concepts related to academic integrity should appear and be explained in integrity policies.
- Transparency of research with an emphasis on the planning and reporting stages should be increased throughout the research process.

Academic institutions have a responsibility to ensure that their graduates understand the ethical requirements pertaining to the degree they pursue, and it is in the interest of institutions to foster integrity as an affective outcome of their programs. It is important for academic institutions to consider how integrity and ethics-related competencies can be promoted as an integral part of a university degree. It is equally important to consider how academics, including researchers and teachers, are encouraged to adhere to the highest ethical and integrity standards amidst pressures to publish and attract funding. From an institutional perspective, integrity must be seen as an indivisible feature of academic practice and competence under all circumstances.

Summary

Much of the research on integrity operationalizes the phenomenon through its opposite concepts, such as misconduct and dishonesty (Macfarlane et al. 2014). This is certainly the case with research in the area of economics and business, in

which there is a relatively broad research base, much of which is focused on students' misconduct and perceptions of (un)ethical practices. Macfarlane et al. (2014) suggest that the negative focus is due to the postmodern conception that it is inappropriate or simply not feasible to establish a set of universally legitimate norms. Rather than identifying ethical practice and related norms, the focus is thus turned toward ethical shortcomings. Indeed, a European comparison highlights the difficulty of agreeing on a set of universally legitimate norms and shows that there is consensus neither about key concepts in ethics and integrity guidance nor about content, level, timing, and frequency of ethics training and the qualifications of trainers (Godecharle et al. 2013).

The literature shows that research on the positive aspects of integrity is strongly focused on good practices in teaching, and much of this research, in contrast to that on dishonesty, comes from fields such as education and psychology. A positive institutional approach to academic integrity aligns well with a focus on developing teaching and learning (East and Donnelly 2012). Furthermore, the emphasis has been on student attitudes, conceptions, and learning, whereas a focus on the understandings of academic integrity among academics in social sciences has received less attention. Future research may benefit from an increased focus on this aspect of academic integrity, as surely academics – university teachers and researchers – are in a key position to demonstrate to students the values that academia respects and expects.

There are features that tend to distinguish social sciences from other fields, such as natural and life sciences. Research findings in social sciences tend to contribute less often (when compared to medicine or engineering, for instance) to patents and innovations that researchers benefit from financially. At the same time, the public financing available to social sciences researchers tends to be substantially less than for natural sciences. There is very little evidence on whether or how such features influence integrity in social sciences. Integrity breaches among scientists appear to be related to their perceptions of resource distribution processes embodied in academia, professional societies, and funding and publishing environments (Martinson et al. 2005). Thus, there is a need for research that focuses specifically on how these processes are perceived in disciplines within social sciences. Future studies expanding the research base in this direction might allow a better understanding of the dynamics between individuals and academia and how these dynamics influence the values and practices in different areas of social sciences.

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Prevalence, Prevention, and Pedagogical Techniques: Academic Integrity and Ethical Professional Practice Among STEM Students

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Joanna Gilmore, Michelle Maher, and David Feldon

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Abstract

Although work in the science, technology, engineering, and mathematics (STEM) fields underlies the innovations that characterize living in the age of information, some research points to a public distrust of science and technology. While distrust may partly result from larger social trends, the public's trust in science also relies on the integrity of individuals in STEM fields. Most often academic integrity is discussed in terms of cheating and plagiarism violations. However, given the need for STEM professionals to act ethically, any definition of academic integrity in STEM should reflect professional standards for ethical

J. Gilmore (✉)

Charleston County School District, Charleston, SC, USA

e-mail: Joanna.gilmore1981@gmail.com

M. Maher

School of Education, University of Missouri-Kansas City, Kansas, MO, USA

e-mail: mmaher@mailbox.sc.edu

D. Feldon

Instructional Technology and Learning Sciences, Utah State University, Logan, UT, USA

e-mail: david.feldon@usu.edu

practice. This chapter reviews these standards and discusses how they can inform conceptualizations of and policies around academic integrity in STEM education. The chapter also explores the prevalence of and causes underlying academic integrity violations in STEM and examines the methods for promoting academic integrity among STEM students. The chapter concludes by identifying research directions that may inform efforts to promote integrity among STEM students and professionals.

Introduction

The acronym “STEM,” representing the fields of science, technology, engineering, and mathematics, is commonly heard within current societal discourses. Most engaged in these discourses would agree that advances in STEM fields underlie innovations that characterize living in the age of information. Despite these advances, however, sizeable ideological groups within the broader public increasingly distrust STEM professionals and the advances their efforts have generated (Gauchat 2012; YouGov 2013). For example, Gauchat (2012) found that those who identify with conservative political parties in the USA (as compared with their politically liberal and moderate counterparts), particularly those who attend church regularly, report the lowest levels of confidence in science. Further, their level of confidence has declined since 1974. Distrust in science may also arise from the often highly profiled negative consequences of scientific applications (e.g., the questionable use of surveillance software, the generation of toxic waste) and the use of the media by activists, politicians, and others to sway public opinion about scientific issues both long-standing and emerging (e.g., evolution, climate change) (Durant 1999; Gauchat 2012; Hagendijk 2004).

It can be argued that these broad political, cultural, and ideological factors significantly contribute to public distrust in science. However, public distrust in science can – and does – arise from sources more firmly under the control of STEM professionals, such as the ability (or lack thereof) to share findings in a way that is readily accessible to the public (Turney 1996). Allegations of misconduct by STEM professionals can also quickly and permanently erode public trust, to the detriment of every sector of society. Thus, it is essential that those who aspire to join the ranks of STEM professionals develop a strong sense of integrity across personal and professional domains, including the academic domain.

This chapter first considers definitions of academic integrity, both broadly and within STEM fields. This consideration is informed by a review of these fields’ professional standards for ethical practice. The chapter then investigates the prevalence of academic misconduct among STEM students and reviews promising institutional and pedagogical strategies to prevent, or at least slow, the occurrence of this misconduct. The chapter concludes with suggestions for future directions for research on academic integrity in STEM fields.

Defining Academic Integrity in STEM Fields

According to the [International Center for Academic Integrity \(n.d.\)](#), academic integrity is defined as “a commitment, even in the face of adversity, to six fundamental values: honesty, trust, fairness, respect, responsibility, and courage” (para 1). Academic institutions attempt to translate these values into practice by creating policies and codes to which campus constituents should adhere. For example, Michigan State University, located in the Midwestern United States, defines academic integrity as, “honest and responsible scholarship” that includes “creating and expressing your own ideas in your course work” and “accurately reporting results when conducting your own research or with respect to labs” ([Michigan State University Office of the University Ombudsperson, n.d.](#), para 1).

Within and beyond STEM fields, however, academic integrity is most commonly discussed not in terms of what it constitutes, but rather in terms of how it is violated. Thus, cheating and plagiarism receive the lion’s share of attention in discussions of academic integrity. As defined by Nilson (2010), in its basic form, cheating is, “misrepresenting one’s knowledge and effort” while plagiarism, a form of cheating, is “theft of intellectual property” (p. 83). As elaborated below, cheating and plagiarism are well represented in discussions of STEM academic integrity (or its absence). For example, in a survey of ethical beliefs in scientific research, scientists funded by the National Science Foundation, a US federal funding agency, identified fabrication and falsification (in other words, cheating), and plagiarism as the most serious forms of unethical scientific practice (Korenman et al. 1998).

A consideration of STEM academic integrity should be informed by these fields’ professional standards for ethical practice. Standards for ethical practice in science have been outlined by several researchers. For example, Courmand (1978) delineated key principles in the “operating and ethical code of the scientist” (p. 226). These can be summarized as intellectual integrity/honesty and objectivity, tolerance or openness to new ideas proposed by other scientists, doubt of certitude or the tendency to question, acknowledgement when one makes an error, unselfish engagement or a focus on extending knowledge rather than conducting science for personal gain, and a sense of communal spirit.

Oz (1993) examined four different ethical codes of conduct in data processing, which represents a portion of the technology field. In consolidating these four frameworks, Oz identified ethical obligations to four stakeholders: society, employer, client, and colleagues/professional organizations. As examples, societal obligation includes being impartial when offering independent advice, while employer obligation involves keeping current on technological advancements and ensuring the protection of confidential information. Using vocabulary accessible to laypersons exemplifies a client obligation, while exposing unethical acts among other technologists exemplifies an obligation to colleagues/professional organizations.

The first ethical code for engineers was developed in 1912 by the American Institute for Electrical Engineers (Zandvoort et al. 2000). As with codes in the field

of technology, this code identified obligations to multiple stakeholders, detailing protective measures for both client and employer interests. Since, numerous standards for ethical practice within the engineering field have emerged (e.g., Fledderman and Sanadhya 2004; Harris et al. 2013; Schnizinger 2000), including one developed by the National Society of Professional Engineers (Jamal and Bowie 1995). This code includes six fundamental cannons, five rules of practice, and nine professional obligations. An example of a fundamental cannon is that “engineers shall not aid or abet the unlawful practice of engineering by a person or firm” (2014, para 2). Rules of practice target ensuring the public’s safety, health, and welfare and being truthful in statements to the public; providing services only in one’s area of expertise; acting as “faithful agents” to one’s employer or client; and avoiding deception (para 6). Examples of professional obligations within their code of ethics include honesty and integrity, serving the public interest, respecting confidentiality, giving credit for others’ work, and avoiding untruthful criticism of other engineers.

The American Mathematical Society established ethical guidelines for mathematicians in 1994 (American Mathematical Society 2014). These guidelines address four areas: (1) mathematical research and its presentation, (2) social responsibility of mathematicians, (3) education and granting of degrees, and (4) publications. Guidelines around mathematical research and its presentation underscore being knowledgeable about mathematics; giving appropriate credit to other researchers; publishing work without delay and prior to announcing achievements; avoiding language that improperly devalues others’ work; and correcting errors or withdrawing erroneous work. Social responsibility in mathematics includes being fair to all mathematicians, particularly those from diverse backgrounds. This involves avoiding bias in making decisions about publication or funding. It also involves disclosing to one’s employer and/or the public if one’s work affects public health, safety, or welfare. The third section of the guidelines identifies the responsibility of higher education institutions to certify that dissertation work is original and that doctoral students achieve adequate knowledge in multiple branches of mathematics. The final guideline section outlines the responsibilities of journal editors, including ensuring the accuracy of publications, the security of stored submissions, and the anonymity of referees.

The organization and, more importantly, the content of STEM professional practice standards differ by field (and across codes of ethics within fields). However, we contend here that definitions of academic integrity endorsed by higher education institutions should address code commonalities. This contention is supported by a belief that academic integrity is the cornerstone of scientific preparation, regardless of the particular form of scientific practice for which one is preparing. For example, all codes reviewed for this chapter emphasize the importance of honesty, which is a common component of institutionally-endorsed academic integrity definitions. All delineate the responsibility STEM professionals have to colleagues. Of note, however, is that this responsibility is less emphasized in institutionally endorsed academic integrity definitions (Pimple 2002). This is troublesome, given the highly collaborative nature of STEM research and education (Fox and Mohapatra 2007; Seashore et al. 2007). Additionally, most codes

reviewed stress the need for STEM professionals to respect the public's health, safety, and welfare. However, few institutionally endorsed academic integrity definitions consider the responsibility STEM students have to the public, either locally or at large.

Prevalence of STEM Undergraduate Student Academic Integrity Violations

As Nilson (2010) ruefully acknowledges, "Since the late 1980's, surveys have documented that cheating is a way of life for American college students" (p. 83). For example, a recent study of 1500 undergraduates at 23 American colleges and universities indicated that 80 % of respondents reported cheating in college (which included 17 different examples of cheating such as copying another student's test, taking an exam for another student, or copying an assignment submitted in a prior semester; Carpenter et al. 2010) and STEM students are no exception. Research consistently documents that many STEM students have adopted the "lifestyle" to which Nilson referred.

The majority of research on STEM academic integrity violations has investigated the conduct of science and engineering students. For example, Lord and Chiodo (1995) surveyed over 300 undergraduate science majors and asked them to report whether they had engaged in cheating in science in general as well as if they had engaged in a number of specific cheating practices such as letting another person copy their science work. They found that about 80 % reported some form of cheating in a science course sometime during the academic year. In an examination of cheating among over 4,000 undergraduates in business, engineering, and natural and social sciences across 31 higher education institutions, McCabe (1997) found that between 68 % (observed at institutions with an honor code) and 90 % (at institutions that did not have an honor code) of engineering students reported some form of cheating (i.e. engaging in at least one of five behaviors: copying another student's exam without their permission, copying a student's exam with their permission, using cheat sheets, helping another student cheat, getting a copy of the exam from a student who previously took the course). These percentages were somewhat lower among undergraduate students in the natural sciences – 57 % and 83 %, respectively. In one of the largest studies on cheating among college students, Meade (1992) surveyed 15,000 undergraduates across multiple disciplines and found that, when the data were disaggregated by discipline, 74 % of engineering students and 67 % of science students reported cheating during their undergraduate studies.

Some cross-disciplinary studies indicate that students in science and engineering may be more prone to cheating than students in other disciplines. For example, through interviews and surveys, Carpenter et al. (2010) found that engineering students were twice as likely to cheat on exams and problem sets as students from other disciplines. Newstead et al. (1996) surveyed 943 students at an English university and inquired about whether students had engaged in any of 20 behaviors

identified as “cheating” (e.g., copying another students’ coursework, fabricating references, lying about medical issues to take an exam at a later date, etc.). They found that, among all disciplines studied, cheating was most prevalent among students in science.

In comparison to the number of academic integrity violation studies conducted with science and engineering students, fewer studies have targeted information technology students. However, those available suggest that cheating is also common among these students (Newstead et al. 1996; Sheard et al. 2003). For example, Sheard et al. (2003) surveyed over thousand undergraduate and graduate students in computer science and software engineering. They asked one participants to review scenarios that depicted “questionable work practices,” which included scenarios that did not violate academic integrity standards (e.g., showing one’s work to an instructor for guidance) as well as scenarios that described mild (e.g., resubmitting work that was previously submitted in another course) and serious (e.g., copying text from the internet without crediting the source) forms of cheating (p. 97). A substantial number of participants endorsed scenarios involving cheating practices. In general, significant differences in cheating practices by students’ year in college or standing as an undergraduate or graduate student were not detected. This suggests that academic integrity violations are a concern across the college curriculum for information technology students.

The occurrence of academic integrity violations appears to be surprisingly understudied in the field of mathematics, at least at the college level. From a student and even instructor perspective, mathematics can be seen as unchangeable in content and preoccupied with student mastery of algorithmic procedures. As Stodolsky et al. (1991) state in their longitudinal study of middle schoolers’ attitudes toward mathematics, it is:

... imbued with a ‘given’ quality in which it is implicitly seen as being fixed and immutable; few students, and probably not many teachers, can conceive of ways that it could be any different. Ease and success, or difficulty and failure, characterize the relationship students maintain with the subject. Most students feel they could not learn new material in math on their own, and they also feel dependent on someone to show them how to do math correctly (p. 110)

A cross-sectional longitudinal study of cheating among high school students conducted over three decades (1969–1989) by Schab (1991) revealed that among all high school subject areas, students most often reported cheating in math and science. “Fear of failure” was the most commonly given reason for doing so. As students who cheat early in their academic career are likely to do so throughout their academic careers (Miller et al. 2007), the likely outcome of future studies documenting the occurrence of college-level cheating in mathematical courses is little in doubt.

While academic integrity violations occur across the STEM fields, one in particular – plagiarism – is pronounced among international students (Marshall and Garry 2006). In one study at the University of Minnesota, the authors found that 85 % of all reported cases of plagiarism were among non-native English speakers

(as cited in Mundava and Chaudhuri 2007); however, this may partly reflect that it is easier to spot instances of plagiarism in their writing and thus faculty are more likely to report violations among international students (Beasley 2014).

Prevalence of STEM Graduate Student Academic Integrity Violations

Although one would think that academic integrity violations are less common among STEM graduate students, the limited research on the topic shows that academic integrity violations are not infrequent among this student population (Gilmore et al. 2010; Lederman 2006; McCabe et al. 2006; McCullough and Holmberg 2005; Sheard et al. 2003; Swazey et al. 1993; Wajda-Johnson et al. 2001). For example, Wajda-Johnson et al. (2001) surveyed 246 graduate students across the disciplines and found that 55 % had engaged in some form of academic dishonesty. This included 40 self-reported practices, such as the more common violations like working collaboratively on an assignment that is intended to be individually completed as well as less common practices, such as offering an instructor money for a better grade.

A prior study (Gilmore et al. 2010) by the authors of this chapter was conducted specifically with STEM graduate students and did not rely on self-reported practices. In this study, research proposals submitted by 113 STEM graduate students were analyzed; well over a third contained instances of plagiarism (which included direct quotations that lacked attribution as well as inadequate paraphrasing). This finding was robust across three separate university settings. Further analyses revealed that plagiarism was significantly more common among graduate students with little research experience, those who spoke English as a second language, and those who failed to include primary literature in their proposals. These findings suggest that graduate student plagiarism may, at least in some cases, reflect a lack of enculturation into one's discipline. Thus, direct instruction on academic integrity within respective graduate education programs and/or engagement in disciplinary research may be effective ways to reduce academic integrity violations.

Causes of Academic Integrity Violations

Why do STEM students plagiarize or cheat? Students plagiarize and cheat for a variety of reasons which include poor time management, to defy authorities, because assignments or instruction are not meaningful to them, because it is easy to cheat given the availability of information on the Internet, because they are not likely to be punished, and because their personal beliefs do not conflict with cheating (Nilson 2010). They may even view it as "clever" (Park 2003, p. 479) or, as McCabe noted, the student who steals the exam may become a "kind of folk hero" (Lewis 2006, para 5). In addition to these causes, students may also be in denial that they are cheating. Although these explanations can help explain cheating

and plagiarism in STEM, perhaps one of the most driving causes underlying cheating in the STEM disciplines is “to get a better grade and to save time” (p. 479). As Felder, a chemical engineering professor, explained:

Because grades *do* matter...you can't tell students otherwise when they know many companies interviewing on campus won't even look at them if their GPA is less than 3.5, and if it is below 3.8, they can pretty much kiss their chances of going to a top graduate school goodbye (p. 27, emphasis in original)

A recent study by Simkin and McLeod (2010) confirmed Felder's assertion that the main reason for cheating reported by college students was “to get ahead” (p. 447). This pressure is intensified among natural science and engineering students who report “excessive workloads and extreme competitive pressures in the classroom and job market” (McCabe 1997; p. 433). In short, STEM majors are demanding and competitive as they often lead to high-paying jobs and prestigious professional positions (Ryan 2012). In this educational context, the pressure to academically perform – coupled with the temptation to do whatever it takes (including cheating) to “make the grade” – can be overwhelming.

In addition to the academic rigor and competition common to STEM undergraduate programs, the collaborative nature of STEM coursework may invite academic misconduct. Modern scientific work occurs largely through collaboration (Dunbar 2000; Fox and Mohapatra 2007), as does undergraduate and graduate STEM training (Cumming 2009; Krockover et al. 2002; Martin et al. 2005; Parry 2007; Peters 2005; Springer et al. 1999; Stump et al. 2011). However, students engaged in collaborative projects may experience confusion about whether they need to demonstrate their learning independently or if they can also use the work and ideas of their collaborating peers when demonstrating their acquired knowledge. Some empirical evidence supports this assertion. Although they studied business students, McCabe et al. (2006) found that faculty members' lack of clarity concerning teamwork processes and outcomes contributed to the occurrence of academic integrity violations. As they explained:

Students are taught that collaboration is a critical business skill that is valued in corporations. Yet, students are often required to complete assignments by themselves, with no outside assistance. Many students view this as a confusing disconnect between academic norms and business practice (p. 301).

As a result of this confusion, Carter (1999) argues:

Plagiarism guidelines...need to be written in such a way that they take into account 'what students do' (such as computer science students who share templates for their assignments to increase efficiency) as well as 'how this fits with what lecturers want' (p. 55).

The study of information technology students by Sheard et al. (2003) also suggests that guidelines around collaboration may be ineffective. Specifically, the cheating practice that was most frequently employed by students was

“collaborating on an assignment meant to be completed individually” (p. 98). Almost half of the undergraduates and a quarter of graduate students in their study indicated that they have engaged in this practice.

Competition within STEM fields as well as the collaborative nature of STEM coursework may contribute to the high incidence of plagiarism among international STEM students; however, several additional factors help explain this trend. First, international students often have difficulty communicating in English, and universities may not be adequately addressing this need (Bretag et al. 2002; Park 2003; Wolfe-Quintero and Segade 1999). Second, some evidence suggests that international students may have poorer study skills, particularly in the area of note taking and constructing essays and bibliographies (as cited in Park 2003). Third, international students may have different shared values regarding ownership of knowledge. For example, Mundava and Chaudhuri (2007) noted that in collectivist cultures, members are more likely to believe that knowledge is “owned by the whole society” (p. 171). Italian students in Sherman’s (1992) study explained that, “It was a good idea to reproduce large tracts of source material . . . [because] they themselves could hardly presume to improve on a publicly acknowledged expert” (p. 191).

Prevention of STEM Undergraduate Academic Integrity Violations

What can be done to decrease the occurrence of academic integrity violations among STEM undergraduate students? In this section, we consider various institutional and pedagogical strategies and their documented or potential effectiveness. Some are old, while others are relatively new; all can inform our efforts to inculcate academic integrity into current and future generations of STEM students and professionals.

Honor Codes To prevent academic integrity violations, many higher education institutions have developed honor codes, which are “statement[s] of the values of the institutions and the establishments of a level of expected behavior for all persons who function in the educational arena” (Turner and Beemsterboer 2003, p. 1124). As McCabe et al. (2002) explains, honor code schools typically utilize un-proctored exams and require students sign pledges indicating they will not cheat on specific assessments. They also typically expect all students to report any academic integrity violations. Commonly, these schools have a student group that reviews and rules on violation consequences.

Honor codes can reduce academic integrity violations. Although correlational in nature, McCabe’s study revealed that, at institutions with honor codes, about 25 % fewer science and engineering students reported cheating than their counterparts at institutions without honor codes. However, to be effective, honor codes require students to take responsibility for their own learning as well as for reporting violations. Unfortunately, Carpenter et al. (2010) found that only 22 % of students felt obligated to challenge or report cheating if they observed it. Thus, establishing a

culture of responsibility and integrity and enforcement of those standards is necessary for honor codes to be effective. In the next sections, we discuss several methods for nurturing a culture of integrity.

STEM Courses on Professional Ethics One way to address academic integrity issues and prepare students for their future careers is to offer a course dedicated to larger issues around morality and professional ethics. Most science, technology, and mathematics programs do not require students to take such courses. When they are offered in the STEM disciplines, these courses are most commonly found in engineering programs (Herkert 2000). However, they are few and far between. At the turn of the millennia, only 20–27 % of US undergraduate engineering students were required to take a course on engineering ethics (Herkert 2000; Stephan 1999). As a result, as Colby and Sullivan (2008) note, many engineering students graduate without having ever been exposed to ethical codes in engineering. Thus, they recommend that professional ethics courses in engineering be designed around the commonalities in such codes which they summarize as responsibility to protect public safety and the environment, engineering competence, and accountability to stakeholders.

When engineering ethics courses are offered, they often require students to apply their learning to real-world contexts. For example, after conducting interviews and observations at 40 engineering schools in the United States, Colby and Sullivan (2008) found that engineering ethics courses generally required students to construct essays or presentations in which they identified how engineering codes of ethics apply to specific cases. This approach helps “to develop in students a sense of the practical context of ethics” (Herkert 2000, p. 306). However, the downside of this approach is that “it does not require students to struggle with the trade-offs involved in actual engineering decisions or with the fact that the consequences of those decisions become clear only in retrospect” (Colby and Sullivan 2008, p. 331). Despite the shortcomings of engineering ethics courses (see Colby & Sullivan), Sindelar et al. (2003) evaluated an engineering ethics course at the University of Pittsburgh using a pre-post case scenario assessment and found that students showed significant gains in their ability to identify and solve ethical dilemmas in engineering.

Educating Graduate Students While it is critical to teach undergraduate students about academic integrity, it is also important that the graduate students, who teach up to 50 % of undergraduate courses (Branstetter and Hendelsman 2000; Jones 1993), are aware of academic integrity issues and act ethically. This is important because, as Kerkvliet and Sigmund’s (1999) research indicates, cheating is 32 % more likely to occur when a course is taught by a graduate student. Acknowledging the importance of learning to address academic integrity, a national consortium which has developed teaching competencies for graduate students has identified ethics as one of ten critical teaching competencies (Kalish et al. 2012).

Fong et al. (2015) developed a course which provides an example of how ethics can be embedded into instruction for graduate students. They studied four different programs designed to prepare and support engineering graduate teaching assistants (TAs)

for their instructional duties. Among the four programs, the most intensive was a semester-length course for TAs that included ethics in teaching as one of the course topics. Specifically, course discussions around academic integrity often focused on fairness in grading and helping undergraduates learn to work collaboratively so that all students contribute to joint lab reports and review and understand all portions of the lab reports their teams submit. Although instruction in this preliminary teaching course is focused on practical issues around academic integrity, the Center for Teaching and Learning at the same university at which this course is offered also offers a more advanced course for graduate students who serve as instructor of record (Gilmore and Hatcher 2013). This course includes a focus on academic integrity; however, it takes a different approach. Graduate students read and discuss Palmer's (2007) work which describes integrity as an aspect of identity development. As Palmer describes, "Integrity requires that I discern what is integral to my selfhood, what fits and what does not, and that I choose life-giving ways of relating to the forces that converge within me. . . It means becoming more real by acknowledging the whole of who I am" (p. 3). Thus, the discussion in this course moves beyond compliance with basic academic integrity policies and discusses developing one's teaching identity as well as students' identities in ways that help them further develop academic integrity. Discussions about identity and integrity can benefit graduate students and simultaneously help them address academic integrity violations in the classes they teach.

Encouraging Faculty to be Proactive Faculty are the stewards of their disciplines (Golde and Walker 2006) and, as such, are instrumental in instilling academic integrity in their students. Despite the critical importance of this task, curiously, faculty rarely discuss academic integrity with their students or provide them with clear academic integrity standards (Maramack and Maline 1993). The clarification of these standards is particularly important at institutions lacking honor codes (McCabe et al. 1999).

In addition to reviewing academic integrity standards, faculty should define the terms within these policies for students. This may be particularly important around the concept of plagiarism because, as Amsberry (2010) noted, "There is not necessarily a universal view of plagiarism" (p. 39). Further, Amsberry suggests that faculty, librarians, and institutions not only provide definitions of plagiarism, but also explore the complexities of appropriate referencing and paraphrasing such as discussing patchwriting (Pecorari 2003); further, this should be undertaken in the context of examples of student writing. Gunnarsson et al. (2014) demonstrate how instruction on plagiarism can be tied to disciplinary codes of ethics. Duff et al. (2006) also suggest that students be introduced to the mechanics of referencing texts within their discipline, which may reduce student frustration around being exposed to various citation styles (Mundava and Chaudhuri 2007).

Beyond understanding the definition of plagiarism, its connection to professional codes of ethics, and learning the mechanics of citation, faculty are also critical in helping students avoid plagiarism because, as McGowan (2005) noted, "research-based writing involves not only an apprenticeship into the conventions of citation

and referencing, but also requires time to learn the language of the specific discipline” (p. 52). In short, students need to learn disciplinary terminology to be able to adequately paraphrase. McGowan suggests that reading literature in one’s field helps students develop this knowledge base and our research with STEM graduate students supports McGowan’s argument (Gilmore et al. 2010). McGowan describes a three-step method faculty can employ to help students learn to use the language of their discipline. It includes: (1) having students first read text that is typical of the genre for content, (2) encouraging them to examine the organization of the text, and (3) identifying vocabulary, “stock phrases,” and sentence structures that are used in each section of the text (p. 53).

Faculty guidance around avoiding plagiarism is also particularly important for international STEM students who, as noted previously, may hold differing views around textual borrowing practices. Faculty should be cautious to imply that Western traditions regarding scholarship practices are “right” because, as Park (2003) queried, “Who decides it is wrong, on what basis and for what reasons?” (p. 474). However, because international students have elected to attend a Western university and will be writing for an English-speaking audience, it is necessary that they understand Western scholarship practices. To promote the success of students from different cultural backgrounds, as Okagaki (2001) discusses, it is particularly important that educators “mak[e] the culture of the classroom more visible or understandable” to these students (p. 18). In the context of plagiarism, Duff et al. (2006) provide an example of making instruction explicit. They implemented both a workshop and a 3-year program for international students in engineering that focused on textual borrowing and citing sources as well as broader aspects of scholarship such as writing a literature review or research proposal. In addition to faculty, librarians can also be a critical resource to leverage in helping international students learn more about paraphrasing and appropriate attribution practices (Amsberry 2010; Mundava and Chaudhuri 2007). Gunnarsson et al. (2014) discuss how this can be done through a faculty-librarian partnership in the context of a research methods course for electrical engineers.

While faculty across all disciplines must be proactive in clarifying academic integrity standards and appropriate scholarship practices to their students, the STEM educational context might make this a particularly pressing need for STEM faculty. In addition to the academic rigor and competition common to STEM undergraduate programs, the collaborative nature of STEM coursework may invite academic misconduct. Modern scientific work occurs largely through collaboration (Dunbar 2000; Fox and Mohapatra 2007), as does STEM training (Cumming 2009; Krockover et al. 2002; Martin et al. 2005; Parry 2007; Peters 2005; Springer et al. 1999; Stump et al. 2011). However, as previously discussed, students engaged in collaborative projects may experience confusion about whether they need to demonstrate their learning independently or if they can also use the work and ideas of their collaborating peers when demonstrating their acquired knowledge. Faculty should make expectations regarding individual contributions to group work and independent demonstration of learning clear to students.

In addition to not addressing academic integrity with their students, faculty often fail to report cheating and plagiarism violations (Barnett and Cox 2005; Maramack and Maline 1993; Schneider 1999). This is due to several reasons including a lack of awareness regarding institutional policies and procedures or a belief that institutional sanctions are too harsh, difficulty in providing evidence that violations have occurred, fear that it will reflect negatively on the faculty member's evaluations, fear of litigation and that the institution will not support the faculty member, and lack of time to pursue consequences for cheating violations (Happel and Jennings 2008; Maramack and Maline 1993; Schneider 1999). Instead of reporting violations, faculty tend to address them individually and the consequences are often more lenient than the decisions made by independent committees (Maramack and Maline 1993; McCabe et al. 2002; Schneider 1999). When faculty do not seek appropriate consequences for academic integrity violations, students more commonly engage in misconduct and are likely to use this to justify their behavior (Kaufmann et al. 2005; McCabe et al. 2002).

While faculty negligence can promote academic integrity violations, faculty practices may also encourage violations. Thus, it is not surprising that cheating is more prevalent when courses are poorly designed or faculty do not make instruction relevant to students (Teodorescu and Andrei 2009). Poor assessment practices, such as failing to proctor exams, are also to blame (Stearns 2001). The good news regarding these findings is that faculty have the power to reduce cheating by utilizing effective course design principles and assessment practices that discourage cheating. Mundava and Chaudhuri (2007) suggest, for example, that faculty develop unique assessments that require critical thought and provide ample time for students to complete assignments. Some recommended practices are even easier to implement. Kerkvliet and Sigmund (1999) found a 13 % reduction in cheating when faculty verbally notified students at test time that cheating was unacceptable.

In addition to improving course design and assessment practices, strengthening student-teacher relationships can also help prevent academic integrity violations, as research indicates that cheating is less likely to occur when faculty gain students' respect (Stearns 2001). Stearns identified several research-based methods that faculty can use to foster student-instructor relationships such as being nice, personable, smiling, and communicating with students at close proximity. Research with science and math undergraduates also indicates that less formal interactions with students are important in developing rapport (Thompson 2001). One way in which faculty in STEM fields may promote these less formal interactions is through inviting their students to join their research teams.

Kerkvliet and Sigmund's (1999) study, entitled, "Can we control cheating?" concludes that faculty do have the power to reduce cheating. Faculty can help curb academic integrity violations by making policies clear, reinforcing those standards through discussion with students, ensuring appropriate actions are taken when students commit violations, improving course design and assessment practices, ensuring instruction is relevant to students, and developing relationships with students.

Directions for Research on Academic Integrity in STEM

Dishonesty during one's undergraduate studies is predictive of dishonesty in later employment (Carpenter et al. 2010; Sims 2010), and studies reviewed in this chapter indicate that academic integrity violations are common among STEM students. Although frequency of cheating varies across studies, as Newstead et al. (1996) note, variation could partly reflect how cheating is measured. Although the study did not find empirical support for this assertion, some kinds of cheating may be more common within certain fields. For example, they hypothesized that altering data may be more common in the sciences, in which data collection and analysis are customary. Exploring disciplinary-specific practices in academic integrity violations represents one possible direction for future research that may help identify disciplinary-specific solutions to fostering academic integrity.

In addition to studying academic integrity within the STEM undergraduate disciplines, there is also a need to study graduate students. They are or will become STEM professionals. They also influence the development of the STEM undergraduates they teach. Despite their importance in the STEM pipeline, as Sheard et al. (2003) noted, few studies on academic integrity among graduate students exist.

Another fruitful direction for future research is to design and examine the impact of interventions targeted at reducing cheating and plagiarism. For example, interventions that educate students to negotiate ethical boundaries between collaborative laboratory participation and the production of individually submitted work (e.g., the completion of a "lab report") are sorely needed. Other needed interventions are those designed for native English-speakers or international students or interventions that are discipline-specific as well as those that cut across the disciplines. In evaluating these interventions, rigorous research designs, particularly experimental designs, are needed. Further, there are few studies that do not rely on student self-report. As Kerkvliet and Sigmund (1999) note, self-report "does not account for the problems inherent in asking threatening questions" and results in bias (p. 333). Exceptions would be the studies by Duff et al. (2006) and Gilmore et al. (2010) that examined student writing and which suggest that students may be unaware they are committing plagiarism. Hence, there is a need to conduct more studies of academic integrity violations that do not rely exclusively on student self-report.

In addition to studying the impact of specific interventions, it may be fruitful for future researchers to focus on broader issues in academic integrity. Perhaps researchers should be exploring how STEM students can be encouraged to view themselves as budding professionals who feel a sense of responsibility to strong internal values, colleagues and mentors, their field of study, and society. This line of research would align with the view of the International Center for Academic Integrity in which academic integrity is more than honesty and trust; it also includes values such as being courageous. As Palmer (2007) discusses, acquiring such dispositions are part of a larger process of identity development.

Aligned with this more positive approach, more research is needed on how to teach ethics. Numerous scholars are interested in this topic, as evidenced by the

many journals on the topic such as “Teaching Ethics Journal” and the “The Ethics of Teaching and the Teaching of Ethics.” However, in addition to the numerous scholars who study the teaching of ethics in general, more research is needed on how to teach disciplinary-specific professional ethics. For example, Andrews and colleagues (2001) recommend that rather than developing a comprehensive curriculum around ethics for dental students, it would be beneficial for students to share their real-world examples of ethical issues to make the curriculum more disciplinary specific. Within the STEM fields, it would be particularly informative to study students in technology and math, as there are few academic integrity studies conducted with these populations. Although STEM fields are often grouped together, it is likely that field-specific academic integrity issues exist. A better understanding of such issues will allow institutions, colleges, and departments to develop academic integrity codes and policies tailored to their students, and help faculty devise methods for instilling academic integrity within their students.

Summary

This chapter situates the importance of academic integrity against the backdrop of public distrust in science, often spurred by highly profiled negative consequences of scientific applications and the use of the media by activists, politicians, and others to sway public opinion about scientific issues. Within this context, it is vitally important for both current and emerging STEM professionals to imbue their practice with a strong sense of integrity across personal and professional domains, including the academic domain. The chapter first considers definitions of academic integrity, both broadly and within STEM fields, and then offers a review of these fields’ professional standards or codes for ethical practice. It is contended that despite disciplinary differences across codes, definitions of academic integrity endorsed by higher education institutions should address code commonalities, such as honesty and responsible interaction with colleagues.

The chapter then provides an overview of studies detailing the prevalence of academic misconduct among STEM students, both at the undergraduate and graduate level. The majority of studies in this area have been undertaken to investigate academic misconduct among science and engineering students, while relatively fewer studies have considered academic misconduct among technology and mathematic students. In general, however, studies from every STEM discipline indicate a high frequency of academic integrity violations among students. Of note, while academic integrity violations occur across the STEM fields, one in particular – plagiarism – is pronounced among international students. It is suggested that this finding may partly reflect that it is easier to spot instances of plagiarism in writing submitted by international students, and thus faculty are more likely to report violations from this student subsample. Further, among graduate students, some research exists to suggest that plagiarism at the graduate level may be partly attributed to a lack of enculturation into one’s discipline. The many causes of STEM academic integrity violations are then addressed, as is the highly

competitive nature of the STEM educational environment. The tension between collaborative coursework and assignments meant to be completed individually is also considered.

Strategies to slow or stop STEM undergraduate academic integrity violations are then explored. These include implementing honor codes, offering professional ethics courses, and educating graduate students who instruct undergraduate STEM courses on how to deter undergraduate academic integrity violations. Particular emphasis is given to the role of faculty in slowing or stopping STEM undergraduate academic integrity violations. Of note, STEM faculty rarely discuss academic integrity with their students or provide them with clear academic integrity standards. Further, for a number of reasons, they often fail to report cheating and plagiarism violations. However, while faculty negligence can promote academic integrity violations, faculty practices may also encourage violations. Designing courses relevant to students, developing unique assessments that require critical thought, and strengthening relationships with students are strategies that are explored in depth.

The chapter concludes with suggestions for future directions for research on academic integrity in STEM fields. These suggestions include identifying disciplinary-specific practices that may invite academic integrity violations, undertaking academic integrity studies targeting STEM graduate students and/or technology and mathematics, and designing, implementing, and evaluating the impact of interventions targeted at reducing cheating and plagiarism within various context and with differing subpopulations of STEM students. Additionally, it is suggested that future researchers explore how STEM students can be encouraged to view themselves as budding professionals who feel a sense of responsibility to strong internal values, colleagues and mentors, their field of study, and society.

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Abstract

In health care and medicine, the focus on humans and their bodies and the complex and potentially conflicting web of personal, professional, and financial relationships between researchers, students, government, and industry create a quite distinctive environment for academic integrity and misconduct. Although the history of medical research and practice is obviously lengthy, descriptions of scientific misconduct and of attempts to control and regulate it are a very short and recent chapter. The backdrop to contemporary efforts to address medical misconduct is the Nuremberg Code, developed in the light of the Nazi medical atrocities during World War II. Despite the wide adoption of the Nuremberg Code and related declarations, research that contravened the code and declarations has continued to occur. Noteworthy examples include the Tuskegee Syphilis Study in the United States and Cervical Cancer Study in New Zealand. Misconduct in the generation, analysis, and dissemination of medical research findings and cases of fabrication and falsification of laboratory-based data have

A. Braunack-Mayer (✉) • J. Street
School of Public Health, The University of Adelaide, Adelaide, SA, Australia
e-mail: annette.braunackmayer@adelaide.edu.au; jackie.street@adelaide.edu.au

provided some of most egregious examples of contemporary research misconduct. Efforts to manage misconduct have focused on the development of human research ethics guidelines and committees, codes of conduct, and guidelines for publication of scholarly work in medical journals.

Introduction

In *The Structure of Scientific Revolutions*, Thomas Kuhn argued that researchers function within paradigms. Paradigms are sets of beliefs, values, techniques, and practices shared by a given scientific community at any one time which provide the basis for articulation and specification of scientific practice (Kuhn 1970). Work within the paradigm is “normal science” or “mop-up” work that extends, clarifies, and explores the paradigm in which it is grounded (Kuhn 1970, p. 24).

Kuhn’s work highlights the fact that researchers in a disciplinary area work in specific ways, adopt particular values, and accept certain kinds of research conduct as “right.” Thus, it is not surprising that research conduct and academic integrity in medicine and health care have distinctive characteristics that shape both the nature of the challenges encountered and the ways in which researchers tend to resolve them.

This chapter describes and analyzes the characteristics of academic integrity in health and medicine, beginning with a brief account of what distinguishes research and practice in this field. Then, it turns to a history of misconduct in health and medicine and institutional and regulatory responses to that misconduct, before discussing current challenges and potential ways forward. Although research ethics and academic integrity issues are not exactly the same thing, there is considerable overlap in the area of health and medical research, and being an ethical academic in this sphere requires attention to both research conduct and reporting. Accordingly, examples from both fields are included here.

The Nature of Research and Practice in Medicine and Health Care

There are a number of aspects of research and practice in health care and medicine which set them apart from other fields of academic endeavor. First, research in health and medicine often touches on those aspects of people’s lives which are most personal, sensitive, and private: their tissues and organs, their bodily functions, or information about them. The nature of this research means that, while it can do much good, it can also potentially result in physical or psychological harm, deception, coercion, and significant invasions of privacy. Research in this area can be the difference between life and death: the risks are substantially greater than in other areas of academic enquiry. The risk of harm both heightens sensitivity to the need for controls on and regulation of research conduct and contributes to the high levels of public outrage when research goes awry.

A second factor also follows from the personal nature of research in health and medicine. Research participants have to trust that health and medical researchers will act in ways that protect their best physical, social, and economic interests, even when they may have no personal relationship with the researcher and often when they are in a particularly vulnerable position. The fact that many participants in health research do so without expectation of personal gain makes the trust relationship even more important ([National Health and Medical Research Council, Australian Research Council, & Universities Australia 2007](#)). In medical research, the trust relationship between the researcher and participant can be further complicated by pre-existing relationships, such as those that exist when clinicians seek to recruit their own patients into trials.

A third distinctive characteristic of academic integrity in health and medicine arises out of the sheer size of its enterprise. Funding for health and medical research far outstrips funding for all other types of research. The health and medical sector dominates research investment and profits both within and outside universities ([Farrell 2008](#)). The size of this research budget is further complicated by the complex web of relationships between researchers and public and private funding sources, in particular through pharmaceutical, medical device, and biotechnology companies. Conflicts of interest are therefore ubiquitous in health and medical research. These conflicts extend beyond the conduct of research per se to include conflicts of interest in the development of clinical guidelines; in undergraduate, graduate, and continuing education; and in clinical practice ([Lo and Field 2009](#)). Medicine, in particular, is a high status profession, so entry to, and advancement in, the profession is a fertile ground for conflicts of interest. In addition, in academic institutions worldwide, a major non-financial incentive contributing to research fraud is the system of academic recognition and promotion which is based on outputs such as publication record.

In summary, the stakes are always high where matters of academic integrity are concerned. In the health and medical sector, the focus in research on humans and their bodies and the complex and potentially conflicting web of personal, professional, and financial relationships between researchers, students, government, and industry make the stakes even higher.

Responses to Scientific Misconduct in Health and Medicine

Health and medical research has a long history, with the first recorded mention of medical research dating back to 500 BC ([Bhatt 2010](#)). Misconduct in medical research is, therefore, likely to be equally as old, but descriptions of scientific misconduct, and of attempts to control and regulate it, are a very short and recent chapter in medical history. There is a large, and overlapping, history of ethical codes and practice in medicine, which touches regularly on medical misconduct and which is outside the scope of this chapter ([Jonsen 2000](#)).

Until the twentieth century, the conduct of medical experiments was left to individuals whose activities were largely unregulated. Codes of conduct had been

developed, including in 1803 by Thomas Percival. There were various attempts in England in the first part of the nineteenth century to regulate the medical profession, although the intent was less in the management of medical misconduct than the protection of branches of the profession (Porter 1993). However, it was the experiments conducted by Nazi physicians between 1933 and 1945 which galvanized the international medical community into an attempt to impose controls on the conduct of medical research (Lefor 2005). Some of the Nazi experiments were explicitly designed to generate findings for use in the political or military sphere (e.g., cold-water and low-pressure survival, mass sterilization, infectious disease studies). Others were more closely aligned to the classic picture of the independent scientist with the researcher “acting out of self-interest to further his private agenda” (Lefor 2005, p. 879), with Mengele and Voss providing infamous examples.

The 23 trials of the Nazi doctors (the “Doctors’ Trial”) under the auspices of the Nuremberg War Trials brought medical experimentation to international attention. Seven of these physicians were executed and the remaining doctors were imprisoned, with some subsequently returning to the practice of medicine (Lefor 2005). The greatest achievement of the Doctors’ Trial, however, was not the conviction of medical criminals, but the promulgation of a code of conduct for medical research – the Nuremberg Code.

The Nuremberg Code established ten conditions or principles for the conduct of medical experiments, including voluntary consent, clear benefit to human society, sound and credible science, protection of research subjects from harm and maintenance of a safe environment, and termination of the experiment if there were a risk of injury, disability, or death. The responsibility for meeting these conditions rested on each individual researcher associated with the research.

The Nuremberg Code became the basis for two key declarations. In the wake of the trials, the General Assembly of the World Medical Association adopted the Declaration of Geneva in 1948 as a statement of the ethical duties of medical practitioners to patients and the profession (World Medical Association 1948). The Declaration of Helsinki was adopted by the same body in 1964 and related specifically to the ethical obligations of medical practitioners in the conduct of experiments on humans (World Medical Association 1964).

Despite the wide adoption of the Nuremberg Code and related declarations, research that contravened the code and declarations continued to occur. The Public Health Service (Tuskegee) Syphilis Study, which ran from 1932 to 1972, withheld treatment from participants in the interests of continuing to collect data to show that treatment of certain groups of patients was unnecessary, even though penicillin became widely available during the trial (Kampmeier 1974). Since limbs from the patients involved in the Tuskegee case were carried outside the United States, the case also raised issues with respect to the international nature of research and about the responsibilities of scientists involved in cross-border studies. In 1987 in New Zealand, journalists Coney and Bunkle exposed similar practices at the National Women’s Hospital, Auckland, where patients with abnormal cervical smears were left untreated in order to follow the natural history of the disease (Coney 1998).

The publicity surrounding the Tuskegee and National Women's events, while focused primarily on the failure to treat research subjects according to accepted practice or to seek their informed consent to research, also highlighted a wider range of issues related to academic integrity and scientific misconduct in medicine. Similar patterns of behavior associated with research misconduct were also occurring at the same time in other areas of health and medical research. William Summerlin's tissue transplantation "patchwork mouse" experiments at Memorial Sloan Kettering Hospital in 1974 involved painting white rats black with a marker pen (Kumar 2008; Steneck 1994). John Darsee's career of data fabrication extended from his undergraduate years at Notre Dame University through medical residency and clinical cardiology fellowships at Emory University and the Brigham and Women's Hospital, affiliated with Harvard University (Culliton 1983).

Exposure of such instances of misconduct in health and medicine prompted a raft of codes of conduct, ethics guidelines, and regulation. The *Belmont Report*, published in 1979, was prepared by the National Commission for the Protection of Human Services of Biomedical and Behavioral Research in the shadow of the Tuskegee Syphilis Study. It aimed to set out the basic principles for research conduct in the health and medical sciences (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research 1978). The three fundamental principles laid out and developed in the report – respect for persons, beneficence, and justice – became the basis of guidance for Institutional Review Boards and Human Research Ethics Committees in the United States, Canada, the United Kingdom, and Australia.

The ensuing development of ethics guidance in Australia is typical of regulatory responses to instances of misconduct in health and medicine. The first *Statement on Human Experimentation* in Australia, based on the Declaration of Helsinki, was published in 1966 by the National Health and Medical Research Council (NHMRC), the peak body for health and medical research funding, conduct, and oversight in Australia (The National Health and Medical Research Council). In 1976, the NHMRC added a supplementary note to the *Statement* which endorsed the requirement for review of human research by a human research ethics committee. It also indicated that the *Statement* should be applied to all human subject research, not just health or medical research.

The *Statement* did not really acquire teeth until 1982, when the NHMRC adopted a recommendation requiring all institutions in receipt of its research funds to have and support an appropriately constituted human research ethics committee. Over the next two decades, the number of human research ethics committees in Australia expanded rapidly, with their activities supported by a new *National Statement on Ethical Conduct in Research Involving Humans* in 1999, with revisions in 2007 and 2014. The most recent revisions have been jointly authored with the Australian Research Council (ARC) and the Australian Vice-Chancellors Committee, making them applicable to all academic institutions and all forms of research with humans.

Although the development of guidance for the conduct of research with humans provided a vehicle to address unacceptable practice in the design and conduct of health and medical research, it did not really address misconduct in the analysis and

dissemination of research findings. There was good reason to be concerned about these types of misconduct: between 1974 and 1981, 12 major cases of research misconduct in medical and health research came to public attention in the United States (Price 2013). These all involved issues related to integrity of data, particularly fabrication, falsification, and plagiarism in publication, rather than unethical actions in the course of procedures conducted on human subjects (Price 2013), and all had been funded by public money through the National Institute of Health.

The impetus from these cases of misconduct generated a parallel set of questions about peer review, editorial oversight, and the publication of research more generally (LaFollette 1992). Underpinning these questions there were also more fundamental questions being asked about integrity in the performance of research and the mechanisms for self-regulation of science. La Follette's (1992) seminal work on scientific publishing brought these strands together, arguing that researchers, their institutions, and the scientific press were all slow to address research misconduct and academic integrity, preferring to allow politicians and journalists to tackle the issues.

Still, guidance concerning all of these aspects of misconduct in medical and health research did begin to appear. In 1985, after several years of congressional attention, public hearings, and research, US Congress passed the Health Research Extension Act which required that processes be put in place to address scientific fraud. Guidelines for NIH grant awardees were published in 1986, thereby creating one of the first public codes of research conduct, outside of human research ethics guidance, supported by law. The Office of Research Integrity was recognized as an independent entity within the Department of Health and Human Services by an Act of Congress in 1993. In addition, a Commission on Integrity and Misconduct delivered a report in 1995 and various research programs to support research integrity were organized throughout the 1990s. The flurry of activity led to the HHS adopting a government-wide definition of research misconduct in 2000, a definition which confined research misconduct to plagiarism, falsification, and fabrication (Office of Science and Technology Policy & Executive Office of the President 2000). In the background to this seemingly straightforward history of regulation, there were bitter battles in which scientists resisted change while claiming that misconduct was rare and science self-correcting (Price 2013).

Other countries, in the main, watched developments in the United States, often waiting to act until a scandal in their own establishments forced academic integrity onto the agenda. For example, the United Kingdom saw a major scandal in 1994 with the disclosure of two fabricated papers in the *British Journal of Obstetrics and Gynaecology* by Malcolm Pearce. Geoffrey Chamberlain, a co-author on one of the papers, was also the editor of the journal and the president of the Royal College of Obstetricians and Gynaecologists (Smith 2006). Perhaps as damning as the disclosure of fabrication was the exposure, to an incredulous public, of the common practice of "gift authorship" for senior scientists and clinicians (Smith 2006). Other similar cases followed (Dyer 1999; Mitchell 1997).

Journals and their editors first began to respond to these cases in the late 1970s. The International Committee of Medical Journal Editors (ICMJE) first published

guidelines – its *Uniform Requirements for Manuscripts* – in 1978. These guidelines initially focused simply on standardization of manuscripts but evolved over the next two decades to include statements on the definition of legitimate authorship, editorial freedom, duplicate publications, retractions and fraudulent or suspicious data, and conflicts of interest. The title of the most recent version, released in 2013, *Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals* (International Committee of Medical Journal Editors 2014), is indicative of the breadth of the current committee’s reach.

Throughout this period, medical journals and their editors were on a journey of discovery about the nature and extent of research misconduct. There was an ongoing debate about the nature of authorship, with the “pendulum” of policy on authorship in the ICMJE Recommendations highlighting a wider debate about what research in health and medicine was and who could claim credit for doing it (Huth and Case 2004).

Concurrently, a shift in views was occurring about whether examples of research misconduct were rare, and could be addressed principally by outing the occasional rogue researcher, or whether they reflected a broader set of practices, of which only the most egregious were exposed. The “bad apple” researcher view, espoused in the *New England Journal of Medicine* in 1983, was on the wane:

The system in academic medicine may have given Darsee the opportunity to fabricate his data, but he clearly had an inner need to do so that was quite independent of the system in which he worked. . . Unfortunately, faithful discharge of . . . responsibilities will neither protect against the occasional appearance of an unscrupulous person in the laboratory nor guarantee that his or her misdeeds will be promptly recognized. (Relman 1983, p. 1416)

By 1997, it was clear that the number of reports of misconduct was becoming increasingly troubling for medical journals. A core group of editors of high-profile medical journals established an advisory organization – the Committee on Publication Ethics (COPE). COPE was inaugurated “primarily as a self-help group for editors of medical journals wondering what to do with cases of misconduct they encountered” (Smith 2006, p. 4). This was a clear shift from the previous stance where misconduct was seen as “rare,” and since the papers were slated for rejection, editors did not recognize a duty to act (Smith 2006). A taxonomy of misconduct was developed by Richard Smith (2000) for presentation to a consensus conference on misconduct in biomedical research held in Edinburgh in 1999. The conference went on to deliver a broader definition of misconduct: “Behaviour by a researcher, intentional or not, that falls short of good ethical and scientific standards” (A consensus statement on research misconduct in the UK 2012; Smith 2000). It was another six years before the United Kingdom Research Integrity Office was launched and even then it lacked legal backing with which to prosecute its cases.

The international response remained varied. Nordic countries, as Richard Smith reported (Richard Smith 2000), relied less on a “rigorous definition” than on “sound judgment.” France has taken a quite different approach with prosecution, in the courts, of fraudulent scientists (Rey-Lefebvre 2013). However, many countries still

do not have good systems of either prevention or treatment; for example, Japan, despite ongoing issues in research misconduct, has no corresponding body to the United States Office of Research Integrity (Tanimoto et al. 2014).

Journal editors continue to take a lead role in supporting ethical research conduct. In line with International Committee of Medical Journal Editors recommendations (International Committee of Medical Journal Editors 2014), journals frequently require that medical research trials of drugs and procedures be listed on trial registries as a condition for publication. In addition, many journals now require an author statement confirming that each author meets certain requirements for authorship and detailing the individual contribution of each author (International Committee of Medical Journal Editors 2014).

Despite the developments in the regulation and control of misconduct described above, cases of misconduct in health and medicine continue to come to light. It is notable that the misconduct is seldom an isolated incident; those individuals who engage in serious misconduct also tend to engage in a range of less egregious behaviors. The 2005 *Lancet* publication of Norwegian oncologist, Jon Sudbo, who concluded that non-steroidal anti-inflammatory drugs such as ibuprofen reduce the risk of oral cancer in smokers, was based on 908 invented patient records purportedly recruited from a new patient database. The deceit came to light because the database had not yet opened (Gerber 2006). Subsequent enquiries showed that 15 of 38 articles previously published by Sudbo were fraudulent including his doctoral dissertation ([The Office of Research Integrity](#)). In biomedical science, Hwang Woo-Suk, a South Korean researcher with an international reputation, admitted to a slew of ethical lapses as well as the fabrication of evidence to support claims of human cloning (Gerber 2006). His behavior included not reporting the true number of harvested eggs used in the research and concern about their source, including from his own research staff. In psychiatry, British doctor, Tonmoy Sharma, recruited vulnerable patients with schizophrenia and Alzheimer's disease into drug trials without consulting their care providers and without appropriate human subjects' approvals (Dyer 2007; General Medical Council 2008). Sharma was struck off the registry of the General Medical Council (2008), but the related journal articles were neither investigated nor retracted.

Recent cases also highlight the complex array of researcher relationships and the lack of oversight by colleagues. Sudbo's 13 co-authors, including authors from the United States, although exonerated from complicity, were cautioned about gift authorship. Hwang's co-author, Gerald Schatten, was censured by his employer, the University of Pittsburgh, for research "misbehavior" for accepting gift authorship (Gerber 2006). Schatten could not verify the data because it was in Korean and he did not speak the language but, using his standing in the scientific community, shepherded the paper through the peer review process with the journal *Science*. It could be argued that Al Gore's 1985 pronouncement as chairman of the Congressional Hearings into Scientific Misconduct still holds true and now can be applied globally: "One reason for the persistence of this type of problem is the reluctance of people high in the science field to take these matters very seriously" (Rennie and Gunsalus 2001).

Journal editors continue to contribute to the ethical debates in academic integrity. For example, in 2014, the Committee on Publication Ethics released a discussion document on authorship which indicated that authorship was a “common concern of COPE members at least in terms of topics brought for discussion at COPE forums.” The document sought to document “some basic principles to help prevent common problems” and “stimulate discussion on some common instances of what should, and should not, constitute authorship” (Committee on Publication Ethics 2014).

Ongoing Challenges and Future Prospects

Despite all of the activity described above, misconduct and fraud in health and medical research appear to be on the rise. The rise can be attributed, in part, to the steady increase in numbers of health and medical researchers and to increased monitoring of research (Fang et al. 2012). However, there is also reason to believe that cases of fraud and deception remain underreported. Serious misconduct, for example, through fabrication or falsification, is probably relatively low – perhaps 1–2 % (Martinson et al. 2005). However, recent survey and qualitative research indicate that more minor misdemeanors are common (Martinson et al. 2005; Street et al. 2010). For example, a meta-analysis of survey data demonstrated that 14 % of scientists knew of colleagues who had falsified data and 72 % knew of colleagues who had engaged in other forms of misbehavior in research (Fanelli 2009).

One reason for the apparent ubiquity of research misconduct is that, despite the development of codes of conduct, oversight committees, and reporting requirements, what constitutes misconduct remains unclear. The Aubrey Blumsohn case at Sheffield University in the United Kingdom is a good example of the challenges around the definition of misconduct. In 2005, Sheffield University attempted to gag Blumsohn by offering him a large payout if he would resign and refrain from discussing the actions of Procter and Gamble, which was funding research at Sheffield to evaluate the effectiveness of the osteoporosis drug, Actonel (Dyer 2009). Procter and Gamble had prevented researchers at the university from independently analyzing their own data by withholding the codes which would allow identification of which patients were in the Actonel intervention arm. The company subsequently attempted to manipulate the presentation of the data through ghost authorship of ensuing research papers. Richard Eastell, the university’s research dean, was implicated in the case because he had signed a declaration attached to one of the publications submitted to the journal, *Bone and Mineral Research*, indicating that “all authors had full access to the data and analyses” (Dyer 2009, p. 22). Blumsohn knew this to be untrue and, frustrated by his university’s inaction, ultimately reported Eastell to the General Medical Council. While Eastell’s involvement in the case may have shaped the university’s response, the fact that the behavior fell outside the three domains of fabrication, falsification, and plagiarism also meant that it was difficult to label the case as serious misconduct. The response of the General Medical Council to the case is also salient since

the GMC panel who adjudicated the case suggested that, in 2002 when the declaration was made, “there was an evolving understanding of access to data” (quoted in Dyer 2009).

A second reason for the volume of misconduct in health and medical research can be attributed to the complexity and depth of relationships between researchers, their institutions, and pharmaceutical, medical device, and biotechnology companies. The Blumsohn case above highlights the persuasive power of these relationships and it is not an isolated incident. Outside of this example, even when misconduct falls within the three “serious misconduct” areas, institutions in the main have been slow and defensive in their response (Smith 2006). The extent to which publicity of cases is suppressed by institutions and issues dealt with in-house is unknown, but as Harvey Markovith, former chair of COPE, suggested in a 2006 editorial, institutions will “find reasons, cogent or dubious, as to why they should not investigate a particular complaint” (Marcovitch 2006, p. 618).

Finally, the rise in reports of misconduct in health and medical research also reflects the increase in the diversity and number of research scientists engaged in any one research project. With increasing capacity to manage big data sets, particularly in clinical trials and genomic research, comes the need for collaboration between increasingly large numbers of researchers to secure those data. Similarly, advances in molecular technology are often highly specialized, as are many statistical contributions, meaning that some contributors to a multidisciplinary paper may simply not be in a position to comment on the veracity of results obtained by their co-authors. This, in turn, has led to a rapid rise in the number of multi-authored papers which creates challenges for authors in maintaining oversight of the roles and functions of individual contributors.

Some activists have advocated for more stringent approaches to research misconduct. Smith argues that fraud in research is no different to financial fraud; if resources have been misused, he suggests, “we might use the word stolen” and adds that “scientific fraud might do much more harm than financial fraud in that it could lead to global misunderstanding, including perhaps widespread use of ineffective and dangerous treatments” (Smith 2013). Smith and others argue that scientific fraud should be criminalized (Nuwer 2014). Some cases have reached the courts in the United States (CBS News 2014; Kintisch 2006), France (Rey-Lefebvre 2013), and Australia (Israel 2014), but such cases are rare and all involved misappropriation of public funds through misleading or fraudulent statements or actions. By contrast, fraudulent behavior which does not involve money is less harshly treated, despite its potential to cause harm. Responses to fraud in health and medical research are often internal with cases suppressed and individuals forced to resign or even, after retracting the paper(s), retaining their employment. Framing research misconduct as limited to fabrication, falsification, and plagiarism presents a problem since it is clear that actions such as ghost authorship (Ross et al. 2008), suppression of data (Doshi 2009; Psaty and Kronmal 2008), making false statements (Dyer 2009), and gift authorship, which lends credence to falsified and fabricated data (Gerber 2006), can have serious consequences, waste public funds, and provide an environment in which misconduct can flourish.

More important than punitive regulation of misconduct, however, may be efforts to build a culture of academic integrity in research institutions. Considerable progress has been made in disciplinary and educational responses towards building a culture of academic integrity among students, but this has yet to translate into action across the academic sphere. For example, Australia has instituted a *Code of Conduct* which outlines requirements for institutions to set in place measures which encourage academic integrity (National Health and Medical Research Council, Australian Research Council, & Universities Australia 2007). Compliance with this code is a prerequisite for receipt of National Health and Medical Research Council and Australian Research Council funding, and funding may be withdrawn where the code is not met (National Health and Medical Research Council et al. 2007). However, it is clear that monitoring of compliance with the code is poor, and despite evidence for widespread breaches of the code, many research institutions do not yet have ethics training for staff (Street et al. 2010).

Summary

What can this brief examination of misconduct in health research reveal about disciplinary approaches to integrity in health and medical research? Firstly, the potential for large research projects which inflict serious harm, as in the case of Tuskegee experiments, has been mitigated to a significant degree. With the safeguards currently in place, such experiments would be difficult to conduct and could not be published. However, serious misconduct involving fabrication, falsification, and plagiarism is still an issue. There is evidence that such misconduct falls within a spectrum of misbehaviors in research and that, while the harms of “lesser” misconduct or misbehavior may be serious and costly, there is continued disregard for the seriousness of these behaviors within research institutions and the scientific community.

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Abstract

Much of the literature of academic integrity is strongly framed in the context of written prose; yet there are many academic disciplines in which the assessment items bear very little resemblance to written prose. It is argued in this chapter that disciplines using such assessment items require, at the very least, different approaches to attribution and different tools to detect breaches of academic integrity. However, the case is made that they might also require different standards, based on different practices and expectations within the industries to which they pertain. This case is based on a thorough examination of the

Simon (✉)

School of Design, Communication, and Information Technology, University of Newcastle,
Ourimbah, NSW, Australia

e-mail: simon@newcastle.edu.au

literature of academic integrity in the disciplines of computing and the visual arts, which is supplemented by some considerations in a small number of other disciplines for which limited relevant literature was found.

Introduction

This chapter addresses the question of academic integrity in disciplines that use assessment items not written in text, and it is necessary to begin with a definition of that concept. The word “text” has many meanings. In this chapter it will be used to mean what is commonly thought of as writing and might be more accurately described as writing in the form of sentences and paragraphs in a natural language, one of the many languages that people use to speak and write to one another. Essays, academic papers, magazine articles, letters, and many other items are written in prose text.

This somewhat cumbersome definition is necessary to distinguish this form of writing from many other forms that are still written in textual characters but not in such a way as to form prose. Here, for example, is a short extract from a computer program written in a programming language called Java:

```
public static double average (int [] a)
{
    int sum = 0;
    for (int k = 0; k < a.length; k++)
        sum += a[k];
    if (a.length > 0)
        return (float) sum / a.length;
    else
        return 0;
}
```

This is clearly text in some sense of the word, but equally clearly, it is not a representation of ideas in words, sentences, and paragraphs. Mathematical proofs and derivations are another example of argumentation that could be called textual but that is clearly not prose.

There are also presentations of ideas that do not appear to be at all textual or where the text is but a minor part. These would include graphic designs, paintings, musical compositions, architectural designs, electrical circuit diagrams, and many more.

For the purposes of this chapter, “text” and “textual” will refer to written items in the form of prose, and “non-text” and cognate words will refer to the multiplicity of other items, some of which are described above.

Academic Integrity, Plagiarism, and Collusion

There is no single widely accepted definition of academic integrity. Many definitions appear to focus on an assurance that work presented for any form of credit is the work of the person presenting it. An academic paper presented for publication in

a journal, or an essay presented for credit in a university course, comes with an implicit assertion that it is the original work of the person or people named as its authors.

Of course this is an oversimplification. It is seldom expected that a university essay will present original ideas that have never before been propounded. Indeed, in many contexts only a handful of experts worldwide would be in a position to shed new light on material that has already been thoroughly analyzed. No academic would expect an undergraduate student to develop new ideas about the poetry of Byron, or the Battle of the Somme, or the environmental role of trees. Rather, the expectation is that the student will read a reasonable number of authoritative sources and then write an opinion derived from those sources, paying them due respect by use of references and perhaps direct quotations.

It is important to recognize, therefore, that the originality regarded as crucial in a piece of academic writing is not so much originality of thought or idea as originality of expression: instructors want their students to say more or less exactly what others have said about the topic in question but to express themselves in a different way from previous writers on the same topic. In this regard it is fortunate that natural languages such as English offer infinitely many ways of saying the same thing, although it does have the unfortunate side effect that students, having seen something expressed beautifully by one of their sources, are then constrained to express the same thing rather less beautifully themselves.

Plagiarism, self-plagiarism, and collusion are all practices that can entail breaches of academic integrity. Plagiarism entails claiming credit for work that is not one's own, by including work from some other source and failing to acknowledge that source. For reasons that will soon become clear, the source material tends to be in the public domain, for example, a published paper, a website, or a magazine article. Carroll (2007) suggests that the definition of plagiarism varies according to the discipline, the type of assessment, what is considered as common knowledge, and institutional settings. Other authors suggest that plagiarism is more difficult to define in relation to non-text situations than for prose text (Hamilton et al. 2004; Blythman et al. 2007; Porter 2010; Chuda et al. 2012). However, these qualifications are rarely reflected in the educational resources developed by higher-education institutions to instruct students, which tend to apply single definitions as if they were universal and unproblematic.

Self-plagiarism entails claiming further credit for work that is one's own but for which credit has already been granted. For a student, this might mean re-using substantial parts of one assessment item in another; for an academic, it might mean re-using substantial parts of one published paper in another. Self-plagiarism is not so widely condemned as plagiarism, and authors have questioned whether it should be regarded as academic dishonesty (Samuelson 1994; Loui 2002).

Collusion has been defined as receiving unauthorized assistance, or students working together to produce an assessment item when they are expected to work individually and not acknowledging the fact (Dennis 2004; Park 2004; Gynnild and Gotschalk 2008). Like plagiarism, this is claiming credit for work that is not one's own, but unlike plagiarism as defined above, the source material is not in the public

domain. However, some authors do not make this distinction and tend to use the word “plagiarism” for both practices. Collaborative practices such as group work and peer-assisted learning, which have been gaining currency in higher education, have the potential to blur the boundaries of acceptable and unacceptable practices, causing confusion as students are faced with requirements that vary from one assessment to the next. Carroll (2007) observes that it is difficult to define collusion in circumstances where students are encouraged to work together except when doing assessable work.

Text and Referencing

While there are many ways of acknowledging one’s sources in a piece of textual writing, most of them resolve to three simple rules:

1. When using a sequence of words just as it appears in a source, enclose it in quotation marks, or otherwise clearly mark it as distinct.
2. When using a sequence of words from a source, or an idea from a source reexpressed in one’s own words, follow it with a notation referring to the source, so that readers will be clear that the words or ideas are those of the source, not of the current author. This is called an in-text reference.
3. Somewhere, typically at the end of the piece of writing, include a reference list. This will list all of the sources referred to by in-text references, with enough detail to permit the reader to find those sources and read them if required.

There are ideas implicit in these three rules that do not necessarily apply to non-textual assessment items. First, the in-text references, while parenthetical, are integrated into the text. It is not possible to read the text without being aware that particular words or ideas are being attributed to somebody else. Consider, by contrast, a piece of orchestral music that incorporates a musical phrase from another work. If the composer has included the equivalent of an in-text reference, it will be either on the musical score or on some accompanying explanatory notes. Listeners to the music will not hear a voice-over announcing that the foregoing phrase is a quotation from Litolff’s *Concerto Symphonique in D minor* and are therefore likely to assume that the phrase is the composer’s own.

Second, there are accepted forms for in-text references and reference lists. Some of the forms originate from prestigious organizations, such as Harvard University, the American Psychological Association, or the Institute of Electrical and Electronics Engineers; others might be more personal and less broadly known. But they all offer standardized ways of telling the reader that particular words or ideas come from particular sources. Consider, by contrast, a poem built around a phrase from a book of scripture. Even if the poet wished to acknowledge the source of the phrase, this would not be done with a standard in-text reference, which would certainly interfere with the flow and meter of the poem. Even magazine articles, which are written in prose text, tend not to use standard in-text references, but instead work

the reference more smoothly into the surrounding text. Moving away from the written word altogether, there are generally no standard ways of acknowledging the sources from which ideas are taken or parts are copied.

Third, there is an implicit agreement that any work that fails to acknowledge its sources is breaching the principles of academic integrity. This is not necessarily the case even with textual materials: for example, it might be considered acceptable to use phrases such as “shuffled off this mortal coil” or “brevity is the soul of wit” without referencing the Shakespeare play from which they come. But with non-textual materials, it is possible that there are completely different expectations. Students designing a car body might be expected to base it upon existing production vehicles but not required to explicitly list which aspects of their design were drawn from which vehicles.

Plagiarism in Prose Text

While it rarely acknowledges this explicitly, the literature dealing with plagiarism focuses almost exclusively on prose text. Books on avoiding plagiarism (Harris 2001; Carroll 2007; Neville 2010) refer to paper mills, literature, using other people’s words, and translating foreign articles. They suggest that plagiarism can be avoided by learning how to paraphrase and to synthesize the words of multiple authors. They explain how to place directly copied text into inverted commas and reference it appropriately. All of these concepts are particular to written text and apply poorly if at all to non-textual items.

While much of the literature focuses on educating students to avoid plagiarism and produce original work, it also acknowledges the role played by similarity detection software such as Turnitin and Academic Plagiarism. But these tools have been developed for written text and compare submissions with other items of written text; they are not designed to detect similarity in non-textual items.

Academic Integrity and Computing Assessments

There are many different types of assessable items in computing, including spreadsheets, databases, web pages, and system diagrams. However, in this discipline the bulk of the literature on academic integrity and its breaches focuses on computer programming. Computer programming is known to be difficult to learn (see, e.g., Watson and Li (2014), a survey of pass rates in more than 150 courses worldwide) and is possibly therefore more susceptible to various breaches of academic integrity.

As practiced in industry, computer programming is often a collaborative activity. Software developers work in teams, brainstorm ideas, and help one another with problematic code. These practices are often also applied in university courses, in the forms of group work and pair programming; yet students can then be required to complete programming assignments individually. As observed by Carroll (2007),

such practices can lead students to become confused and to engage in collusion, either unwittingly or because they are unable to complete the work without assistance. Furthermore, programmers are encouraged to re-use program code, and libraries of code modules are often provided for different programming languages (Joy et al. 2013). Without proper acknowledgment, these practices might be considered as plagiarism; however, some pieces of code are such standard fare that to acknowledge them would be like referencing a stock phrase in an essay because that stock phrase must have been first used by somebody.

Cosma and Joy (2008) developed a definition of source-code plagiarism: "Source-code plagiarism in programming assignments can occur when a student reuses . . . source-code authored by someone else and, intentionally or unintentionally, fails to acknowledge it adequately . . . , thus submitting it as his/her own work." However, acknowledgment of program code is by no means a standard requirement akin to acknowledgment of sources in text, and, perhaps as a consequence, there are no standard ways of referencing sources (Hamilton et al. 2004). The situation becomes more complex with the notion of referencing ideas. Ideas in computer programming are typically expressed as "algorithms," or sets of steps required to carry out a task, and many algorithms are common knowledge, standard approaches to tasks such as sorting a list of names alphabetically. A programmer using one of these standard algorithms would presumably be able to cite the source in which it was seen, but that is most unlikely to be the original source, as such algorithms are expressed in many textbooks, often without further reference to prior sources.

Additionally, there are many reasons to expect a high degree of similarity between programs designed to carry out the same task. Similarities will be imposed by the formulaic nature and formal structure of programming languages (Joy et al. 2013), which permit far less variation than would be expected in essays on the same topic; by the particular coding conventions taught at each institution; by the limited nature of the assessment task and the correspondingly small number of distinct correct solutions; and by the expectation that most students would be at a similar stage of development, would use the same textbook, and would have the same teacher (Mann and Frew 2006).

Perceptions of Academic Integrity in Computing

Numerous studies have investigated the perceptions of academics and students regarding academic integrity or its breaches in general. Using focus groups of students from four different disciplines at an Australian university, Gullifer and Tyson (2010) found that students were able to identify extreme examples of plagiarism but that understandings beyond that were limited. In a survey conducted across four Australian universities, Brimble and Stevenson-Clarke (2005) found that every one of their 20 scenarios was viewed as less serious by students than by academics.

Research into perceptions of academic integrity in computing assessments has mirrored work in the text field, generally providing students and/or academics with scenarios and asking whether these breach academic integrity standards or are examples of plagiarism, collusion, or cheating. Student perceptions are frequently tested against the perceptions of the researchers rather than through identical surveys being completed by academics in the field.

An online survey of 313 computing students and 25 computing academics in Slovakia provided participants with six scenarios and asked whether they constituted plagiarism (Chuda et al. 2012). Academics were more likely than students to identify scenarios as plagiarism. Questions exploring attitudes to facilitating plagiarism revealed that academics and students both exhibited high levels of tolerance for some behaviors. For example, only 52 % of academics and 30 % of students agreed that a person providing the material for plagiarism was also guilty of plagiarism.

Dennis (2004) conducted a survey of first-year computing students in the UK. Participants were presented with seven scenarios, of which academics had identified four as constituting collusion:

1. A student copies another student's program with their knowledge and submits it as their own.
2. Two students work together on an assessment and both submit the same program.
3. A student copies another student's program with their knowledge, makes small changes, and submits it as their own.
4. Two students work together on large sections (called "methods") of an assessment. These methods are the same in their submissions, though there are differences elsewhere.

More than 90 % of students agreed that the first three scenarios constituted collusion. However, only 75 % of students identified the fourth as collusion, and around 16 % of the first-year students surveyed admitted to sharing methods in their first year of study.

Another UK study (Joy et al. 2013) found that students were confused about certain types of plagiarism. The study presented 15 scenarios to 770 computing students at 18 institutions, and the findings included the following:

- Only 7 % of students thought that re-using code without acknowledgment was plagiarism.
- In a situation where a student was said to have forgotten where they found the code they copied, only 31 % identified unreferenced copying as plagiarism.
- Around 30 % of students were unsure whether working together and submitting similar work was unacceptable.
- Only 49 % thought that translating a program from another programming language without acknowledgment constitutes plagiarism.

Cosma and Joy (2008) surveyed 59 UK computing academics to explore perceptions of plagiarism relating to source code and concluded that “there appears to be no commonly agreed description of what constitutes source-code plagiarism from the perspective of academics who teach programming in computing courses.” There was universal agreement that using someone else’s source code without acknowledgment was plagiarism, but agreement declined somewhat, and qualifications crept in, when scenarios included students either adapting the source code to their work or translating it into another language. Academics were divided about a self-plagiarism scenario involving code re-use when students had been advised that re-use was not permitted. More than half labeled this as a different academic offense, and the majority of the remainder classified it as plagiarism. However, some stated that it was “inappropriate to prevent students from re-using source code produced as part of another programming assignment” (Cosma and Joy 2008). Academics agreed that students should not collaborate when required to submit individual work but acknowledged the educational value of working in teams, which was also recognized as the norm in professional life.

Vogts (2009) investigated the plagiarism and collusion practices of novice programming students in South Africa. Collaboration between two students on an assignment that was supposed to be completed individually was considered acceptable by 66 % of students. Around one-third of students approved of swapping assignments with a friend so that each does one of two assignments, as well as copying the greater part of a friend’s assignment but doing a reasonable amount of additional work oneself. The vast majority recognized other practices as unacceptable: stealing someone else’s assignment, copying all of a friend’s assignment, submitting someone else’s assignment from the previous year, and hiring someone to do the work.

Sheard and Dick (2011) surveyed undergraduate computing students at an Australian university in 2000 and again in 2010. During the ten years between the surveys, the university introduced a number of strategies to increase student awareness and reduce the incidence of cheating. Measures included a revised cheating and plagiarism policy, discussion of cheating in every course combined with educational activities embedded in some courses, requiring students to sign an assessment coversheet declaring that the work was their own, focusing on the design of assignments and using interviews with students to reduce cheating, and detection tools for both text and software to uncover plagiarism. The survey presented students with 18 scenarios, 16 of which the researchers considered to be cheating. By 2010, all 16 cheating scenarios were rated as unacceptable by higher proportions of students, and the differences were statistically significant for 10 scenarios. Leaving aside scenarios relating to cheating on exams, the most unacceptable practices were hiring another person to write one’s assignment; copying another student’s assignment, with or without their knowledge; swapping assignment tasks with a friend, so that each does one assignment; copying material for an essay from a book or the Internet; and being given the answer to a tutorial

exercise worth 5 % by a classmate when one's own computer has problems. The 2010 cohort were more aware of university regulations and thought that academics felt more strongly about cheating.

Simon et al. (2013) conducted focus groups of computing students and academics in Australia and found "a general belief that non-text-based computing assessments differ in this regard from text-based assessments, that the boundaries between acceptable and unacceptable practice are harder to define than they are for text assessments, and that there is a case for applying different standards to these two different types of assessment." In a subsequent survey of computing students and academics, they found substantial differences between the attitudes to certain practices with text and computing assessments and between perceptions of plagiarism/collusion and perceptions of acceptability (Simon et al. 2014a). They also found that computing students have a poor understanding of acceptable academic practice when writing computer code, that they are not aware of the need to reference code taken from other sources, and that they do not know how to do so (Simon et al. 2014b).

In summary, it appears that there is no clear agreement among either students or academics as to what might constitute plagiarism or collusion in computing assessments. It has been suggested that the lack of agreement might be due in part to the differences between textual assessments and computing assessments and to the lack of agreed guidelines for whether, when, and how to reference externally sourced material in a computer program or other computing assessment.

Prevalence of Plagiarism and Collusion in Computing

This section examines some research results into the prevalence of plagiarism and collusion and changes that have occurred over time, beginning with some studies relating to text and then considering the evidence for computing assessments.

In a large study conducted across the USA and Canada (McCabe 2005), up to 42 % of undergraduate students admitted engaging in collusion, and 38 % in plagiarism, in the preceding year. Gynnild and Gotschalk (2008) asked participants at a US university how frequently they thought plagiarism and collusion occurred. Only 16 % of undergraduates thought that plagiarism occurred often, while 50 % believed the same of collusion. A third of the respondents admitted having copied from an electronic source without referencing it and a quarter to having colluded. Šendaž et al. (2012) found that engineering students were significantly more likely than education students to engage in plagiarism, while students in science, engineering, and computer science were more likely than education or humanities students to receive unauthorized assistance. By contrast, Marsden et al. (2005) found that students in science and journalism/literature were more likely than engineering students to plagiarize.

In the computing disciplines, Culwin et al. (2001) conducted a survey that involved academics from 55 of 110 higher-education computing schools in the

UK. Participants were asked to provide estimates of source-code plagiarism in relation to introductory and subsequent computing courses. The results indicated that source-code plagiarism was seen as a more serious issue with introductory courses. For introductory programming courses, 32 % of participants estimated that source-code plagiarism occurred most of the time or almost all of the time. For subsequent courses, 20 % thought this was the case. Similarly, 21 % thought that outbreaks of source-code plagiarism involved 35 % or more of students in introductory courses, but just under 10 % thought this was the case for subsequent courses.

An investigation into plagiarism among novice programmers in South Africa (Vogts 2009) asked students how many times they had plagiarized during the current module. A total of 40 % of students indicated that they had plagiarized and 29 % had done so on more than one occasion. A higher proportion of below-average students engaged in plagiarism (58 % compared with 29 % of above-average students). Similarly, Dennis (2004) found that 24 % of first-year computing students admitted to engaging in collusion.

Computing students in Slovakia indicated that both plagiarism and collusion were widespread practices (Chuda et al. 2012). While 33 % of computing students admitted to plagiarizing, 42 % said that their work had been plagiarized by others. Furthermore, 63 % of students said they had given their work to others, either for inspection or for copying.

Sheard and Dick (2011) observed a change in the prevalence of cheating, plagiarism, and collusion over the decade from 2000 to 2010. They compared identical surveys completed by computing students at an Australian university and found that the proportion of students who had engaged in any form of cheating declined from 78 % in 2000 to 63 % in 2010. There were significant declines in the prevalence of a number of practices, including:

- Resubmitting an assignment that had been submitted in a previous course (from 27 % to 17 %);
- Submitting a friend's assignment from a previous offering of the course (34–20 %);
- Copying the bulk of a friend's assignment, but doing a fair bit of work oneself (31–21 %);
- Copying material for an essay from a textbook (22–10 %);
- Copying material for an essay from the Internet (23–10 %);
- Copying all of a friend's assignment that was given freely (10–3 %); and
- Swapping assignment tasks with a friend, so that each does only one assignment (9–3 %).

Overall, it is clear that, as with textual assessments, the incidence of plagiarism and/or collusion is high. It has been suggested that it might be higher with computing assessments than with textual assessments. There is some evidence that the incidence might fall following a long and concerted effort to better educate students about the principles of academic integrity.

Reasons for Plagiarizing or Colluding

A number of studies have explored students' reasons for plagiarizing or colluding. Responding to a survey by Şendağ et al. (2012), over 40 % attributed their behavior to overwhelming assignment loads or time limitations. Over 30 % of students nominated feeling incompetent, wanting to achieve a higher grade, and unmotivating assignments. More than a quarter of students mentioned boring assignments, feeling that the work was not relevant for them personally and/or professionally, and having a busy social life. Around 20 % attributed dishonest behavior to the ease of obtaining information from the Internet.

A comprehensive survey in Europe revealed a high level of agreement between academics and students on the main reasons for plagiarizing (Foltýnek et al. 2013). Four of the top five reasons were common to both groups: the ease of copying and pasting from the Internet, running out of time, not seeing plagiarism as wrong, and thinking that the lecturer would not care. Students were more likely than academics to cite factors related to lack of ability, such as not being able to cope with the workload or thinking that their written work was not good enough.

In an Australian study by Brimble and Stevenson-Clarke (2005) that asked academics and students to indicate reasons why students plagiarize, the top five reasons cited by students were to help a friend (43 %), the assessment was too difficult (37 %), the assessment was too time consuming (36 %), they were not likely to get caught (33 %), and it was unintentional (31 %).

Parallel research in the computing disciplines has found many similar motivations for engaging in plagiarism and collusion. However, Vogts (2009) argues that plagiarism of source code may be a cry for help because the work is too difficult for some students. He sought to investigate whether it is possible to discriminate between “acceptable” and “unacceptable” reasons for source-code plagiarism, with a view to providing support to students in the first group. Students were presented with four “acceptable” scenarios relating to a genuine inability to complete the work and two “unacceptable” scenarios: not having enough time and not feeling like doing the work. The major reasons cited by students for plagiarizing source code fall into the “acceptable” category of not being able to complete the work.

Culwin et al. (2001) surveyed academics from computing schools in the UK. The responses indicated that the major reasons for student plagiarism were the following:

- Students are too disorganized to complete work on time (39 %).
- Programming is too difficult for them (27 %).
- There is too much pressure from work and/or family (23 %).
- There is too much pressure from other subjects (11 %).

Dennis (2004) asked first-year computing students why they colluded in computing assessments. Analysis of the responses shows that the two major reasons are an inability to do the work and poor time management. Other reasons include that

they were normally encouraged to work with others and that they did not think it was wrong.

According to Chuda et al. (2012), students “took inspiration” from work previously submitted by others because of time pressures, uninteresting courses, and the poor attitude of the teacher. Some students commented on the demotivating effect of teachers tolerating plagiarism or applying mild penalties. Other justifications included insufficient attention or guidance from the teacher and the volume of work students were expected to do.

Sheard et al. (2003) investigated the factors that might motivate computing students to cheat. They presented a number of reasons and asked students to indicate how likely these reasons were to encourage them to cheat. The factors that were most likely to motivate cheating were time and workload pressures, fear of failure, and an inability to do the work.

What stands out in these studies is the high ranking of students’ inability to do the work. This ties in with the earlier observation that computer programming is difficult to learn. Certainly, some students are worse than others at writing text; but even the poorest writer can generally manage to string some words together in a way that makes some sense. On the other hand, a poor attempt at a computer program is not a computer program at all. Because it fails to satisfy the syntactic requirements, it does not run, and it produces no output. A student with such a program is arguably in a worse position than a student who has written a poor essay, and is therefore more likely to seek assistance from other students or from helpful online sources.

Similarity Detection in Computing

Harris (2001) provides a list of possible strategies that may assist academics to identify plagiarism or collusion in prose text. These include looking for some obvious pointers such as changes in style, formatting, or citation styles. In addition, dated references, not addressing the topic adequately, or referring to past events in the present tense may be indicative of plagiarism. Other avenues to be explored include checking major sources such as the web, paper mill sites, newsgroups, and papers that have been submitted previously, and using similarity detection software such as Turnitin. Research in relation to prose text has examined the efficacy of similarity detection software (Harris 2001; Lyon et al. 2006; McKeever 2006; Badge 2010).

For reasons explained in a preceding section, text similarity detection software is not particularly helpful in computing. Similarities in computer programs are more likely to be evident in the design and/or structure of the programs than in short sequences of identical characters. Furthermore, programs tend to be compared only with other programs submitted for the same assessment; there is no growing bank of solutions to different tasks in different programming languages, nor would such a bank be helpful. Within these constraints, many tools have been developed to detect similarities in source code.

Martins et al. (2014) explain various approaches that can be used in detecting code similarity and survey a number of the better-known code similarity detection programs, assessing and tabulating their features of interest. Products considered include CodeMatch (Zeidman 2008), JPlag (Prechelt et al. 2002), Measure of Software Similarity (MOSS) (Schleimer et al. 2003), Plaggie (Ahtiainen et al. 2006), Sherlock (Joy and Luck 1999), Sim (Gitchell and Tran 1999), and Yet Another Plague (YAP) (Wise 1992). Martins et al. conducted the survey as a prelude to writing their own similarity detection software, indicating that they were not entirely satisfied with any of the available solutions.

Notwithstanding the large number of available tools, the use of similarity detection software for computer programs is far from universal. Culwin et al. (2001) found that at half the institutions in the UK, academics relied only on manual inspection, and Chuda et al. (2012) found that most academics relied on their instinct or on manual checking.

As with textual similarity detection, source-code similarity detection detects only similarity, not plagiarism or collusion. The academic must still examine the similar parts to inform the decision and, as Mann and Frew (2006) argue, must remain aware of the fact that code similarity does not necessarily imply plagiarism or collusion.

In summary, there are many similarity detection software packages for computer programs, but the uptake of these packages is not high, with many academics determining similarity by eye and many more not trying to determine it at all. Further, similarity detection is of most use among the submissions for a single assessment item. No literature has been found that addresses the comparison of student submissions with a collected body of computer programs, and indeed, it is not clear that this would be at all useful as an approach. No literature has been found on the subject of similarity detection among any other forms of computing assessment.

Plagiarism and Collusion in the Visual Arts

There is very little literature addressing academic integrity or its breaches in the visual arts (Blythman et al. 2007; Porter 2010). However, it is agreed that the situation is complicated by the lack of universally agreed referencing conventions or guidelines (Blythman et al. 2007; Garrett and Robinson 2012a).

Garrett and Robinson (2012b) define visual plagiarism as the “practice of passing off a piece of work as original with the intention to deceive or, for whatever reason, unintentionally failing to acknowledge an original source.” However, defining plagiarism within the visual arts is complex and involves navigating blurred boundaries due to traditions such as learning through copying, appropriation, homage, visual referencing, expanding on a resource, parody, and pastiche (Blythman et al. 2007; Johnson-Eilola and Selber 2007; Economou 2011; Garrett and Robinson 2012b; Porter 2009). Porter (2010) observes that there is a lack of

clarity about what needs to be referenced and points to a lack of consistency among academics' interpretations of what is acceptable.

Garrett and Robinson (2012a) reviewed the literature on visual plagiarism, conducted interviews with academics, and administered a survey to academics in the UK. They found that there was a gray area concerning plagiarism in the visual arts and that "it is a much more complex and nebulous concept than its text-based equivalent." In the interviews some academics emphasized the importance of copying as being akin to "a music student practicing works by famous composers" (Garrett and Robinson 2012a).

Blythman et al. (2007) conducted discussion groups with academics from five degree courses at two higher-education institutions in the UK to explore the boundaries between acceptable and unacceptable practices in relation to appropriation in their discipline. The courses were photography, interior design, surface design, design practice, and contemporary fine art practice. Within an environment where copying to develop skills is the norm, the discussion identified activities that could be undertaken with students to demonstrate how to move beyond copying to produce work that entailed personal expression and creativity. Academics expressed the belief that plagiarism is not as prevalent in art and design as in text because students are keen to produce individualized work and because the work is monitored as it progresses.

To date, there is limited literature relating to the prevalence of plagiarism and collusion in art and visual design. The Spot the Difference research conducted by Garrett and Robinson (2012b) provides some information on the views of academics at UK universities. The project included a survey of academics and support staff in UK arts education, asking whether they had encountered plagiarism in students' work, and, if so, how frequently. In contrast to the situation for prose text and computing, the academics indicated that plagiarism was not considered a major issue in visual assessments. Only 6 % indicated that they had encountered it frequently. However, 42 % of academics were of the opinion that referencing of visual images was frequently poor in visual assessments, and 46 % thought this was the case for presentations.

A literature review on visual plagiarism by Garrett and Robinson (2012a) found that following the work of Blythman et al. (2007), a range of educational resources had been developed to assist students to "understand the nuances of copying, homage, and appropriation, and avoid plagiarism."

The Academy of Art University (2014) provides suggestions on designing assessment tasks to minimize opportunities for plagiarism. They suggest requiring students to document the progress of the development of their work using sketchbooks to record drafts and asking students to write a short piece on their progress every week outlining how their ideas are evolving. In addition, they suggest that academics ask for evidence of the research conducted, including complete citations of sources.

The standard plagiarism detection tools are not effective for visual materials such as images, diagrams, and graphs. As reported by Simon et al. (2014c), Google Images (www.google.com.au/imghp) and TinEye (www.tineye.com) are the tools

most commonly used to detect similarity of visual images, but there are ongoing attempts to develop new methods. Zaka et al. (2009) developed a system based on the universally unique identifier (UUID) of multimedia content. They evaluated various content-based image retrieval systems which provide a uniform representation for search, comparison, and storage and proposed a measure of similarity (Zaka et al. 2009). An integral component of the Spot the Difference research in the UK was the development of iTrace, a visual comparison tool. iTrace was found to be effective in matching images to original images even when they had been manipulated by being blurred, cropped, or painted over, or in instances where only part of the image was included or where two or more images had been combined (Garrett and Robinson 2012a). iTrace is freely available for use by anyone who chooses to register (www.itrace.ac.uk), but there is as yet no evidence of its wide adoption in further and higher education.

Simon et al. (2014d) conducted focus groups of teachers and students in visual art and design and subsequently conducted an Australia-wide online survey of teachers and students in these areas. They found greater uncertainty about plagiarism and collusion in design assessments than in text assessments. With regard to basing work on that of another student, or using freely available work without referencing it, their participants were less likely to think of this as plagiarism or collusion in a design assessment than in a text assessment.

Walker (2009) cites the following as reasons for plagiarism in art and design: poor time management skills, pressure to achieve the grades necessary to continue in the course, and students' perception that academics are too busy to check for plagiarism. In research involving visual arts and design academics in the UK, Garrett and Robinson (2012a) found that student misunderstanding was nominated as the most common cause of visual plagiarism.

Summarizing the situation in the visual arts, there are no clear guidelines to help distinguish between plagiarism on the one hand and homage, parody, visual referencing, and related practices on the other. Academics and students alike have difficulty knowing what is academically legitimate and what is not. Further, it is not possible to reference an external source in a way that makes the reference visible to all viewers of the work.

Plagiarism and Collusion in Other Non-text Areas

Little published literature has been found on academic plagiarism and collusion specific to other non-text areas, but some thoughts are presented here for consideration.

There are papers on plagiarism in music (Keyt 1988; Baker 1992; Müllensiefen and Pendzich 2009), but their focus is on litigation. They explain that with a musical scale consisting of a small number of discrete notes, similar sequences of those notes will sometimes arise independently, but that a composition is rather more than a sequence of notes. They acknowledge the existence of musical

plagiarism, but observe that some similarities are coincidental. No literature has been found that pertains to academic integrity in the context of music education.

In mathematics it is sometimes the case that there is only one correct answer to a given question, even if that answer is many lines long. A mathematical proof, for example, is far more constrained in its form than a computer program or a musical composition. Markers will therefore expect all correct answers to be close to identical. In these circumstances, neither plagiarism nor collusion can be suggested by measures of similarity – except where two or more students have submitted assessment items displaying the same egregious error. This might help to explain why no literature has been found on academic integrity or its breaches in mathematics education.

In the field of architecture, Mostafa (2011) observes that

The definitions and principles of academic integrity have become clarified and globalized in the past few years. Some disciplines however, due to their creative nature, may require a customized set of definitions, standards and practices . . . Architecture is one such discipline. As a field of study which encourages students to consider design precedent, adopt certain styles and be influenced by great works, it becomes difficult to separate inspiration from plagiarism. (p. 85)

The same principles apply in cognate areas such as town planning, product design, network design, and system design, where it is understood that any new design is typically an amalgam of semi-standard existing designs, with any novelty residing in either a distinct new feature or a distinct way of arranging the existing features. If there were tools for measuring similarity in such designs, they would find far more similarity than difference, although the designs would seldom be considered to breach academic integrity guidelines.

In some disciplines that use non-textual assessments, it is clear that copying is almost impossible to detect, because all correct answers are effectively identical to one another and to what is written in textbooks. In other disciplines that use non-textual assessments, there is a clear expectation that every item will be based on other items, in a way that neither expects nor permits a form of referencing like that used for textual material. In neither case do the standard referencing practices of textual academic integrity apply.

Conclusion

By reference to the extensive literature of academic integrity in computer programming, and what little literature has been found on academic integrity in the visual arts, this chapter has shown that there are substantial differences between these disciplines and the general text-based disciplines. The differences encompass perceptions of what constitutes breaches of academic integrity, means and usefulness of detecting similarity, differences in relevant professional practices, the lack of recognized ways of referencing work from external sources, and differences in reasons for plagiarizing or colluding.

The chapter emphasizes and reinforces the observation of Carroll (2007) that the definition of plagiarism must vary according to the discipline, the type of assessment, what is considered as common knowledge, and institutional settings.

It is difficult to escape the conclusion that attribution and referencing as they are generally understood are tailored to prose text, in a way that is not helpful or meaningful to other forms of assessment. Many publications concerning academic integrity or its breaches conclude that with better approaches to education, detection, and prevention, breaches of academic integrity will greatly diminish. Such beliefs are appropriate to prose text assessments but of little use for non-textual assessments.

Before there can be meaningful discussions about education, detection, and prevention of plagiarism and/or collusion for non-textual assessments, each of the disciplines that uses such assessments would need to form some sort of agreement as to what practices are appropriate in that discipline, what would constitute breaches of academic integrity, and how and in what circumstances references should be provided to external source material. On the basis of the evidence in the current literature, such agreement is unlikely to be reached in the near future.

In the meantime, institutions of higher education should give serious consideration as to whether their academic integrity policies or plagiarism policies are truly applicable across the full range of assessment items or are written in the context of, and should therefore only be applied to, assessments written in prose text.

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Section VIII

Integrity in Research and Research Training

Michael Kalichman

Michael Kalichman

Abstract

While the focus of this Handbook is academic integrity, the topic of research integrity is inextricably linked to discussions of integrity in the academy. The goal of this introductory chapter is to summarize the international perspectives presented by the remaining chapters of this section. Authors of chapters in this section were asked both to provide definitions of research integrity and to consider the following questions:

- What are the perceived problems in research integrity?
- What factors are possible causes of problems in research integrity?
- How, if at all, is training used to mitigate factors that impair research integrity?
- Is there any evidence that the training works?
- Are there “best practices” or highly recommended approaches to training?

As will be clear from a perusal of the table of contents, the representation of countries is far from comprehensive. Even if every recognized nation could have been included, this task would still have been challenged by the reality that understandings of and approaches to research integrity vary widely even within the same country. Therefore, the goal was not to be comprehensive, but to provide a sampling of perspectives from world leaders in the field of research integrity. In the hope of also articulating similarities and contrasts, each chapter was constructed as a pairing of two or more nations. Those pairings were ad hoc and based on either previous collaborations among the authors or familiarity with the work of one another. Also, given the acknowledged lead role the USA has taken in this field, it will not be surprising that most of the chapters have at least one US author. The result is an eclectic collection of papers, each of which provides useful insights into “research integrity” as it is currently framed internationally.

M. Kalichman (✉)

Research Ethics Program, University of California, San Diego, La Jolla, CA, USA

e-mail: mkalichman@ucsd.edu

Despite wide variation in approaches and content of each of the chapters, several commonalities warrant comment. First, a common theme is that the seriousness of efforts to address research integrity is typically driven by one or more major scandals involving research misconduct. It is unfortunate that flagrant misbehavior is so often a prerequisite for action, but that is perhaps an all too human characteristic. Second, responses to the challenge of promoting research integrity varied in the details, but were uniform in being comprised of two forms of approach: (1) reactive (i.e., guidance through regulations, policies, and/or codes defining the most serious research misbehaviors and prescribing mechanisms for investigating and sanctioning cases of research misconduct) and (2) proactive (i.e., largely education, but also the creation of codes of conduct). Third, there seems to be a developing perspective that questions of research integrity are not merely matters of individuals violating rules, but larger questions of socialization, incentives, and culture. Finally, it is particularly noteworthy that all countries represented in this chapter are in stages of transition. Even the USA, which has been focused on the question of responsible conduct of research for approximately 35 years, still struggles with fundamental questions such as: Why does research misconduct occur? Is education useful? How should we assess the impact of our efforts?

In the opening chapter, Israel and Drenth consider research integrity from the perspectives of Australia and the Netherlands. Despite vast differences between continents and languages, the authors describe far more similarities than differences. One noteworthy difference from the other contributions to this section is the observation that calls for a focus on research integrity began at least as early as 1977 in the Netherlands, long before reports of major research misconduct scandals in more recent years.

In the second chapter, Zimmerman and Föger provide perspectives on Canada and Austria. One important distinction described by the authors was that in Austria research integrity is defined as being nothing more nor less than good scientific practice, while the Canadian approach speaks to “responsible conduct of research.” In practice, these two conceptions are likely reducible to the same focus, but it might be asked if those differences in terminology would mean different perspectives on the part of researchers subject to rules about either good scientific practice or responsible conduct of research.

For the third chapter, Heitman, Vasconcelos, and Litewka focused on Argentina, Brazil, and the USA. These authors provide a thoughtful discussion of the history and context for conversations about research integrity within each of their countries. The results underline the importance of context. The USA stands out internationally as a long-standing leader in research and research funding, Argentina is in the throes of diminishing resources for research, and Brazil is in transition to be among the leading research countries in the world. The result is not only differences in the extent and quality of efforts to promote research integrity but should also be seen as a cautionary reminder of the difficulties of international harmonization of research integrity efforts.

Two of the world leaders in research productivity are China and the USA. In this fourth chapter, Frankel, Wei, and Leshner note the difficulty in China to overcome a

top-down power structure. They also reflect more generally on the need for an evidence-based approach, both in China and the USA, for implementing meaningful interventions. The authors specifically highlight the advantages of using education and other tools to empower researchers to support a culture of integrity and to raise questions when needed.

In the fifth chapter, Lee and Kalichman summarized their perspectives about research integrity in Korea and the USA. Lee used this opportunity to summarize a recent survey study in Korea highlighting researcher perspectives on research integrity. The findings echo much that has been discussed for the other countries examined in this section. Despite differences in the particulars of history and regulatory bodies, the authors conclude that the fundamental values of the Korean and US research communities are largely congruent.

Melissa Anderson, a US researcher who has had significant roles in the World Conferences on Research Integrity since its inception, was invited to conclude this section by offering her perspectives on research integrity internationally. Anderson and her co-authors Adam and Snyder observe that the international conversation about research integrity has evolved since the first World Conference in 2007. In that first meeting, the focus seemed very much on the problem of research misconduct by individual researchers. In the ensuing years, that focus shifted to the importance of empirical studies to identify the behavioral, organizational, and cultural factors that either promote good practices in science or lay the seeds for research misconduct.

The observations of Anderson et al. about the trajectory of the international research community are a fitting conclusion to the other contributions made to this section. In all cases, the model appears to be that as institutions and organizations mature in their approach to research integrity, they tend to shift from a focus on research misconduct as a failing of individuals to one that emphasizes a cultural fostering of good practices in science.

Mark Israel and Pieter Drenth

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Abstract

In Australia and the Netherlands, research institutions and their funders, as well as academics, state integrity agencies, judges, governments, and journalists, have contributed to the development of rules and procedures that might help prevent, investigate, and respond to research fraud and misconduct. Both countries have experienced scandals and have ended up with codes, investigatory committees, and national research integrity committees.

National policy has created a series of expectations for research institutions. However, in both countries, the primary responsibility for research integrity remains with the institutions under whose auspices the research is carried out, as

M. Israel (✉)

Faculty of Law, University of Western Australia, Crawley, WA, Australia
e-mail: mark.israel@uwa.edu.au

P. Drenth

Department of Psychology, VU University, Amsterdam, The Netherlands
e-mail: pjdd@xs4all.nl

well as with the researchers themselves. Research institutions have to decide how to respond to misconduct, albeit in ways that are open to scrutiny by national advisory committees, the media, courts, and state accountability mechanisms. As a result, many institutions have amended and sharpened their own codes and regulations; refined their mechanisms for advising staff, reporting and investigating suspected misconduct, and responding to findings of misconduct; improved their protection rules for whistleblowers; regulated data storing and archiving; and sought to foster greater transparency in both their research and research integrity procedures. However, while researchers have been encouraged to embed awareness and acknowledgment of these principles through teaching, supervision, and mentoring of students and junior staff, less effort has been placed on resourcing good practice, tracing and understanding the causes of misconduct, and on fostering and entrenching a research culture invested with the values of professional responsibility and integrity.

Introduction

Research rests on trust. Researchers should be able to rely on the integrity of their colleagues and honesty in the description of their methodology, in recording their analysis, and in reporting their findings. Those who apply or use research outcomes also need to be able to trust the research process. Research misconduct can be very harmful. It may be harmful for science itself – false theories are not invalidated, wrong insights are not disproved, and fallacies continue. It may be harmful for individuals and society – wrong applications may be deployed, wrong treatments or drugs may be prescribed, wrong policy decisions may be taken, and as cases of misconduct come to light, public confidence in science may also be subverted.

Our countries have witnessed increasing numbers of reports of research misconduct. Scientists face mounting commercial and institutional pressure to perform and publish, a climate in which they may be tempted to engage in unacceptable behavior and infringe the norms of proper and responsible research. Of course, increased reporting does not necessarily mean more misconduct. It may reflect more positive trends. The world of scholarship in both Australia and the Netherlands has become more transparent, misconduct is being identified, and universities and research institutes have installed procedures to respond to misbehavior.

The Extent of Research Misconduct

Commentators have been divided on the extent of research misconduct. One would expect a “dark figure” of undetected, unreported, and unrecorded cases even in countries that attempted to track the number of incidences. In neither Australia nor the Netherlands has such an attempt been made. One Australian

Pro-Vice-Chancellor for Research recognized how hard it was to discover what was happening inside institutions. Even in her position,

You only hear about the number of cases, the number of investigations or the number of allegations that they've had in informal discussions with people. It is only when it reaches very serious cases of research misconduct. . . that things become public. (Thomas 2010, p. 22)

And very serious cases have become public. In 2002, David Robinson, Vice-Chancellor of Monash University in Melbourne, resigned after the university discovered that he had been found guilty of plagiarism on three separate occasions while working as a sociologist in the UK. Abebe Zegeye, a professor of sociology, was dismissed from the University of the Witwatersrand in 2010 and then forced to resign from the University of South Australia early the following year. The South African university initiated an inquiry as a result of complaints from three senior international academics that Zegeye had “blatantly, repeatedly and extensively misrepresented published work of a range of authors [including themselves] as his own” (Maslen 2011).

In 2013, the University of New South Wales suspended the work on an experimental drug for skin cancer by Levon Khachigian, and the National Health and Medical Research Council (NHMRC) did the same with A\$8.4 million in funding. Four of Khachigian's papers had already been retracted in 2009 and 2010, and during the investigation, Khachigian faced further accusations that he had manipulated images for publication (Retraction Watch 2013). In 2014, Queensland University of Technology (2014) accepted the findings of an external independent inquiry that it had established to investigate the misrepresentation of data relating to stem cells in one article and a grant application. The university accepted the committee's finding of misconduct by one researcher and a failure by another to fulfill her responsibilities as a supervisor.

Australian policies on research misconduct have been partly shaped in response to the claims and counterclaims associated with one epic fight over alleged misconduct that spawned multiple investigations, cast doubt on the findings of an inquiry led by one of Australia's most senior jurists, and triggered the departure of a vice-chancellor. In 2001, four whistleblowers leveled over 450 allegations against Bruce Hall, a senior researcher in the field of transplant immunology at the University of New South Wales. They alleged scientific and financial fraud, bullying, and inappropriate attributions of authorship. The university conducted two parallel internal inquiries that found insufficient evidence to support the allegations of scientific fraud or misconduct. Nevertheless, following media criticism of its obvious conflict of interest, the university appointed a former chief justice of the High Court, Sir Gerard Brennan, to conduct a further inquiry. Brennan's panel did not have authority to cross-examine the whistleblowers and did not contain experts with experience of the approaches used by Hall. While Brennan's report suggested Hall had engaged in scientific misconduct, the university then followed its industrial relations policy when dealing with the disciplining of an academic. Three internal reports later, the vice-chancellor subsequently censured Hall on two grounds relating to errors of judgment.

The university's Governing Council refused to support the actions of the vice-chancellor, and he chose to resign as a result in 2004.

In assessing what might be learned from the wreckage of the Hall inquiries, Van Der Weyden (2004) concluded that allegations of serious scientific misconduct should be dealt with from the start by an external and independent inquiry, the inquiry should have statutory power to investigate and inquire, the inquiry should have sufficient scientific expertise to ensure credibility, the inquiry should aim for the highest degree of transparency and accessibility of the final report, there is a need for uniform processes and procedures for dealing with and adjudicating on scientific research and fraud, and there is a need to shift the emphasis from managing misconduct and fraud to preventing them.

The Hall affair can be contrasted with the more recent investigation of a neurologist and a speech pathologist employed by the University of Queensland. Bruce Murdoch and Caroline Barwood resigned after a whistleblower claimed that they had not undertaken the experiments on Parkinson's disease whose results they had purported to report in various journals. The university failed to find any evidence that the experiment had been conducted. Instead, it discovered duplicate publication, statistical error, and misattribution of authorship. The University of Queensland informed the relevant journals, three of which retracted articles (Retraction Watch 2014). The university agreed to repay grant money awarded to the researchers on the basis of a track record that included the retracted publications. The university's report will not be released until the State's integrity agency, the Crime and Corruption Commission, has finished its own investigation, but both researchers have been charged with fraud.

The Netherlands has uncovered high-profile cases of misconduct, although they were not the initial trigger for national regulation. In this country, the reputation of social psychology took a battering when, in separate cases, two professors were found to have fabricated data. Erasmus University Rotterdam (2012) withdrew three articles published by Dirk Smeesters, professor of consumer behavior and society, and accepted his resignation (Enserink 2012). A more serious case concerned Diederik Stapel, a social psychologist working at Tilburg University. In 2011, he was found to have fabricated the data for 30 peer-reviewed journal articles and manipulated data in another 25 articles. For another ten articles, fraud seemed highly likely (based on statistical analysis). Moreover, in 10 out of the 18 doctoral dissertations that he supervised, fictitious data were used. His work also contained serious methodological flaws. For some articles, Stapel took responsibility for gathering data and then provided his coresearchers with a fictitious data set that fit their hypotheses. In their conclusion, the three committees at the universities of Amsterdam, Groningen, and Tilburg that investigated Stapel's total oeuvre wondered:

why this fraud and widespread violation of sound scientific methodology were never discovered in the normal monitoring procedures in science. The data and findings were in many respects too good to be true. The research hypotheses were almost always confirmed. The effects were improbably large. Missing, impossible, or out-of-range data were rare or absent. Highly conspicuous impossible findings went unnoticed. (Levelt et al. 2012, p. 53)

In his autobiography, Stapel (2012) admitted, “The truth would have been better off without me.”

Smeester and Stapel’s fabrications might have been more easily spotted if they had documented their work in such a way that others might quickly check their findings. However, as other Dutch psychologists discovered (Wicherts et al. 2006; Wicherts 2011), 73 % of all researchers who had published in one of four high-impact American Psychological Association journals failed to share their data (in breach of APA Ethical Principles). These results were particularly disturbing as Bakker and Wicherts (2011) found a high incidence of reporting errors in relation to null hypothesis significance testing among a representative sample of 281 published papers in psychology journals and that some errors were predictive of researchers’ unwillingness to share data (Wicherts et al. 2011).

Smeesters and Stapel’s behavior encouraged greater media interest in research integrity. In his book *Derailed Science*, the journalist Frank van Kolfshoeten (2012) detailed several other cases at leading Dutch institutions. For example, a professor of anthropology at the VU University Amsterdam, Mart Bax, was publicly condemned for using fictitious data in his work on religious traditions and small wars. The anesthesiologist Jan Vranke at the University of Amsterdam was accused of fabricating data by an investigation committee when a number of patient files could not be traced. Jose Moreno lost his job at the University Hospital of the University of Amsterdam (AMC) after being found to have manipulated figures and incorrectly reporting data. The infringements were confirmed by the National Committee on Scientific Integrity (LOWI), but AMC was directed to reinstate Moreno by a court. In 2011, researchers at the Netherlands Cancer Institute retracted two articles co-authored by Joost Meijer in the *British Journal of Cancer*. Results of his experiments could not be replicated, and no proper reports or observational data from his experiments could be found. The head of the department of internal medicine at the Erasmus University of Rotterdam, Don Poldermans, was dismissed following accusations of carelessness, shortcomings in his own research and that of his subordinates, and failure to comply with proper rules of research on patients. Nevertheless, between 2005 and 2011, only a moderate number of cases of misconduct (35 proven cases) were reported by the Dutch universities (van der Heijden 2010; van Kolfshoeten 2012).

Regulating Research Integrity

A review of international practice for the Canadian Research Integrity Committee (Hickling Arthurs Low 2009) distinguished between three kinds of national regulatory systems. The first type had a narrow legal definition of integrity and a central regulatory agency with powers of investigation. Another group had neither national legislation nor independent oversight, and responsibility was at best diffuse and at worst ambiguous. A third category also had no national legislation, but through placing integrity within broader and more constructive discourses of honesty and fairness, research councils and university peak bodies had created codes or model

guidelines and devolved responsibility to research institutions to develop their own policies as a condition of funding, and advice on investigation could be provided by an independent body. Over the last 20 years, both Australia and the Netherlands have moved from the second to this third grouping.

In different parts of the world, research integrity codes have been developed at the level of working groups or departments, institutions, or national jurisdictions. Recently, stimulated by the need for international harmonization, regional and global codes have emerged. However, there is still variation between countries in terms of the character of these codes. In a more regulatory approach, the code provides a basis for regulation and for controlling and monitoring the behavior of scientists. Its measures include procedures for inspection and for dealing with allegations and suspicion, including sanctions and measures of correction or punishment in cases where guilt is proven. In a normative/aspirational approach, the emphasis lies on the goals and ideals for which one should strive. In this context, the code functions also as an educational and awareness tool, to be used in training of students and young researchers and in public discussions on responsible research practices. A code is then more a canon for self-regulation. The Australian and Dutch codes tend toward the more normative type, though the Australian code does use language that suggests some elements are mandatory.

Australia

The Australian Code for the Responsible Conduct of Research (National Health and Medical Research Council 2007) was developed jointly by the two major research councils and universities of Australia. It replaced the Joint NHMRC/AVCC *Statement and Guidelines on Research Practice* (1997). Currently under review, the Code provides guidance on the responsibilities of researchers and institutions – Part A creates a set of principles to be interpreted and implemented and Part B the procedural steps to be followed in case of a breach of those principles. The Code is predicated on a diffusion of responsibility: “Everyone involved in research needs to take responsibility for ensuring that this culture of honesty and integrity is system-wide” (Anderson 2013). All individual and institutional recipients of federal research funding must comply with the Australian Code as a condition of that funding.

The Code shows, among other things, how to: manage breaches of the Code and allegations of research misconduct; manage research data and materials; publish and disseminate research findings, including proper attribution of authorship; supervise research trainees; conduct effective peer review; and manage conflicts of interest. It also explains the responsibilities and rights of researchers if they witness research misconduct.

The Australian Code requires institutions to create appropriate policies and also foster and support a culture of ethical and responsible conduct. An institution should provide “an appropriate research governance framework through which research is assessed for quality, safety, privacy, risk management, financial

management and ethical acceptability. The framework should specify the roles, responsibilities and accountabilities of all those who play a part in research” (s.1.2). Institutions are expected to develop policy to promote the responsible conduct of research, establish good governance and management practice, train staff, promote mentoring, and ensure a safe research environment.

They should also encourage: a research culture that demonstrates honesty and integrity; respect for human research participants, animals, and the environment; good stewardship of public resources used to conduct research; appropriate acknowledgment of the role of others in research; and responsible communication of research results.

The Australian Code distinguishes between minor issues (breaches) that can be remedied within the institution and more serious matters (misconduct) where it may be preferable to involve people who are independent of the institution. According to the Code, a complaint should be considered an allegation of misconduct rather than a breach if it also involves “intent and deliberation, recklessness or gross and persistent negligence,” as well as serious consequences. Research misconduct will therefore include “fabrication, falsification, plagiarism or deception in proposing, carrying out or reporting the results of research, and failure to declare or manage a serious conflict of interest. It includes avoidable failure to follow research proposals as approved by a research ethics committee, particularly where this failure may result in unreasonable risk or harm. It also includes the wilful concealment or facilitation of research misconduct by others” (s.10.1). Allegations of misconduct under the Code need to be reported to the research councils. If allegations are proven, the research councils may cease funding of and recover funding from the researchers involved.

It is not difficult to see why, left to their own devices, research institutions might be tempted not to investigate or publicize allegations of research misconduct:

Research institutions, including universities, live in fear of adverse publicity associated with misconduct, and have an inherent and glaring conflict of interest in pursuing an internal inquiry. (Van Der Weyden 2006, p. 430)

However, even before the Code, Australian institutions were not left to their own devices. The activities of research institutions may be subject to review by other government agencies. The Commonwealth can investigate misuse of federal funding. State public sector integrity agencies have been involved in some cases of research misconduct (Anderson 2013). One current example is the investigation of alleged misconduct at the University of Queensland and the charging of researchers with fraud by the Crime and Corruption Commission.

In 2008, Senator Kim Carr, the Federal Minister responsible for science and research, criticized the “excruciating slow” speed at which the Code had been developed, argued that institutions were applying the Code inconsistently, and noted that some elements of the Code appeared to conflict with pre-existing industrial relations arrangements some universities had negotiated with their employees. Carr was particularly concerned that when institutions failed to meet

their responsibilities, the courts provided the only possible remedy. He mooted that Australia might need a research ombudsman (Carr 2008).

In response, the two major research councils established the Australian Research Integrity Committee (ARIC), which started operations in 2011. ARIC required both that institutions took allegations of misconduct seriously and that they observed due process in their investigations. ARIC does not investigate research misconduct itself and does not comment on the merits of an institution's decision. It only reviews the processes and procedures used and reports to the research councils. Martin Van Der Weyden (2011), a long-standing advocate for reform of misconduct investigation procedures in Australia, questioned how an approach that rested on "top-down management" might ever actually advance research integrity.

Based on the limited and redacted information ARIC publishes each year within the annual reports of the two research councils, the Committee has not been overwhelmed by referrals. In its first year of operation (2011–2012), it received four referrals from the NHMRC, three of which it rejected as being outside its scope. In the one instance that it did investigate, ARIC rejected nine out of ten of the allegations made but was critical of the letter sent by the institution notifying the complainant of the outcome of the investigation. In its second year, ARIC received only one referral from the NHMRC and up to two from the Australian Research Council.

ARIC clearly falls short of providing an independent and swift means for investigating research conduct in Australia. Indeed, it was never designed to do so. As a result, when allegations of misconduct arise, it is not surprising that some commentators have continued to criticize the effectiveness and independence of the current arrangements (Townsend et al. 2013), the dearth of information on the extent of research misconduct, and the lack of coverage of research in institutions that are not funded by the main research councils (Vaux 2013).

Netherlands

Until the 1990s, the Netherlands had no official national code or guidelines on research integrity. Some universities and research institutes had formulated integrity standards for internal use while the Royal Netherlands Academy of Arts and Sciences (KNAW) had formulated advisory opinions on specific issues, such as open access, biotechnology, transgenesis, and health research legislation. There was no coherent national approach to the problem of scientific misconduct, in spite of some notable warnings in the literature (Tromp and Korzec 1977 as cited by van Kolfshoeten 2012, p. 8; van Kolfshoeten 1993; Drenth 1999). However, over the next 20 years, the major research groupings in the Netherlands worked together to develop a self-regulating system.

At the request of the Minister for Science and Education, KNAW, the Association of Dutch Universities (VSNU) and the Dutch National Science Foundation (NWO) produced a "*Note on Scientific Misconduct*" in 1995 (Royal Netherlands Academy of Arts and Sciences et al. 1995), a quite modest attempt to define

scientific misconduct and identify ways to prevent and respond to it. In cases of misconduct, the Note advised universities or research institutes to appoint an independent committee of experts which would report to the leadership of the university or research institute, which in turn had responsibility to determine any sanctions. The Note was offered to the “scientific field” for further elaboration and implementation. It was an agreement but had no legal status.

In 2001, the universities, the Academy, and the National Research Council published a substantial and influential “*Memorandum on Scientific Integrity*”. This Memorandum described the rules of proper scientific conduct, the types of infringements, and procedures to deal with cases of misconduct and identified three main categories of infringements – falsification, deliberate misleading, and theft of intellectual property (Royal Netherlands Academy of Arts and Sciences KNAW et al. 2001). Since 2001, research in all Dutch universities and all research institutes under the aegis of KNAW and NWO has been covered by the Memorandum.

Universities and research institutes remained responsible for dealing with complaints of research misconduct, but in order to promote concern for scientific integrity and the equal treatment of complaints, the Memorandum decided that their processes and decisions ought to be subject to review by a National Committee on Scientific Integrity (Landelijk Orgaan voor Wetenschappelijke Integriteit (LOWI)). Members of LOWI are appointed by the Royal Netherlands’ Academy of Arts and Sciences in consultation with the VSNU and NWO, but LOWI acts autonomously. LOWI only considers cases that are submitted by one of the interested parties and only after they have been dealt with in the institute where the alleged infringement has taken place. Both the complainant and the accused may ask LOWI to examine how the relevant institution has dealt with an allegation of misconduct and the actual content of the ruling. LOWI may also play an intermediary role if more than one university or research institute is involved in a complaint. Finally, the executive board of a university or research institute can request LOWI’s opinion on a difficult case still under decision. LOWI is not meant to be a national ombudsman, a general bureau of complaints, or a higher court of appeal. LOWI’s decisions have the status of advice, and the final decision, including the choice of sanctions, lies in the hands of the executive board of the university or organization concerned. Should LOWI conclude a case was dealt with inadequately, it will advise the institution to recommence the procedure. Even if a case has been properly considered, LOWI can still find grounds for reexamining an institute’s decision and may consult additional experts for this purpose. LOWI has handled only four to six cases per annum (Schuyt 2012).

The Netherlands Code of Conduct for Scientific Practice covering norms and standards in both teaching and research was drawn up at the request of the universities (Association of Dutch Universities 2005). In its preamble, the 2005 Code describes desirable conduct and so acts to complement the 2001 regulations on how to respond to misconduct. The Code contains principles all scientists and scholars should observe individually, among each other, and toward society: scrupulousness, reliability, verifiability, impartiality, and independence. Each of these principles is detailed further in “best practices” (see Table 1). These best practices

Table 1 Good Conduct of Research (Derived from Association of Dutch Universities 2005)

Principle	Explanation	Examples of best practices
Scrupulousness	Scientific activities are performed scrupulously, unaffected by mounting pressure to achieve	Precision and nuance in conducting research and the publishing of results thereof, respect for people and animals involved in research, accurate resource referencing, acknowledgement of authorship
Reliability	A scientific practitioner is reliable in the performance of his/her research and in the reporting, and equally in the transfer of knowledge through teaching and publication	Use of statistical methods that are pertinent to the acquired data, reporting and justification of omitted data, a clear distinction between conclusions on the basis of presented results and speculation or personal opinions, respecting intellectual property in (peer) reviewing
Verifiability	Whenever research results are publicized, it is made clear what the data and the conclusions are based on, where they were derived from and how they can be verified	Accurate documentation of the choice of research questions, of the research set-up, of the choice of methods and of the reference to sources, closely guarding the quality of the data collection, input, processing and storage, availability and easy access to the (at least 5 years stored) raw data
Impartiality	Scientific practitioner heeds no other interests than the scientific interest. In this respect s/he is always prepared to account for his/her actions	Choice of methods and criteria being guided solely by the goal of truth-finding and not by external goals such as commercial success or political influence, impartiality and independence in reviewing and assessing activities, defending a scientific viewpoint only if that viewpoint is based on sufficient scientific grounds, allowing others to take their own intellectual stance
Independence	Scientific practitioners operate in a context of academic liberty and independence. Insofar as restrictions of that liberty are inevitable, these are clearly stated	Sufficient independence from a commissioning or sponsoring party: the research question is (also) of interest to science, the employed method is scientifically valid, results are not influenced by the commissioning or sponsoring party, publication within a specified reasonable period is guaranteed and names of external financiers are identified

reflect, according to the VSNU, the national and international understanding of good scientific teaching and research.

Over the last few years, a further series of initiatives have been undertaken to respond to issues of research misconduct. The Code underwent revision in 2012 and 2014 (Association of Dutch Universities 2012a, 2014). The new Attachment to the Netherlands' Code of Conduct for Scientific Practice (Association of Dutch Universities 2012a) elaborated on the definition of research misconduct, which now covers fabrication, falsification, theft of intellectual property, ghost and guest

authorship, culpable carelessness in research design or execution, and permitting or covering up the misbehavior of colleagues.

In addition, a more intensive policy for preventing violation of the norms of scientific integrity by students and staff (Association of Dutch Universities 2012b) and a nationwide model for dealing with violations of scientific integrity were adopted (Association of Dutch Universities 2012c). The model outlines the role and responsibilities of a confidential integrity committee and ombudsman, ways to deal with complaints and allegations, and protection of whistleblowers. While individual universities retain responsibility for their own practices, the model serves as a way of harmonizing processes across institutions. The VSNU also decided to publish in redacted form all cases of convicted violations of integrity norms at Dutch universities. More recently, KNAW produced an authoritative advisory report on data management and the prevention of scientific misconduct (2013) and an advisory letter on plagiarism and self-citation (2014).

So, the system is totally self-regulating. The primary responsibility for handling cases of misconduct is in the hands of the employers of researchers. They can ask advice; they can be reminded, advised, or urged to amend inadequate procedures, but it remains their responsibility to make the decisions and to install proper procedures. The government plays no role. Of course, since the regulations do not have the force of law, researchers and research institutions may still turn to the civil law courts.

Comparing Australia and the Netherlands

In both Australia and the Netherlands, codes, policies, and practices associated with research integrity have been developed in partnership, albeit one grounded in the ability of the research councils to use their financial leverage to achieve change. In both countries, the research councils have worked with the peak university body to create national policy. However, in the Netherlands, more effort has been made to include researchers in policymaking, and this collaboration has included the learned academy. There, they have acted as an equal partner jointly responsible for the regulation on scientific integrity, the setting up and staffing of LOWI, while in Australia they have simply been consulted by the research councils and the peak university body. In contrast to the Netherlands, the Australian Research Integrity Committee was set up by the research councils alone.

In both countries, the primary responsibility for research on integrity rests with the institutions under whose auspices the research is carried out: universities and research institutes. National policy has created a series of expectations for research institutions, but it has been left to those institutions to decide how to respond, albeit in ways that are open to scrutiny by national advisory committees, the media, courts, and state integrity and accountability mechanisms. As a result, many institutions have amended and sharpened their own codes and regulations, refined their mechanisms for advising staff and reporting and investigating suspected misconduct and responding to findings of misconduct, improved protection rules

for whistleblowers, regulated data storing and archiving, and sought to foster greater transparency in both research and in its research integrity procedures. Often, researchers have been encouraged to embed awareness and acknowledgment of these principles through teaching, supervision, and mentoring of students and junior staff, and through modeling good practice.

Both the Dutch and Australian codes define research integrity quite broadly, moving beyond the classic focus on fabrication, falsification, and plagiarism and recognizing that misconduct may occur before, during, or after the gathering and analysis of data. Both examine authorship and the concealment of colleagues' misconduct. Neither country's Code is as explicit as the European Code of Conduct for Research Integrity (European Science Foundation and All European Academies 2011), which also classifies as misconduct improper dealing by institutions or organizations with infringements of principles of research integrity. Universities, research institutes, funding organizations, and other actors conducting and administering research have a responsibility to promote responsible research, and clear negligence or obstruction of the furthering of a responsible research climate by covering up violations, delaying investigations, or violating due process ought to be classified as misconduct. Both Codes refer to conflicts of interest but not institutional conflicts of interest, situations where an institution's research (or indeed its teaching or service activities) are unduly influenced by external financial or business relationships held at the institutional level (Slaughter et al. 2009).

There are several reasons why countries might choose to develop policy in relation to research integrity. They may be driven by a desire to develop and maintain good practice in research, seeking to recognize and clarify the role that various stakeholders play in doing so. Integrity might be part of a broader move toward public sector transparency and accountability. Finally, they may be a response to scandal, a sense that things have gone badly wrong in research and that changes were needed to protect or rebuild the overall legitimacy of researchers and their institutions. While early moves to develop guidelines around research integrity may have reflected longer-term commitments to good practice and accountability, the research systems in both Australia and the Netherlands subsequently had to respond to scandal. In Australia, the mechanisms for responding to allegations of misconduct were found wanting in the Bruce Hall affair, and a new architecture needed to be created. In the Netherlands, the misconduct of Stapel and Smeesters in particular meant greater attention needed to be paid to the training of researchers, openness and transparency of data collection, and better collegial control. Both countries have established national advisory bodies, albeit with differing responsibilities and roles. Both countries also have systems that are open to scrutiny by public integrity agencies or ombudsmen.

It is tempting to take satisfaction from the fact that real or apparent scandals may have allowed each country to respond to defects in their systems. However, the devolution of responsibility to individual institutions means that responses to systemic problems have been uneven, and it seems likely that many institutions in Australia are not fully compliant with the Australian Code even though compliance is a precondition for research council funding. Indeed, the Code might be

constructed in such a way as to make it impossible to be fully compliant. The situation may be better in the Netherlands in this respect. However, it seems improbable that universities in either country are uncovering every case of misconduct.

In Australia, the peak bodies responsible for the Codes have not made long-term continuous commitments to building resources to identify and support best practice. ARIC is certainly under-resourced in comparison to LOWI. It is also disturbing that each country had to wait for a scandal before responding to some important and specific needs of research integrity. The Australian Code stemmed from the failure to respond effectively to the allegations relating to Bruce Hall, while the recent KNAW advice on data management and self-citation in the Netherlands was triggered by the Stapel affair.

It is difficult to trace policy transfer between jurisdictions in order to unravel the influence of global and European initiatives on domestic policy or, indeed, the reverse. There is a lag time between the development of international statements and protocols and the revision of domestic codes, and the genealogy of these documents is not always acknowledged. However, the Australian Code's definition of authorship clearly draws on an earlier statement (National Health and Medical Research Council 1997) that explicitly adopted the language of the "*Vancouver Protocol*." (International Committee of Medical Journal Editors (ICMJE) 1997). Conversely, the 2010 Singapore Statement (Wager and Kleinert 2012), the 2013 Montreal Statement, the European Code of Conduct (European Science Foundation/All European Academies 2011), the InterAcademy Council (IAC) (2012) policy report, and the Global Research Council's (2013) "*Berlin Statement*" are newer and are partly the distillation of best practice drawn from individual national codes. However, they are also intended to stimulate the future development or improvement of national codes, set a benchmark for proper behavior in collaborative research, and provide a common language for international collaboration. As a result, university codes and national advisory reports in both Australia and the Netherlands have started to refer to some of these supranational statements and protocols.

Dealing with Cases of Misconduct

The Australian Code outlines the principles that should govern how an institution should respond to an allegation of misconduct (s.9). It requires institutions to nominate research integrity advisors and a "designated person" within senior management to receive complaints. It distinguishes between complaints associated with breaches of the Code, more serious research misconduct, and a failure to implement the Code and creates different pathways depending on the seriousness of the complaint. Complaints about breaches would be directed by the designated person to the supervisor of the person subject to the allegation while complaints about misconduct would be referred with a recommendation to the chief executive of the organization. Should the chief executive decide to proceed with a research

misconduct inquiry, this might involve either an internal institutional or an external independent inquiry. Again, the Code outlines the appropriate membership, functions, processes, and reporting responsibilities of such inquiries (s. 12), a direct response to the problems identified during the Hall inquiries. In the case of an “independent external research misconduct inquiry,” members of the panel must not be employed by or linked to the institution or “otherwise be subject to a reasonable perception of bias,” practices should follow the general pattern of other tribunals, and all evidence used in decision-making should be provided to the panel in a form that allows witnesses to be examined by counsel assisting the inquiry and offers the person subject to the inquiry an opportunity to respond. The panel should apply the civil standard of proof, and its findings should be publicly available.

The Dutch Memorandum on Scientific Integrity (2001) also formulated procedures for handling allegations, creating clear separation of responsibilities during the three phases of the process. Reception of and inquiry into an allegation or suspicion of fraud lies in the hands of an integrity officer, ombudsman, or confidential counselor (*vertrouwenspersoon*). The latter is appointed by the institution and should not be a member of the institution’s senior management. He or she has responsibility for deciding whether an accusation is to be admitted and whether to take further action. Under the national model for integrity, the integrity officer could direct the complainant to a permanent institutional Integrity Committee (minimally three members, one of them preferably being a jurist) of which the confidential agent cannot be member (Art. 4a). This permanent Committee – or, where this does not exist, the integrity officer – might recommend that the Executive Board appoint an independent investigation committee. This investigation committee consists of independent and preferably some external experts in the field of the accused researcher. It carries out a thorough investigation, hearing both sides (Art. 4d), and its findings should be based on “preponderance of evidence.” There should be an opportunity for appeal to LOWI. Subject to labor laws, the institution’s management is responsible for determining whether and what corrective measures or penalties might be applied. These may involve a formal reprimand or warning, restriction of access to funding, nullification of academic degrees if these were awarded on the basis of fraud, demotion, or dismissal. Where publications were based on fraud, they should be retracted, preferably with an explanation of the reason.

Understanding of Causation

Institutional or national codes rarely rest on an analysis of the reasons why people might breach norms of research integrity. Indeed, systematic research into the causes of scientific misconduct is scarce. However, occasionally, committees of investigation and research organizations have offered some comment. Some see the researcher as a “bad apple.” A researcher’s own ambition, vanity, desire for recognition and fame, and the prospect for personal gain may lead to behavior that crosses the limits of what is admissible. Others point to the culture that may prevail in certain disciplines or research groups (“bad barrel”). For example, the

three committees of investigation into Stapel (Levelt et al. 2012) found it too simplistic to view problems as a merely individual or local aberration. Stapel worked in at least three different institutions, and his work went through many hands – supervisors, doctoral examination committees, 65 co-authors (32 of whom co-authored fraudulent articles), colleagues, reviewers, and editors. No one raised suspicions or traced statistical and experimental shortcomings. The Committees recommended “that the Dutch and international social psychology disciplines thoroughly reflect on and investigate the contribution to theory development in their discipline, the methodological validity of published social and psychological research, as well as the review procedures for monitoring the theoretical relevance and methodological validity” (Levelt et al. 2012, p. 58). Not surprisingly, this was not well received by all social psychologists (Gibson 2012; see also the rejoinder of the chairs of the Stapel fraud investigation committees in Drenth et al. 2013). Stroebe and Hewstone (2013) drew on their own literature of social psychology to explain why there might be a bias against uncovering fraud unless there were already reasons to suspect it:

Because fraud is relatively rare, its possibility is not generally contemplated. Science is based on trust, and scientists find it difficult even to consider that members of the club might be cheating. . . (Stroebe and Hewstone 2013, p. 34)

Again, others identify the creation of a research environment overwhelmed by corrupting pressures (“bad barrel maker”). Many academics are under increasing pressure to publish – and to do so in English irrespective of their competence in that language – as their nation or institution seeks to establish or defend its placing in international research rankings. The InterAcademy Council (IAC) warned, “Too much emphasis on such metrics can be misleading and can distort incentive systems in research in harmful ways” and “research institutions need to embrace incentives that deter irresponsible actions” (2012, p. 30). So, individuals are forced to meet publication and citation targets in order to obtain jobs, grants, research contracts, or sponsorship. Van Kolfschooten (2012, p. 115) discussed a survey on “publication pressure” among 437 medical professors in the Netherlands. One-third of the respondents suspected that pressure to publish causes some scientists to “embellish” their results, and a quarter stated that this pressure makes science “sick.” In Australia, research infrastructure is likely to be funded according to the results of a national research performance evaluation, “*Excellence in Research for Australia*”. As this exercise begins to have more of an effect, the pressures from institutions on their staff to publish are likely to intensify.

Role of Education

There is a very small literature that considers how one might build the capacity of researchers to engage with issues of integrity. In the United States, Kalichman (2012), for example, is critical of approaches to adult education based on the

premise that research misconduct is simply the fault of people who either don't know that lying, cheating, and stealing are bad or choose to do so anyway. Kalichman also questions the value of imagining that a single program can fix misconduct in every context. However, the scholarship of teaching and learning has had little impact on research integrity education and training in either Australia or the Netherlands. Disappointingly, many Australian universities have focused primarily upon risk management, bureaucratic systems, and sanctions in order to compel researcher compliance with national standards for research integrity. For example, one short course from a well-respected national provider of leadership and management programs to the university sector covered the requirements of the Australian Code, the relationship between the Code and the disciplinary procedures within enterprise agreements, the role of State integrity bodies, the handling of allegations of misconduct, and institutional risk management.

In the field of research ethics, Israel et al. (2014) have argued that such approaches may foster an adversarial culture – resistance, ill will, and avoidance. In the field of research integrity, compliance strategies alone may be ultimately self-defeating because they tend to increase institutional risk by encouraging a research culture that regards research integrity with suspicion and the purview of central bureaucrats.

Instead, Allen, Thomson, and Israel argued in their work on governance for Macquarie University (2014) that approaches to research integrity should be based upon building resources and fostering professional development. Institutional goals should link research integrity with research development and system performance, and an organization's research integrity arrangements should offer a positive research experience and therefore be constructive in promoting good research, and effective and efficient in ensuring responsible conduct, in a way that is proportional to risks and sensitivities: "The framework should not be viewed as a box-ticking exercise of compliance, but rather underpinning and supporting a strong research culture" (p. 4). In Australia, there is no evidence of the effectiveness of any interventions. We are unlikely to find out soon, partly because the area is still new and partly because it is difficult to imagine who might fund such an evaluation.

In the Netherlands, the role of education in the furthering of scientific integrity is given high priority in science and university policy. The VU University Amsterdam created a chair in "methodology and integrity" for its former Rector Magnificus (Vice-Chancellor), Lex Bouter. Mandatory courses may be provided at institutional, faculty, or departmental level. The University of Amsterdam offers online courses in methodology and integrity. However, no systematic studies on the effects of educational programs in research integrity have been carried out in the Netherlands. No central funds have been made available for such a study, though the European Commission allocated two million Euros to research integrity within its Horizon 2020 funding program.

Conclusion

In Australia and the Netherlands, research institutions and their funders, as well as academics, state integrity agencies, judges, governments, and journalists, have contributed to the development of structures, rules, and procedures that might help prevent, investigate, and respond to research fraud and misconduct. Both countries have experienced scandals and have ended up with codes, investigatory committees, and national research integrity committees.

While neither country has a perfect system, they have both come a long way. The architecture of structures, rules, and procedures is, of course, a necessary response to the challenge of research integrity. But, a system of codes and a culture of compliance is unlikely to be sufficient in itself, particularly given emerging trends in measuring research performance that might encourage and reward ethical shortcuts to success. Instead, this chapter has argued that both countries need to invest more in tracing and understanding the causes of misconduct and in fostering and entrenching a research culture invested with the values of professional responsibility and integrity. In this respect, both the Netherlands and Australia still have some distance to go.

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Abstract

This chapter explores the conceptual approaches to research integrity in Austria and Canada, and the governance structures that support those approaches.

In Austria, research integrity is synonymous with good scientific practice. Universities and other research institutions publish their own definitions, which vary in content, clarity and binding force. The Austrian Agency for Research

N. Foeger

Austrian Agency for Research Integrity, Vienna, Austria

e-mail: nicole.foeger@oeawi.at

S. Zimmerman (✉)

Secretariat on Responsible Conduct of Research, Ottawa, ON, Canada

e-mail: susan.zimmerman@rcr.ethics.gc.ca

Integrity, the main body responsible for promoting research integrity, is an independent association of research-related organizations. The Agency's Commission on Research Integrity conducts independent investigations of alleged research misconduct. The Agency is now creating a set of national guidelines for research integrity, and offers educational workshops and seminars to foster a critical approach to research. Training in good scientific practice is almost unavailable at Austrian universities.

In contrast, research integrity in Canada is defined to be one part of responsible conduct of research, encompassing all aspects of research from funding applications to dissemination of results. The main guidance document is the *Tri-Agency Framework: Responsible Conduct of Research*, developed by Canada's three main research funding agencies. They also established a Secretariat and Panel on Responsible Conduct of Research to interpret the RCR Framework and advise the agency Presidents of appropriate recourse in cases of breach. Investigations are conducted by academic institutions. Researchers, institutions and the funding agencies share responsibility for responsible conduct of research.

Introduction

This chapter describes the approaches to research integrity and responsible conduct of research in Austria and Canada, countries that share few evident similarities in history, geography, or research governance. The aim is not to make comparisons but to provide a better understanding of their two distinct approaches to research integrity. Sometimes, differences in approach are due to choices: the scope of the definition of research integrity; the approach adopted to respond to breaches; and the resources devoted to education and promotion. Other differences are structural or circumstantial, resulting from different research governance regimes, differences in the scope of the research enterprise, or different stages of development of a national approach to research integrity. This chapter illustrates the approaches in these two countries, based on their choices and their particular circumstances.

Austria

What is Research Integrity?

In Austria, as in many other European countries, the term (but not the concept of) "research integrity" or "responsible conduct of research (RCR)" was not routinely in use 10 years ago. The term "research integrity" came from the United States and was adopted in German and many other European languages. Still, "good scientific practice" is the expression more frequently used in German-speaking countries. At Austrian universities, one will find "commissions for research integrity" as well as "commissions for good scientific practice," and each of them investigates allegations of research misconduct. In fact, these two terms are often used synonymously.

Research integrity is a moral attitude and probably best defined as the self-commitment of researchers to do responsible and honest research following the rules of good scientific practice. Since April 2015 there is common definition of “good scientific practice” in Austria ([Austrian Agency for Research Integrity, Guidelines](#)). Before universities and other research institutions published their own definitions in documents with a certain degree of variation in content, clarity, and binding force (also known as “soft law”).

The Austrian Agency for Research Integrity was established in 2008 as an association of more than 35 Austrian “research-related” organizations (including universities, non-university research institutions, and research-funding organizations). The agency is an independent organization and financed by membership fees only (and not by the ministry). One of its tasks is the independent investigation of cases of research misconduct, which is accomplished by the Commission of Research Integrity that consists of six non-Austrian scholars ([Austrian Agency for Research Integrity, Statutes](#)). Its other major task is to promote and raise awareness of research integrity in Austria, which is supported by the two employees of the agency’s office. Its guidelines of good scientific practice include the following topics: data management (data storage, record keeping, data sharing, etc.), responsible authorship and publication, and conflict of interest and peer review. In Austria, ethical issues (e.g., treatment of human research participants or animals) are not part of such guidelines and, consequently, do not fall into the responsibility of the agency or its commission. The definition of “research misconduct” is much broader than fabrication, falsification, and plagiarism. It also covers, for example, destruction of primary data, unjustified authorship, and the sabotage of research activities or dishonest attempts to lower the scientific reputation of another researcher. It does not matter if this has occurred deliberately or by gross negligence.

The Austrian Agency for Research Integrity, in cooperation with its more than 35 member organizations, recently started a process to discuss and establish national guidelines of good scientific practice. International documents such as the *Singapore Statement* and the *European Code of Conduct* served as basis for this process. The national guidelines on good scientific practice have been published in April 2015. These common guidelines will be implemented in employment and funding contracts by the member organizations of the agency and signed by individual researchers.

Causes

An Example: Plagiarism

Several cases of alleged plagiarism in the theses of prominent European politicians have received extensive media attention since journalists first wrote about the plagiarized thesis of the former German Minister of Defense, Karl-Theodor zu Guttenberg, in 2011. There is now much more awareness of the risks of inadequate referencing and the potential consequences for one’s professional career than

before zu Guttenberg was forced/required to step down as Minister. Most of the 21 public Austrian universities use software to detect text similarities in bachelor's, master's, and doctoral theses. While young researchers are now aware of the possible consequences of a plagiarized thesis, it is not certain if they also know why they should give credit to other authors.

Supervision

Because Austrian politicians uphold the principle of equal opportunity, there are no student fees and there is no "numerus clausus" (student selection based on merit, i.e., high school diploma grades) at public universities. This causes a very problematic staff/student ratio in several disciplines. For example, many students in the humanities and social sciences claim that they do not have any supervision while writing their theses. Some years ago, Austrian universities were not even aware of the number of doctoral students at their institutions. Now, several universities have established structured doctoral programs.

There is almost no culture of discussion in Austria. Undergraduates are often not used to asking questions or discussing issues critically with university professors, especially with older professors who are recognized as authorities. Young students would not dare to address their professors in person, let alone ask them questions during lectures. Once young researchers aim to publish their data, these strict hierarchical structures often lead to authorship conflicts.

Pressure to Perform Starts Early

Pressure to publish is already present at the stage of doctoral students, especially in life sciences, natural and technical sciences, and medicine. In several doctoral programs, two (or more) first-author papers are required to complete the thesis. Furthermore, there is a lot of pressure on young researchers to deliver good performance early on and within a short time frame since most research institutions and universities offer time-limited contracts and next to no (or very few) permanent positions.

The Role of Training in Promoting Research Integrity

Training on research integrity is not mandatory and, therefore, almost unavailable at Austrian universities. Early in their careers, researchers are often very dependent on their supervisors or mentors. In simple terms, those students who have diligent and responsible doctoral thesis supervisors learn how to practice good science. In addition, many students and researchers, e.g., in medical or life sciences, are not well trained in statistics but are regularly required to use statistical methods to analyze their data. This might lead to at least "sloppy" or even bad science.

The Austrian Agency for Research Integrity has been offering more than 20 workshops and more than 40 seminars on good scientific practice for its member organizations since 2010. The interest in this offer often comes from persons responsible for doctoral programs and even from young researchers themselves. This is actually a positive sign, as it shows that doctoral students demand this

requirement and, furthermore, act proactively. In these workshops, students usually ask a lot of questions and are very eager to learn more about daily practice in research. They appreciate the offer to discuss cases of research misconduct in small groups. The aspiration of the workshops offered by the Austrian Agency is not to teach rules but to foster a critical approach to daily research.

Is Training Effective in Promoting Research Integrity?

The feedback from these workshops is very positive. However, since there are no monitoring processes in place, it is not possible to say whether researchers change their attitudes or culture in their working environment afterward or not. Workshops at research retreats organized by research institutions themselves that involve faculty or administration staff have been very successful. On more than one occasion, research institutions (universities as well as non-university research institutions) became aware of unclear issues and, at the behest of students, took important steps at the administrative level toward greater clarification. One outcome, for example, was a form for researchers leaving the institute stating that all lab books and data were to be handed over. This form is now mandatory at this non-university research institution and must be signed by a member of the institute and the researcher.

Best Practices in Promoting Research Integrity

Clearly, training in research integrity should be mandatory for all students at their universities. However, a single course during their studies will not be sufficient. Researchers and teaching staff also need to be more aware of their responsibility to educate students in good scientific practice as well as in ethics throughout the curriculum. Furthermore, subjects such as Referencing should also be part of the school curriculum – even prior to university. Since 2013–2014, it is mandatory in Austria that all 17-year-old students write a “prescientific work” at the final high school exam (“Matura”). As the Ministry of Education states on its website, it expects high school students to follow the rules of good scientific practice while writing this work. The Austrian Agency is therefore frequently invited to organize workshops for high school teachers to teach them proper referencing and how to avoid plagiarism.

Canada

Research Integrity – One Aspect of Responsible Conduct of Research

In Canada, research integrity is seen as one aspect of the broader concept of responsible conduct of research (RCR). The primary Canadian policy on RCR is the 2011 *Tri-Agency Framework: Responsible Conduct of Research* (the RCR

Framework), developed jointly by the three main federal research funding agencies: the Canadian Institutes of Health Research, the Natural Sciences and Engineering Council of Canada, and the Social Sciences and Humanities Research Council of Canada (the Agencies) (2011).

The RCR Framework is the result of a desire on the part of the research agencies to update, strengthen, and expand their guidance on research integrity. The preceding guidance document – *Integrity in Research and Scholarship* (Council of Canadian Academies 2010) – had not been revised since January 1994. As well, the Minister of Industry, who is responsible for two of the three Agencies, commissioned a report on research integrity: specifically, “an assessment examining the key research integrity principles, procedural mechanisms, and appropriate practices for their application across research disciplines and institutions in Canada.” That report, written by the Council of Canadian Academies, recommended a new policy on research integrity, as well as a centralized body to oversee it. At the time, each Agency had its own research integrity committee to handle allegations concerning research it funded. Recognizing the desirability of harmonizing the process for addressing breaches, and the need to provide enhanced guidance, the three Agencies decided not only to update their guidance on research integrity but also to establish a centralized body to handle RCR allegations, and an independent expert body to advise the agency presidents on recourse under the RCR Framework. The establishment of the Panel on Responsible Conduct of Research and the Secretariat on Responsible Conduct of Research corresponded with recommendations made by the CCA in its 2010 report (Medical Research Council of Canada 1994).

A key objective of the RCR Framework is to “promote and protect the quality, accuracy, and reliability of research funded by the Agencies” [Art. 1.3(c)]. The RCR Framework also seeks to “ensure that funding decisions made by the Agencies are based on accurate and reliable information” [Art. 1.3(a)].

Under the RCR Framework, research integrity includes respect for professional or disciplinary standards and six categories of responsibilities for researchers. These include, for example, “[k]eeping complete and accurate records of data, methodologies and findings . . . in a manner that will allow verification or replication of the work by others” [Art. 2.1.2(b)] and including authors “in a manner consistent with their respective contributions” [Art. 2.1.2(d)].

These and other aspects of research integrity are viewed as part of RCR, which also includes providing complete and accurate information when applying for research funding, proper management of research funds, and compliance with regulations and policies applicable to specific types of research. In other words, RCR covers all aspects of the research enterprise. Researchers are expected to live up to the standards of RCR. Failure to do so, whether intentional or not, constitutes a breach of the RCR Framework.

Adopting the approach of RCR represents a departure from a traditional framing of research integrity that focuses on identifying and sanctioning a narrow set of deliberate and wrongful acts, usually limited to fabrication, falsification, and plagiarism. Instead, the Canadian approach encompasses a wide spectrum of practices throughout the life cycle of research, beginning with the application for

funding to the dissemination of research results. It considers the researcher's conduct with regard to every aspect of the research enterprise and assesses whether there has been a departure from accepted standards, and the circumstances and impact of those departures.

Responsible conduct of research flows from a number of sources. These include awareness of RCR standards, acceptance of those standards as an integral part of one's work, a culture of RCR in one's institution and one's discipline, a professional structure that provides incentives consistent with RCR, and a research governance system that effectively upholds RCR standards. Factors that lead to RCR breaches range from lack of awareness of applicable guidance or policies to inadequate oversight or review by supervisors or co-authors to a culture tolerant of breaches or a system that presents incentives that run counter to RCR practices. In considering how to promote RCR, therefore, it is clear that one approach alone will not suffice.

How does Canada promote RCR and address these different sources of RCR issues? A key approach to RCR promotion in Canada is through the application of the RCR Framework. Compliance with Agency policies, including the RCR Framework, is a condition of eligibility for receiving and administering Agency funds. This is an effective system of governance because it is important to institutions to maintain their eligibility status. One of the requirements of the RCR Framework is that all eligible institutions have their own policy on RCR that adheres to the standards set out in the RCR Framework. In this way, the Agencies are able to ensure that similar standards of RCR and processes for addressing allegations of breach are in place at all eligible institutions.

Nature of Problems Involving Research Integrity

Responsibility for the RCR Framework lies with the Secretariat and the Panel on Responsible Conduct of Research, which are charged by the Agencies with its administration and interpretation. The Secretariat handled 158 allegations between the time the RCR Framework was introduced in December 2011 and the end of December 2014. As of the latter date, it had resolved 120 of these allegations with findings of breach in 42 files, of which 10 were found to be serious breaches. This experience indicates that the most frequent types of breach involve plagiarism, misrepresentation in an Agency application, as well as the mismanagement of funds.

In general, all departures from the responsibilities set out in the RCR Framework constitute breaches of RCR and therefore merit some corrective action. This may be as simple as pointing out the breach to the researcher through a letter of awareness, offering educational resources, or requesting that the researcher repair the breach. The seriousness of the breach is evaluated not simply by whether or not it was intentional but also by the impact it may have had on the integrity of the research record, on the safety of participants in research, or on the trust of the public in the integrity of the research enterprise. The term "misconduct" never

appears in the RCR Framework, as it is not the focus of the Agencies' approach. A breach that is a result merely of lack of attention or lack of knowledge of a policy and that does not result in harm to the integrity of the research-funding process or to the integrity of the research record may merit simply official notice and correction. More serious instances of breach will usually result in sanctions by the researcher's institution and ineligibility for Agency funding for periods ranging from one year to a lifetime ban. Examples of a serious breach include failure to follow regulatory safety standards, unethical treatment of human research participants or animals, and deliberate misrepresentation of research results. The approach adopted by the Agencies is designed to uphold a standard of conduct, and to communicate with the researcher whenever that standard is not upheld. The response of the Agencies (and of institutions, in applying disciplinary sanctions to faculty or student researchers) will of course vary depending on the seriousness of the breach. At that stage, the intentionality of the breach is considered. In the view of the Agencies, however, the impact of a breach on the integrity of the research may be just as serious whether it was intentional or not. The fact that a breach was not deliberate does not excuse the breach.

This focus on the integrity of the research record and the impact of the researcher's conduct, rather than simply on whether certain conduct was intentional, is an important shift in emphasis. It places greater importance on the integrity of the research record and appropriate acknowledgment of the contributions of other researchers than it does on whether the researcher was "deliberately bad."

What Causes or Contributes to Problems Involving Research Integrity?

It is difficult to identify precisely what contributes to breaches of the RCR Framework. The circumstances of each breach are often unique. On the basis of the Secretariat's review of 158 files in its first three years of operation, however, it seems clear that there are certain common factors. Where the breach is not intentional, these factors often include either a lack of understanding of applicable policies or a lack of appreciation for the importance of compliance with them. Redundant publication, or self-plagiarism, is one example. Some researchers do not see the need to appropriately cite their own previous work, or the harm in failing to do so.

Sometimes, the issue is lack of clarity in the policies themselves, or in the understanding of how they are to be applied. For example, where criteria for order of authorship are not clear up front, there can be disputes about appropriate order, and even whether a contributor should be cited as an author. Confusion may arise in particular where collaborators come from different fields (transdisciplinary collaborations) or from different countries, where conventions for the order of authorship and inclusion of contributors may differ.

In instances where the breach does arise out of deliberate intent, in conscious violation of RCR norms or applicable policies, the causes are also unique, but certain themes may be discerned. Where the breach relates to financial wrongdoing, the cause is likely to be a desire to leverage funding whether for personal profit or to finance work-related benefits (such as the purchase of equipment or the payment of staff) not permitted by the grant. Conflicts of interest may play a role in these types of breach.

Where the breach is plagiarism or fabrication of data, it may be due to a desire for professional advancement through increased acceptance of manuscripts for publication, or publication in more prestigious journals. Those involved in the governance of research may share some responsibility, however indirect or unintended, for some of this behavior. Academic or private employers of researchers and funders of research must consider the extent to which increased pressure to publish or to show positive research results as a condition of career advancement or of funding may drive certain researchers to discount unhelpful data, exaggerate results, embellish CVs, or seek “creative” ways to stretch funds beyond the strict purpose for which they were intended. This is not meant in any way to condone or excuse such behavior by researchers. To understand a problem and therefore address it appropriately, however, one must be honest about the conditions that might contribute to it.

Another factor, perhaps a major factor, which may contribute to a lack of compliance with or respect for RCR practices is the model set by one’s teachers, mentors, and supervisors. The culture of research behavior is learned less through formal courses or training than through the constant example set by coworkers or those in authority. These include but are certainly not limited to:

- Senior researchers (do they respect and promote RCR in their own research and in the supervision of others?);
- Institutional administrators (do they diligently follow up on allegations of breach?);
- Teaching assistants (do they insist on the importance of compliance with RCR norms?); and
- Lab technicians (are they rigorous about complying with best practices?).

There are a variety of causes for research conduct that is not responsible. Many of these have little or nothing to do with a deliberate intention to violate RCR norms. Promoting a culture of responsible conduct of research is therefore a shared responsibility by all engaged in the research enterprise.

The Role of Training in Promoting Research Integrity

Establishing a set of standards for responsible conduct of research is clearly not sufficient. The goal is to get beyond a system of responding to allegations of breach and imposing sanctions for confirmed breaches and to arrive at a culture of RCR.

Given the variety of causes that might detract from RCR, promotion of RCR should also be multipronged. Education is one approach. In Canada, the Secretariat on Responsible Conduct of Research views education as an integral part of its responsibilities. Following the launch of the RCR Framework, the Secretariat produced an introductory webinar on the Panel's website describing RCR and the basic elements of the RCR Framework: <http://www.rcr.ethics.gc.ca/eng/education/webinars-webinaires> (date accessed: October 29, 2014). It also established an interpretation service, which permits the Panel on Responsible Conduct of Research – the independent expert advisory body appointed by the Presidents of the Agencies to review files and recommend recourse – to issue clarifications on questions arising out of the RCR Framework. Anyone with a question about the interpretation or application of the RCR Framework can simply call or write to the Secretariat and receive a prompt personal response. In addition, the Secretariat prepares interpretations on issues that it feels might require clarification and posts these interpretations on its website, <http://www.rcr.ethics.gc.ca/eng/policy-politique/interpretations/Default> (date accessed: October 19, 2015). The Secretariat is developing an online, interactive tutorial, modeled on the mix of information, exercises, and quizzes in the Secretariat's popular Course on Research Ethics tutorial (CORE) (Secretariat on Responsible Conduct of Research 2011). (As of October 2015, over 225,000 users had completed CORE, not only in Canada but internationally as well). The RCR tutorial will provide information about RCR from the perspective of both researchers and research administrators. This tutorial, which will be available at no charge through the Secretariat's website, is expected to be launched in 2016. The Secretariat also has an active program of outreach and engagement with the research community.

Many institutions also have educational programs concerning RCR both for undergraduate and for graduate students. These programs may be mandatory, particularly at the graduate level. In addition, there are countless opportunities for educators to imbue students and new researchers with an understanding of RCR through discussion groups, labs, and other personal interactions. Whether these opportunities are used to greatest advantage (or at all) is difficult to assess.

Several institutions have an officer dedicated full or part-time to RCR matters. That person's role might include providing education on RCR and the processes in place for addressing RCR issues. An RCR or research integrity officer may also provide advice to faculty or students seeking guidance on RCR questions. This position is in addition to the RCR Framework requirement that all institutions appoint one senior administrator (often the Vice President Research or equivalent) as the designated contact person for formal allegations of breach of the RCR Framework.

More directly, all researchers with responsibility for teaching or supervising student research, or conducting research with more junior colleagues, have an opportunity to shape how these current and future researchers understand RCR. The actions of one's teachers, mentors, and supervisors may well have a more forceful impact than any webinar, lecture, or course.

Is Training Effective in Promoting Research Integrity? If So, How Effective is It?

Since 2011, all educational activities of the Secretariat have been the subject of independent evaluation by a team of academic evaluators drawn from across Canada. This evaluation has tracked the responses of those who participate in these educational activities. The majority of these activities have been in the field of human research ethics, another mandate of the Secretariat. An evaluation report prepared in 2013 demonstrated a significant positive response by those who had participated in some form of the Secretariat's educational activities with respect to research ethics: a workshop, a webinar, or the online tutorial. More than 1,600 people responded to the survey. Over 82 % of respondents agreed or strongly agreed with the survey statement "Overall, this learning opportunity helped me to remember ethical principles stated." When broken down by age-group, this enthusiasm was less pronounced but still very positive for younger respondents (over 73 % for those aged 20–29; over 54 % for those under 20). More than 76 % of all respondents agreed or strongly agreed with the statement "The instructional techniques used were effective." Data from the evaluation also revealed a significant improvement in understanding of basic research ethics concepts six months after participating in some form of research ethics education provided by the Secretariat (Stockley et al. 2013).

It is based on the success of these learning tools with respect to the ethics of human research that the Secretariat is developing similar tools, described above, to facilitate implementation of the RCR Framework and the promotion of RCR more generally.

Best Practices in Promoting Research Integrity

In terms of best practices, there are likely no substitutes for good mentorship and leading by example. Only a very small (and arguably irreducible) number of researchers truly wish to flout the standards of RCR, despite any education offered. The vast majority are most likely to adopt or follow the practices of those who train them. Increasing familiarity with the standards set out in the RCR Framework and in any disciplinary codes of conduct is a good and necessary starting point. Effective oversight – by professors, institutions, and funders – also contributes to RCR. Knowing that there will be consequences for failure to adhere to RCR practices is an effective means of keeping such practices top of mind.

Finally, it is useful to note that RCR is a collective responsibility of all involved in the research enterprise. The RCR Framework emphasizes this point by setting out the respective responsibilities of researchers, institutions, and Agencies. This collective responsibility is strengthened by the recommendations of the Panel on Responsible Conduct of Research. The Panel will always look at the complete set of circumstances surrounding a breach, to determine whether responsibility is individual or shared. For example, where a graduate student is in breach of some

element of RCR, did the supervisor fulfill his/her responsibilities? Similarly, when one author is found to have plagiarized elements of his/her contribution to a publication, the Panel will look at the responsibility of co-authors. In this way, it is hoped, the message will be clear: responsible conduct of research is a shared responsibility. Conducting research and disseminating research results means sharing not only the benefits but also the responsibilities associated with research.

Summary

Austria and Canada have different governance structures for research integrity. The Austrian Agency for Research Integrity is an association of researchers and research funders that relies on self-regulation by researchers and institutions. Canada's guidance on responsible conduct of research is set by its three main research agencies. This guidance, while not in the form of regulations, is enforced as a condition of eligibility for funding.

The two countries have chosen their paths toward promoting research integrity quite independently of each other. It is therefore interesting to note that despite the differences in their governance regimes, both have made decisions that reflect a fundamentally similar perspective on research integrity. Both countries have adopted a broad definition – one which goes beyond a focus solely on fabrication, falsification, and plagiarism, to encompass the more comprehensive notion of responsible conduct of research.

Adopting responsible conduct of research as the driving concept necessarily places greater emphasis on the promotion of good research practices, rather than focusing on disciplining “bad” behavior. This has implications for how resources are allocated in terms of the governance of RCR. At a more fundamental level, however, it makes RCR the responsibility and the concern of all involved in the research enterprise. Rather than focusing primarily on rooting out “wrongdoers,” an RCR approach demands a focus on training and on facilitating the creation of a climate of RCR wherever research is carried out. How that climate may be promoted and strengthened will differ, as it does in Austria and Canada, with their different research and academic governance structures and traditions. The goals, however, are quite similar, and that in itself is a testament to the soundness of the approaches both countries have adopted.

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Education in Research Integrity and Governance of Science in the United States, Argentina, and Brazil

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Elizabeth Heitman, Sergio Litewka, and Sonia Vasconcelos

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Abstract

Despite increasing globalization in science, significant differences remain across the Americas in countries' approaches to research integrity. These differences are attributable to multiple factors, including the size of individual nations' scientific communities, the role of science in their national economies and

E. Heitman (✉)

Center for Biomedical Ethics and Society, Vanderbilt University Medical Center, Nashville, TN, USA
e-mail: elizabeth.heitman@vanderbilt.edu

S. Litewka

University of Miami Ethics Programs and The Collaborative Institutional Training Initiative (CITI) Program, University of Miami, Miami, FL, USA
e-mail: slitewka@med.miami.edu

S. Vasconcelos

Science Education Program/Institute of Medical Biochemistry Leopoldo de Meis (IBqM), Universidade Federal do Rio de Janeiro (UFRJ), Rio de Janeiro, RJ, Brazil
e-mail: svasconcelos@bioqmed.ufrj.br; sonia@peq.coppe.ufrj.br

strategies for development, and their overall approaches to policy and governance. A comparison of the United States, Argentina, and Brazil illustrates the importance of governance in relation to responses to perceived wrongdoing and the role of education in efforts to promote integrity in research. The United States' commitment to federal funding of science and science education has led to a federal regulatory response to research misconduct and an emphasis on compliance with federal mandates for research integrity education. By contrast, Argentina's shrinking public and private support of scientific research and education has diminished not only its scientific productivity but also the professional engagement necessary for effective governance and enforcement of ethical standards. Brazil's recent emergence as a leader in research and development, made possible in part by dedicated governmental funding for science, has been accompanied by both professional attention to international standards and calls for new educational initiatives in research integrity. These examples highlight how the political contexts of science and the national cultures in which research is conducted may present challenges to international efforts to establish a common educational commitment to research integrity.

Introduction

Over the past three decades, the growing complexity of science, together with public concern about research misconduct, has prompted worldwide attention to standards of responsible conduct and integrity in research. Despite the international character of much of science, significant distinctions remain in the Americas among different countries' approaches to research integrity and education in the responsible conduct of research. These differences are due in part to the variable sizes and status of each country's scientific community, the role of science in each country's economy and strategy for economic development, and the distinct professional cultures of science in each nation.

Significant differences are also evident in individual nations' approaches to policy and governance, both in society generally and in science specifically. Within these frameworks, the degree to which academic, social, and governmental institutions promote ethical engagement has an important effect on whether and how research integrity is taught formally. Comparison of the United States, Argentina, and Brazil – countries with growing networks of research collaboration in Latin America (Van Noorden 2014) – illustrates the effects of cultural perceptions of science and approaches to governance on education in research integrity. The United States' federal regulatory response to research misconduct and federal mandates on research integrity education stand in stark contrast to the Argentina's limited professional and governmental participation in promoting standards of responsible science. As Brazil continues to ascend as a dominant force in research and development, increased national and state funding for science education have been accompanied by the promotion of international standards of research integrity

as part of the national research culture. Each of these countries provides lessons on the potential for research integrity education to enhance the quality of science worldwide.

Research Integrity in the United States: Federal Funding and Regulatory Compliance in Academic Research

Since the end of World War II, the United States has been an international leader in science. Science and technology have also been important forces in US economic growth, contributing to the expansion of the nation's universities, technological sector, and overall quality of life. The United States spends approximately 2.8 % of its gross domestic product (GDP) on scientific research and development (R&D) (World Bank 2014). In turn, 40 % of the US GDP is based on the so-called knowledge- and technology-intensive industries, the highest of any of the major world economies (NSB 2014). While the total US workforce shrank between 2006 and 2012 during the worldwide recession, US employment in science and engineering (S&E) rose over that period (NSB 2014). The US National Science Foundation (NSF) estimated the total 2010 S&E labor force to include as many as 19 million people, with 4.8 % of the US workforce employed in the physical and life sciences, technology, engineering, and mathematics (STEM) in 2012 (NSB 2014).

Financial support from the federal government has been essential to the growth and success of US science and technology. The essential role of the US government in supporting science dates to the 1940s, when applied research in weaponry and medicine and the basic science behind them were crucial to military strategy. The scope of the federal government's involvement in nonmilitary research today is typically attributed to Vannevar Bush, Director of the Office of Scientific Research and Development during and after World War II (LaFollette 1994; Judson 2004). In 1944, President Franklin D. Roosevelt asked Bush for guidance on how to maintain the country's high level of discovery and innovation when the war ended (Bush 1945).

Bush's 1945 report, *Science: the Endless Frontier*, observed that "scientific progress is, and must be, of vital interest to Government" because it is "one essential key to our security as a nation, to our better health, to more jobs, to a higher standard of living, and to our cultural progress" (Bush 1945). Bush proposed creating a permanent science advisory board to counsel governmental officials on budgets and recommend policies necessary for governmental agencies engaged in research (Bush 1945). But rather than focusing exclusively on governmental facilities, Bush advocated for federal funding of basic research in universities as well as funding for the undergraduate and graduate science education necessary to develop and maintain a research workforce. Following Bush's recommendations, Congress passed the US Public Health Service Act in 1946, which established the Research Grants Office at the National Institutes of Health (NIH) to award and oversee extramural grant programs for research and training in the biomedical sciences

(NIH 1996). Congress established the National Science Board and National Science Foundation (NSF) in 1950; two years later, NSF issued its first research grants to university-based scientists (NSF 2014). Over the next few decades, the US government became the preeminent funder of academic science and research training in the country through a variety of agencies and programs.

Federal funding of research has also driven US standards of research ethics, including policy on education in research integrity. Research funding from NIH and NSF in particular brought federal oversight into the university research environment (LaFollette 1994; Montgomery and Oliver 2009). In 1962, NIH established a policy and procedure office to coordinate development and implementation of policies governing extramural grants from the Public Health Service (PHS). In 1963, the office codified terms and conditions for extramural funding in the first of a series of formal policy manuals (NIH 1996). By the late 1960s, extramural grant funding from NIH was contingent upon institutional compliance with policies that went beyond financial administration to include new federal standards on social and ethical issues raised by research (NIH 1996). The most significant action in this regard resulted from legislation passed by Congress between 1966 and 1975 regulating the use, welfare, and protection of animal and human subjects in federally funded science (Sparks 2002, 2011; Porter and Dustira 1993).

Over the next two decades, Congress authorized steady increases in funding for NIH and NSF's extramural research programs and legislators expanded their oversight of university-based science (LaFollette 1994). Beginning in the 1980s, congressional attention focused particularly on reports in the professional and popular press that academic scientists had manipulated or made up data in research for which they had received federal grants (Gold 1993; LaFollette 1994; Judson 2004). Tennessee Representative Albert Gore, Jr., Chairman of the Investigations and Oversight Subcommittee of the House Science and Technology Committee, convened the first hearing on "fraud in biomedical research" in March 1981. The committee examined the reported prevalence of misconduct, the perceived failure of professional self-regulation, and NIH's limited response to allegations of wrongdoing. Later that year, Senator Orrin Hatch of Utah convened hearings on fraud in cancer research before the Senate Labor and Human Resources Committee. Based on the findings from these hearings, Congress included provisions in the 1983 Health Research Extension Act that directed the Department of Health and Human Services (HHS) to require federal grant recipients to establish processes for reviewing allegations of fraud and to report their findings and investigations to HHS (Gold 1993; LaFollette 1994; Judson 2004). Although it was initially vetoed by President Ronald Reagan, the Act was reintroduced and passed over Reagan's veto in 1985 (Gold 1993).

The Act triggered a cascade of federal action directed at research universities, much of which required institutions to develop formal policies on standards of research ethics and responsible conduct for federally funded researchers and trainees. In 1986, NIH's *Guide for Contracts and Grants* included preliminary guidelines on the investigation of misconduct, tying university-based oversight even more formally to federal grant funding (LaFollette 1994). In 1986 and 1987,

respectively, NIH and NSF issued formal definitions of research misconduct for federally funded universities to use in their new misconduct policies and in reviewing allegations brought against their investigators (Gold 1993).

In April 1988, back-to-back hearings before the US House of Representatives convinced many academic leaders that Congress planned to regulate federally funded research more stringently (Angell and Relman 1988; Gold 1993; Porter and Dustira 1993; Steneck 1994). These concerns were magnified in 1989, when HHS created the Office of Scientific Integrity Review and NIH opened its Office of Scientific Integrity, both of which were charged with investigating allegations of research misconduct (ORI 2011). These agencies were combined as the HHS Office of Research Integrity (ORI) in 1992; in 1999, ORI's role was formally expanded beyond oversight and review of institutional findings of misconduct to include educational policy related to the prevention of misconduct (ORI 2011).

Federally Mandated Instruction on the Responsible Conduct of Research and the Reification of RCR: Integrity and Compliance

Amid calls for congressional restraint in the regulation and oversight of federally funded research (Angell and Relman 1988; LaFollette 1994), academic leaders and professional organizations soon focused on *education* as the key to preventing misconduct and promoting scientific integrity. By the late 1980s, some research-intensive universities had already begun to address scientific misconduct and integrity in new courses, and several professional societies had developed curricular materials intended to address integrity in basic and clinical research (Heitman and Bulger 2005; Steneck and Bulger 2007). When Congress questioned the ethical impact of traditional mentored research education, research societies and university-based researchers increasingly emphasized their renewed attention to professional ethical standards and trainees' enhanced practical ethics education (Gold 1993; LaFollette 1994; Steneck 1994; Steneck and Bulger 2007; Montgomery and Oliver 2009).

Preventing misconduct in research through education became a cornerstone of US science policy with the Institute of Medicine's (IOM's) 1989 report *The Responsible Conduct of Research in the Health Sciences* (IOM 1989). Among its 12 recommendations, the report concluded that "(u)niversities should provide formal instruction in good research practices. . . incorporated into various places in the undergraduate and graduate curricula for all science students" (IOM 1989, p. 12). It further urged "(p)rofessional and scientific organizations representing the research community (to) develop educational and training activities and materials to improve the integrity of research" (IOM 1989, p. 13).

Soon thereafter, NIH adopted IOM's recommendations and revised the guidelines for National Research Service Award (NRSA) training grants to require applicants to include in their proposals a "program in the principles of scientific integrity" (NIH 1989, p. 1). Rather than stating programmatic requirements, however, the original notice left much to the discretion of the programs. The new policy suggested:

“informal seminars and presentations on conflict of interest, data recording and retention, professional standards and codes of conduct, responsible authorship, institutional policies and procedures for handling allegations of misconduct, policies regarding the use of human and animal subjects, etc. or formal courses on bioethics, research conduct, the ideals of science, etc.” (NIH 1989, p. 1).

There are no data on the state of research integrity education before the requirement took effect or on the new instructional activities that it prompted (Heitman et al. 2007; Steneck and Bulger 2007), but anecdotal reports and NIH’s 1994 update to the training grant policy suggest that many applicants’ programs were not satisfactory. The update stated more emphatically that “(e)very predoctoral and postdoctoral NRSA trainee supported by a T32 or T34 institutional research training grant must receive instruction in the responsible conduct of research” (NIH 1994, p. 1). It further clarified that instructional plans were expected to describe the intended subject matter, format and frequency of instruction, expected participation of faculty and trainees, and rationale for the chosen approach (NIH 1994). Adding teeth to the policy, the update noted that proposals without a plan for instruction would be returned without review; that funding would not be awarded until reviewers found the plan acceptable; and that details on implementation needed to be included in annual progress reports (NIH 1994).

The update also reflected a key limitation in federal governance of university-based research training: NIH’s authority extended only to the investigators and trainees in its funded programs. Thus, the update noted that NIH “particularly encouraged” institutions with research training grants to provide instruction in the responsible conduct of research to “all graduate students and postdoctorates. . .regardless of the source of support” (NIH 1994). The need for universal education in responsible conduct was soon a focus of HHS’s Commission on Research Integrity (also known as the Ryan Commission), created by Congress in 1993. The Commission’s 1995 report *Integrity and Misconduct in Research* stressed that integrated, comprehensive, and universal instruction in research integrity was an essential feature of ethical research environments. Among its many recommendations for improving the integrity of US biomedical science, the Commission directed NIH to require funded institutions to have a comprehensive plan for instruction in research integrity and to certify that *all* of their researchers received appropriate instruction as a condition of federal funding (Commission on Research Integrity 1995).

Despite academic leaders’ previously stated preference for an educational approach to preventing research misconduct, many institutions and professional research societies rejected the Commission’s recommendations, claiming that they created “new intrusive, expensive, and time-consuming programs and . . .unwarranted administrative mechanisms . . . that (would) reduce the productivity of the public’s investment in science” (Bradshaw 1996). Nonetheless, a number of professional organizations and institutions accepted the Commission’s charge “to adopt and apply codes of ethics in research to educate their membership” and “develop and disseminate specific guidelines for good scientific practices” (Commission on Research Integrity 1995, p. x). By the end of the decade,

professional societies and academic presses had published a wave of formal curricular materials and academic research ethicists had begun to explore best practices in teaching research integrity (Heitman and Bulger 2005).

Still, in the years following the Ryan Commission, universities and training grant directors continued to respond haphazardly to NIH's policy on instruction in the responsible conduct of research (Steneck and Bulger 2007). Then, in 1999, the unthinkable occurred: the HHS Office for Protection from Research Risks (OPRR) shut down the institutional review boards (IRBs) of several top US research universities, suspending all their human subjects research, in response to their non-compliance with federal requirements (Finn 2000). In 2000, HHS overhauled the federal system of institutional oversight of clinical research under the new Office of Human Research Protections (OHRP). Among OHRP's efforts to improve ethical practice, the agency required universities to certify that both IRB members and approved investigators received training in standards of research ethics appropriate to their roles (Finn 2000). Soon thereafter, the Secretary of HHS announced that, following the Ryan Commission's recommendations on research integrity, PHS-funded research institutions would be required to provide instruction in the responsible conduct of research – above and beyond the new IRB-related training – to everyone supported by PHS funds for research or research training (DHHS 2000).

ORI issued the broad HHS policy on instruction in the responsible conduct of research in December 2000. For the first time, this new policy defined required content for instruction, laying out nine “core areas” for required instruction: data management, mentor/trainee responsibilities, publication and authorship, peer review, collaborative science, research with human beings, research involving animals, research misconduct, and conflict of interest and commitment. Academic research institutions and scientific societies' response to ORI's proposal was swift and generally negative. Many rejected it as an unfunded mandate that would be too expensive to implement; others claimed that there were neither enough trained faculty nor adequate instructional materials available to comply with the broad instructional mandate; still others lobbied Congress with complaints that science was being overregulated (Cottingham 2002). This widespread criticism, together with congressional inquiries into ORI's own compliance with federal rule-making procedures, forced the agency to suspend its policy for universal RCR education in February 2001 (DHHS 2001).

Even after the policy was suspended, ORI actively promoted what it increasingly referred to as “RCR training” within research training grants and graduate science education. Alongside the growing number of textbooks and other educational materials on research integrity, in 2002, ORI began to provide extramural funds to academic researchers to create new curricular resources in the core areas defined in the suspended policy (ORI 2012). ORI stressed that it was “not establishing or even recommending how RCR ought to be taught” (Steneck 2004, p. v), but by 2006, the agency had invested \$1.5 million in developing new resources for teaching RCR, including the textbook *ORI Introduction to the Responsible Conduct of Research* (ORI 2012; Steneck 2004).

Although multiple US governmental agencies fund university-based research, for almost 30 years NIH's research training grant policy has provided the country's greatest impetus for research integrity education. NSF, in contrast, required remarkably little of its grantees before 2007 beyond the "brief plan of instruction in the responsible conduct of research" called for by the interdisciplinary Integrative Graduate Education and Research Traineeship (IGERT) program (NSF 1998). NSF's Directorate for Social, Behavioral and Economic Sciences funded research on ethical values in science and ethics education in science and engineering, but these grants were not generally linked to broader educational initiatives in research integrity.

Much of the distinction between NIH and NSF ended in 2007, when Congress approved the America COMPETES Act, which included a largely unexpected provision directing NSF to require instruction in the responsible conduct of research for all of its funded trainees (NSF 2009). Since 2010, NSF policy has instructed applicants for research or training grants to include certification that their institution has a plan to provide oversight and training in "responsible and ethical conduct of research" for NSF-funded trainees. NSF has not defined curricular requirements, but rather has noted that "the research community. . . is best placed to determine the content of RCR training without a need for NSF-specified standards" (NSF 2011). Ultimately, NSF places responsibility with each certifying institution to determine how to satisfy the instructional requirement for its trainees (NSF 2011).

Most recently, following implementation of NSF's new policy, NIH's Office of Extramural Programs updated its policy on instruction in responsible conduct of research in late 2009, detailing its expectations in an apparent response to NSF's refusal to do so. The update particularly sought "to convey some of the consensus best practices that have evolved in the research training community over the past two decades" (NIH 2009). Since 2010, NIH has required a written plan describing the format, frequency, and duration of instruction, as well as the participation of program faculty who are expected to provide a minimum of 8 contact hours of instruction. NIH revised ORI's list of core areas for instruction and added biosafety, research policy and as scientists' responsibility to society and the environment to its list of recommended topics. The policy update further notes that funded programs are expected to provide, monitor, and document face-to-face instruction and that online instruction alone is not acceptable (NIH 2009).

Since the latest federal mandates on education in research integrity were issued, little has been done to evaluate their implementation or outcomes (Mumford et al. 2014). Reports of research misconduct continue unabated, leading many to doubt that instruction in the responsible conduct of research "works" as a preventive or corrective measure (Hicks 2013). The few studies that have examined US instruction in responsible conduct have found that programs vary greatly and often lack coherence (DuBois et al. 2010; Resnick and Dinse 2012). And while perhaps as many as two-thirds of medical schools provide instruction in responsible conduct to trainees without regard to their source of funding, overall many institutions appear to aim their instruction solely at complying with federal requirements (Resnick and Dinse 2012).

The Institute of Medicine has touted regulatory compliance as being central to universities' efforts to promote research integrity (IOM 2002), but a compliance standard is a double-edged sword for education in ethics and best practices in research. Compliance assumes minimum standards, not the achievement of excellence. Not only is responsible research "a very layered and complex set of behaviors and skills that go far beyond what we can hope to teach in one workshop or course" (Sieber 2013, p. 94), creating an ethical research culture often requires going well beyond compliance (Geller et al. 2010) to a common understanding of the reasoning behind policy and regulation. US institutions' adoption of a compliance standard for education in research integrity risks conveying to trainees and senior researchers alike that responsible conduct is always straightforward and that "RCR" can be taught in 8 hours of face-to-face instruction. The unintended consequences of tying research funding to compliance with increasing detailed federal policy ultimately may create cynicism instead of the desired commitment to integrity.

Research Integrity in Argentina: From Moral Universals to Local Perturbations

At the start of the 1900s, Argentina was a growing scientific power and the world's seventh largest economy. Throughout the twentieth century, however, the country struggled with debt and internal discord and had no clear national research agenda. In July 2014, Argentina defaulted on its international debt for the second time since the start of the twenty-first century. While it is still too early to know the consequences of default for Argentinean science, the devaluation of the peso and the nation's increasing economic isolation will undoubtedly harm individual projects and set back research in general (Moskvitch 2014). Today, Argentina spends only about 0.6 % of its GDP on R&D, well below the 0.84 % average of Latin American and Caribbean countries (World Bank 2014). This complex and confounding decline has occurred despite the fact that, by international comparison, a high proportion of the country's population – almost 3 out of every 1,000 Argentines – works in science (World Bank 2014; Van Noorden 2014).

The proportion of the Argentinean workforce employed in science is not reflected in the relative number, relevance, or scientific impact of the Argentinean studies published or cited in international scientific journals (World Bank 2014). This discordance is difficult to explain, even considering Argentina's disproportionately low investment in R&D. It may be attributable to the country's chronic economic and political instability. Other contributing factors may include Argentines' relatively infrequent participation in international collaborations and the scarcity of local publications in English and indexed local journals. Similarly, despite widespread international attention to research integrity, discussion of strategies for promoting integrity in Argentinean science is at a very preliminary stage. The national media seldom address threats to research integrity, and reports on the topic mostly reflect news from the industrialized world.

Comparison between ethical standards in Argentinean science and other nations is difficult because there has been no reliable assessment of the national incidence of misconduct or the prevalence of practices that affect integrity within the scientific community. The most authoritative description to date comes from a multinational group of investigators who, in 2012, surveyed the heads of academic research centers in several low- and middle-income countries about their knowledge of research misconduct in their respective nations. Respondents from Argentina reported that they had witnessed or heard about “some” cases of misconduct, but that they were not aware of any national Argentinean system that provided oversight or guidance on the responsible conduct of research (Ana et al. 2013).

Argentina has had scandals in research. Three decades ago, a group of Argentinean researchers, one of whom had international scientific credentials, claimed that they had developed an effective treatment for cancer using snake venom. During the 1980s, they published data showing the success of the compound they called *crotoxina* in eliminating or reducing primitive tumors and metastatic lesions. Their work received funding from the Argentinean Council of Scientific and Technical Research (CONICET). Many cancer patients rejected conventional treatments in favor of *crotoxina*, hoping that the research drug would be effective in their cases. Patients treated with the compound died without signs of even temporary improvement, but the investigators falsified or omitted such results from published reports (Yriart and Braginsky 1998; Perelis et al. 2012).

Despite evidence of data fabrication signaled by several independent Argentinean specialists, interest in *crotoxina* remained high well into the 1990s. When allegations of misconduct broke, supporters claimed that political conflicts of interest and conspiracies among powerful foreign organizations were behind the accusations. Proponents of *crotoxina*, blinded by national pride, argued that competitors in the United States and Europe would not allow Argentinean researchers to develop a product that would compete with the expensive interventions in use at that time (Yriart and Braginsky 1998; Perelis et al. 2012).

During the 2000s, whistle-blowers pointed out unethical practices in several other clinical trials, such as investigators manipulating participants’ data in order to make them fit recruitment protocols, forging subjects’ signatures on informed consent documents, and tampering with statistical results. These reports received initial attention from the Argentinean and international media (De Young and Nelson 2000; Elustondo 2003), but they resulted in no formal investigation. Despite these and other indications of misconduct in Argentinean science, there has been little discussion in Argentina about how to promote integrity in research and little attention in national journals about how to achieve openness and transparency in the investigation of wrongdoing.

Recent efforts to increase funding to promote Argentinean biomedical research have also raised allegations of wrongdoing and a lack of transparency. For a period of 10 years beginning in 2000, Argentina undertook a vigorous campaign to lure back established Argentinean researchers who had emigrated overseas, offering grants and other attractive benefits upon their return. A similarly ambitious plan was put in place for the development of specific products, including “coagulant

factors to treat hemophilia, transgenic cattle which secrete valuable hormones in their milk, and better ways of probing for oil deposits” (The Economist 2011). These initiatives were initially received with great optimism by the local scientific community, but CONICET came under suspicion of foul play for the way in which it awarded these grants, especially for its alleged lack of transparency in the selection process. Although questions about improper funding processes generated an initial outcry on the Internet, such complaints have been limited to blogs and social media and have not attracted the attention of either the national media or the Argentinean courts (La Política 2011; Saguier 2012a).

Whereas scandals in research have prompted many other countries to establish formal policies on research integrity and systems for the investigation and adjudication of claims of research misconduct (Boesz 2008), Argentina has taken few steps to establish governance over research and the integrity of Argentinean science. In April 2001, the Ministry of Science, Technology and Productive Innovation founded the National Committee of Ethics in Science and Technology (CECTE), which among other charges, was intended to “(e)xecute actions tending to incorporate ethical dimension in the institutions of science and technology; (c)ollaborate with institutions of science and technology and Universities to incorporate ethical principles in research protocols in all disciplines. . .; (s)upport, at their request, the efforts of the scientific societies in the development of codes of ethics, the creation and coordination of local committees, and ethical institutions. . .; (and p)romote training in the application of ethical principles in management and evaluation tasks in national and provincial organizations of the area. . .” (CECTE 2001).

Over the past 13 years, CECTE has issued various publications (CECTE 2008), the most significant of which is a 16-page aspirational document released in 2013 entitled “Suggestions for Socially Responsible Science and Technology” (CECTE 2013). It lays out an ambitious vision, calling for a research enterprise that “respects human rights, supports the consolidation of democratic practices, contributing to peace and protecting the vulnerable while caring for the environment, [and] promotes equity in the access to knowledge and freedom of research.” It seeks to foster the humane use of laboratory animals, avoid discrimination, promote solidarity among investigators, and encourage the disclosure of conflicts of interest. It further encourages respect for cultures and diversity, responsible data management, careful authorship, and the responsible use of research resources. Lastly, the document calls for scientists to reject all forms of scientific fraud, such as falsification, plagiarism, and fabrication (CECTE 2013, p. 3).

According to the Ministry’s website (www.cecte.gov.ar), the committee is available to respond to questions from academia, government agencies, public and private institutions, or individuals. However, the committee has no oversight authority or any regulatory power, and its documents do not define key terms. And although such a vague and aspirational initiative could be a starting point for policies to address the myriad issues related to the responsible conduct of research, the absence of a comprehensive national framework that could foster research integrity limits its potential. The Committee’s activities appear largely ceremonial,

as it has no role for guiding research organizations on the development of their own structures, procedures to reduce the occurrence of misconduct, or educational programs to support the ethical climate necessary for research organizations, universities, and academia in general.

Beyond governmental expressions of scientific ideals, a number of Argentinean scientific journals have recently started to follow the guidelines of the Committee on Publication Ethics (COPE 2014) and the recommendations of the International Council of Medical Journals Editors (ICMJE 2014). These organizations foster international standards that provide a system of professional accountability for authors, reviewers, and editors. However, even with major national journals' adoption of international ethical standards, it is impossible to define the prevalence of questionable authorship and publication practices in Argentina, since there is no formal accounting of even the most common problems in publication, whether plagiarism, inappropriate authorship, ghostwriting, non-disclosed conflicts of interest, or manipulation or falsification of data.

Science, Integrity, and Corruption

After living for decades with authoritarian regimes and dysfunctional public institutions, Argentina continues to suffer from a high level of civic, business, and governmental corruption that permeates society (Transparency International 2014). Corruption and its effects go beyond simple monetary transactions to the exchange of a wide range of favors that affect all layers of society, disrupt communities, and cast a long shadow of suspicion (World Bank 1997). According to Transparency International, a watchdog group based in Berlin that conducts an annual survey of the "perception of corruption" in individual countries, Argentina's 2013 Corruption Perception Index was 106, where 1 reflects the utmost integrity and 175 is the worst corruption (Transparency International 2014). Transparency International's surveys measure how average people perceive the trustworthiness and accountability of their countries' judiciary systems, political representatives, law enforcement, and public sectors, among other indicators. In the Americas, Argentina shares its position with Mexico and is ranked slightly better than Guatemala and Honduras.

Argentina's high level of general corruption bodes poorly for the integrity of its science. The integrity of essential research practices and science generally is unavoidably at risk when the scientific community is surrounded by corruption in daily life (Heitman and Litewka 2011). When corruption is widespread, otherwise honest people may presume that formal rules do not really apply or that they must cheat to get around corrupt officials. Ultimately, corruption perverts both the ability to distinguish between ethical and unethical behavior and the logic that informs the distinction. Extended exposure to corruption has led to what Argentinean ethicist Joaquín Meabe calls his countrymen's "moral apathy," a lethargic response to negative stimuli that would otherwise trigger outrage and emphatic calls for justice. The flattening of a corrupt society's ethical values becomes part of a vicious cycle in which basic moral assumptions are no longer acknowledged or acted upon (Meabe 2007).

Argentinean historian and economist Eduardo Saguier, a former member of CONICET, has written extensively on corruption in Argentinean science. Saguier identifies four factors that have contaminated Argentinean science (La Política 2011; Saguier 2012b): (1) administrative corruption, with reviewers awarding grant funds to each other; (2) academic inbreeding, with academic institutions hiring their own graduates; (3) professional evaluation processes in which reviewers are selected based on their social relationships, not their knowledge of the matter to be evaluated; and (4) scientific and philosophical illiteracy and “anemic scientific specialization” that leaves researchers unable to carry out meaningful research. According to Saguier, the independent Argentinean media is so focused on the financial aspects of governmental corruption that it overlooks the broader cultural and scientific consequences of corruption more generally (Saguier 2012a).

With only anecdotal references to misconduct as evidence, it is impossible to assess whether corrupt practices from other sectors of Argentinean society have permeated scientific research. To date, the only allegedly unethical practices reported in the Argentinean media are related to clinical trials. This limited focus is most likely because the public’s interest is more easily aroused by news of unethical medical research, when the welfare of identifiable people is at stake, in contrast to the abstract implications and costs of plagiarism, data fabrication, or undisclosed conflicts of interests in basic research. Moreover, there is no consensus within the Argentinean scientific community about the meaning or larger effects of scientific misbehavior, and the Argentinean Ministry of Science and Technology’s guidelines (CECTE 2013) appear unable to promote a professional response. In a society numbed by the recurrence of corrupt practices, scientific dishonesty appears to be a trivial and almost forgettable situation.

Education for the Promotion of Research Integrity in Argentina: The Missing Link

In order to promote research integrity within institutions, research organizations must not only establish structures and policies to support responsible conduct, they must provide instructional programs to teach the components of responsible conduct of research in practice (IOM 2002). A review of the curricular content of Argentina’s main academic institutions finds little by way of specific subjects or consistent educational plans for fostering scientific integrity. Clear institutional definitions, guidance, and standard procedures for investigating allegations of misconduct and tracking the incidence of misconduct or questionable practices are also missing from the governance of academic and research organizations, almost certainly as a result of the lack of external regulations.

Instead, as in academic institutions in many countries, anecdotal reports from students and young investigators writing in blogs and on Internet sites relate tales of what US ethics educators call the “hidden curriculum” (Fryer-Edwards 2002), through which they learn their institutions’ priorities, accepted practices, and

systems of rewards and punishments. The lessons of the hidden curriculum in Argentina often reinforce the power structure that tends toward corruption, such as the standard practice of including senior researchers and heads of departments as co-authors on submitted manuscripts, even if these individuals did not participate at all in the conception, writing, or revision of the papers. Other common lessons include the acceptability of ghostwriters, the nondisclosure of conflicts of interest, and the lack of follow-up on even formal allegations of wrongdoing (Saguier 2012b).

In the absence of local, institution-based education on the responsible conduct of research, research ethics education programs sponsored by external funding agencies have attempted to fill the void. In most Latin American countries, including Argentina, the majority of research ethics education grants come from the NIH Fogarty International Center's Program on Research Ethics Education and Curricular Development (Saenz et al. 2014). As research training grants, such programs include instruction in the responsible conduct of research as part of their focus on ethics (Saenz et al. 2014). Remarkably, the efforts of some Argentinean ethicists to leverage US support for research ethics education have been denounced by their local colleagues as politically tainted. One prominent claim is that the programs' procedural focus dissociates research ethics from more fundamental questions of human rights (Tealdi 2006). Other Latin American critics have claimed that Fogarty-sponsored programs on research ethics, for example, impose "foreign" ethical models on the region, in a strategy of "moral imperialism" (Garrafa and Lorenzo 2008). According to this interpretation, the research ethics and scientific integrity education programs funded by Fogarty are trying to impose a "new order" in developing countries, subordinating potential research participants' welfare to the interests of the external research organizations (Minaya et al. 2011).

Although extreme, these critiques do highlight US-funded programs' limited cultural and contextual sensitivity and their organizers' tendency to overlook local concerns in the push to teach "international standards." What is often still needed is a holistic vision of research ethics and integrity that provides a solid conceptual basis for local discussion of international ethical and regulatory frameworks and supports the creation of national capacity and effective national governance. Unfortunately, the critics have not yet proposed local models to promote the scientific and technical development so badly needed in Argentina or educational strategies that would support, correct, and promote the integrity of Argentinean science.

Research Integrity as an Asset for a Natural Knowledge-Economy: Brazil

Even as science in Argentina has faltered, and funding for research has shrunk in the United States, Brazil has increasingly been recognized as a "natural knowledge-economy," with a strategic role in global science, technology, and innovation (Bound 2008; OECD 2012). Brazil has the world's fifth largest land mass and

fifth largest population and, according to the World Bank, has risen to join the top ten national economies in terms of GDP (World Bank 2014). As described in a 2008 report from *The Atlas of Ideas, Brazil's* “natural resources and assets are a key area of opportunity for science and innovation” (Bound 2008, p. 14). Since 2005, Brazil has spent an average 1.2 % of its GDP on R&D, twice that of Argentina, and despite a smaller number of scientists and technicians in the workforce, in 2011 Brazil published 3.5 times as many scientific and technical articles as did its Spanish-speaking neighbor (World Bank 2014). Despite the global recession that began in 2008, Brazil's science and technology sector is poised to lead the country to economic success (NAS 2010).

Brazil's long-term goal of remaining a leading economic power depends on its ability to become an international leader in science, technology and innovation (STI). Graduate education in the sciences and development of adequate human resources for research are strategically important in meeting this goal. There has been a steady increase in the number of Brazilian graduate students in the sciences over the last two decades and a 12 % growth per year in the number of PhD degrees in science and engineering granted by Brazilian universities (Bound 2008). An increase in the number of engineers, for example, is expected to boost economic and scientific development (Salerno et al. 2013; Cruz and Chaimovich 2010). However, the increase is still inadequate to the country's goals for development, and Brazil faces a significant challenge to produce the large numbers of STEM graduates that it needs (NAS 2010; Gupta et al. 2013).

According to the head of the *Centro de Gestão e Estudos Estratégicos* (Center for Management and Strategic Studies) (Laplane 2013), the Brazilian graduate education system should favor the training of human resources in STEM fields so that the country can meet the demands that will be naturally imposed by the process of economic growth. He stresses the “great disparity” in the number of graduate programs in STEM fields in comparison to others. Policymakers have set ambitious targets for the internationalization of the country's STI system in the next few years (Ciência sem Fronteiras 2014; ABC 2010; CAPES 2010), including international educational exchanges. For example, a joint program of the Ministry of Science, Technology and Innovation, and the Ministry of Education expects to grant more than 100,000 graduate scholarships over 4 years to promote international exchange and graduate and postgraduate study abroad in priority areas of science and technology (Ciência sem Fronteiras 2014). Nevertheless, science policymakers in Brazil, the United States, and other research-intensive countries have been criticized by others who consider that “the STEM crisis is a myth”; others point out that that inconstant definitions of “STEM worker” and metrics used in assessing the workforce make rational policy definitions difficult (Charette 2013).

In Brazil, those who object to national targets to increase the number of researchers in STEM fields allege that this policy's emphasis on the total number of graduates may be detrimental to the overall academic quality of researchers and the Brazilian research output at large (Greene 2015). Even apart from questions regarding the numbers of graduates, the Brazilian research community has increasingly been critical of the quality of the country's science and technology and its

national research productivity. The role of journal publications provides a case in point. As in many other countries, grant funding and academic rewards in Brazilian academia are linked to a faculty member's publications in prestigious scientific journals. Major assessments of research performance in Brazil value such publication highly (ICSU 2014; Camargo 2013a, b).

However, there is a growing awareness among researchers, universities, and funding agencies that publication alone is not an adequate measure of quality research (Camargo 2013a; Alisson 2013). This "critical attitude" toward the general Brazilian system of scientific research has been accompanied by several initiatives to address research integrity and the responsible conduct of research (FAPESP 2013; CGEE 2013; III BRISPE 2014). In the last few years, Brazil has demonstrated a level of interest in and commitment to research integrity so far not seen in any other country in Latin America. Between 2010 and 2015, Brazilian researchers organized three editions of what is now a regular meeting on research integrity and publication ethics, the Brazilian Meeting of Research Integrity, Science and Publication Ethics (BRISPE) (I BRISPE 2011; II BRISPE 2013; III BRISPE 2014). The BRISPE started as a small but highly publicized forum for professional discussion of key topics in responsible science and has become a foundational resource for Brazilian standards in research integrity (FAPESP 2013).

It was during the II BRISPE (2012) that organizers launched the Joint Statement on Research Integrity (II BRISPE 2012), which reflects the general approach taken to research integrity in Brazil. The statement provides no definition of research misconduct or any guidance on how allegations of misconduct could be handled. Nor does it address the "publish or perish" environment of Brazilian research and its potential effects on the overall conduct of research. Rather, the statement considers the challenges that Brazilian science faces in the global research landscape and what *institutions* might do to help the country meet these challenges (Vasconcelos 2012). The statement recognizes that accountability and public trust in research results are crucial aspects of governance in science and technology and that "research integrity, excellence and creativity (are) major assets for competitiveness." It then makes nine recommendations for research institutions, starting with the recommendation that research institutions post, promote, and publicize guidelines on responsible conduct and materials on research integrity on their websites and include such guidelines in their strategic approach to research excellence. The statement ends with encouragement for academic research institutions to promote the Joint Statement among students and faculty (II BRISPE 2012).

The majority of the Joint Statement's recommendations focus on education. The statement instructs institutions to raise awareness that, in Brazil, plagiarism in any course assignment is a violation of academic standards and that plagiarism in academic monographs, theses, and dissertations is illegal. It then encourages institutions to provide instruction on research integrity and responsible conduct and offer related activities to stimulate institutional discussion among students and faculty, including awareness about the role of publication ethics in national and international collaboration. The statement further urges institutions to provide opportunities for students and faculty to develop the international language skills

and ethical writing practices necessary to communicate their research findings to a national and international audience, as well as to support students' and faculty members' participation in national and international meetings and courses on research integrity (II BRISPE 2012).

The Statement seems to be the only guidance document on research integrity worldwide that recommends awareness-raising activities in early science education – before students enter the university – to prevent unethical practices such as plagiarism. It is probably also the only document on research integrity and RCR that points out the importance of researchers expanding their linguistic and writing abilities to communicate about science responsibly worldwide. It is increasingly recognized that the dominance of English in scientific publication can be a major obstacle to professional achievement for researchers from the BRICK countries (Brazil, Russia, India, China, and South Korea) and that limited proficiency in English may result in both unintentional and willful plagiarism and other wrongdoing (Vasconcelos et al. 2009; Heitman and Litewka 2011). This adds to the challenges that Brazilian authors face in terms of scientific productivity (Meneghini and Parker 2007; CNPq 2012).

Because the statement was not issued by an official research organization, its perspective on research integrity may not always be accepted as authoritative. However, signatories on the document include representatives of two major Brazilian funding agencies, the Brazilian Council for Scientific and Technological Development (CNPq) and the São Paulo Research Foundation (FAPESP) (II BRISPE 2012). CNPq has issued its own 21 directives for research integrity, which highlight responsible authorship practices and responsible communication of research, including good citation practices (CNPq 2011). CNPq's directives also emphasize the role of education in research integrity and in keeping with FAPESP's focus on the role of institutional practices to foster a culture of research integrity (Marques 2014). According to a recent FAPESP publication, the foundation expects that educational initiatives will play a fundamental part in its efforts to address research integrity and RCR among its grantees (Marques 2014).

Although there is some push in Brazil to develop and use institutional mechanisms to prevent misconduct and respond to allegations of wrongdoing, attention to education and awareness of standards permeates Brazilian discussions on research integrity. There is a clear difference between the emphasis placed on each of these factors in Brazil and in the United States. As described earlier, the United States established the Office of Research Integrity (ORI) and the role of the institutional research integrity officer (RIO) as part of its system of federal oversight for research integrity (ORI 2011). Gradually, the US ORI has informed development of similar governmental oversight systems in other countries through its requirements for international collaborators to comply with US policy on research misconduct. The US ORI expects that “each Institution that applies for research, research-training, or research related grants or cooperative agreements under the United States Public Health Service (PHS) Act is required to maintain a misconduct in science assurance with this office” (ORI 2014). Although ORI recognizes that different research systems may have different systems of oversight, it expects these institutional

offices to help investigate research misconduct and assist in handling allegations of wrongdoing, particularly in US-funded collaborations.

FAPESP has required that “all research institutions have an office exclusively responsible for receiving allegations of scientific misconduct related to research carried out at the institution. . . if needed, initiating and coordinating the investigation of the alleged facts” (FAPESP 2011). This requirement applies to institutions in São Paulo, which together conduct about 50 % of Brazilian science (Cruz 2014). Chances are good that other state-funding agencies in Brazil will consider adopting FAPESP’s dual approach to research integrity, implementing preventive and corrective actions. Nonetheless, in Brazil, as in the rest of Latin America, research integrity is such a recent topic in science policy and education that ORI-like models for governmental oversight of research seem unlikely in the near future.

What seems most worth highlighting about Brazil’s evolving process is that its commitment to raising awareness of the need for integrity in the research process and the role of responsible conduct in the communication of science appears to surpass concerns about research misconduct and compliance with standards and rules. On May 31 to June 3, 2015, *Brazil hosted the 4th World Conference on Research Integrity in Rio de Janeiro*. The level of engagement of Brazilian funding agencies for this event was remarkable (4th WCRI 2015). The Ministry of Education’s Coordination for the Advancement of Higher Education Personnel (CAPES), which is responsible for the accreditation and assessment of the academic performance of all Brazilian graduate programs, not only helped to sponsor the event, its president issued a formal statement recommending that at least one representative from every higher education program attend the conference. While the effects of Brazil’s emphasis on awareness and education in research integrity remain to be seen, the country’s efforts to “convert (its) natural assets into a new national story about innovation” (OECD 2012) seem to be taking a new approach to promoting research integrity, one distinct from those of its Latin American neighbors and the United States. The impact of Brazil’s efforts to foster a culture of research integrity on the quality of its science will depend on the country’s commitment “to make good on the promise that that story offers” (OECD 2012), but Brazil holds promise to be the cradle of research integrity initiatives and policies in Latin America.

Summary: Challenges for Education as a Common Path Toward Research Integrity

Scientific research is an increasingly global enterprise, and promoting research integrity is a mission that requires international collaboration. On a general level, investigators from the United States, Argentina, and Brazil likely have the same concerns about preserving and promoting the integrity of science as do their colleagues around the world: public trust in the integrity of research is essential to researchers’ livelihoods as well as to their individual reputations and professional prestige. Although economic, cultural, and political differences shape the

perspectives on research integrity and the value of education to promote it, the demands of good science reinforce investigators' need to know and follow best practices. Yet, even when international standards in research integrity can be established, efforts to promote these standards will face challenges.

Globally, wherever political and economic crises demand attention or corruption is common, integrity in research may seem irrelevant or impractically idealistic. Where institutions allow funders and governmental authorities to set the standards of research practice, investigators may resist all but the minimum standards necessary to ensure financial support. And where the promise of international standing motivates adoption of best practices, researchers' enthusiasm may fade when the competition and hard work of maintaining a research agenda truly begin. Nonetheless, educational initiatives that are prepared to face such obstacles internationally are more likely to foster new collaborative standards in responsible research and establish the worldwide professional governance needed to sustain integrity.

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Abstract

Both China and the USA recognize the critical role of research integrity in sustaining a productive research enterprise. Both countries have also experienced public backlash to reports of researcher misconduct, prompting a greater government response, with its mix of regulation and funding incentives and a commitment to changing the research culture through greater emphasis on education. China faces special challenges in remaking a research funding system marked by a climate of pervasive corruption and personal favoritism. As it breaks from its recent past, China must find ways to alter a culture of scholarship still influenced by its unique history and that affects vast numbers of students and faculty. China is increasing its investment in response to these challenges but in

M.S. Frankel (✉) • A.I. Leshner
American Association for the Advancement of Science, Washington, DC, USA
e-mail: mfrankel@aaas.org; alan.i.leshner@gmail.com

W. Yang
National Natural Science Foundation of China, Haidian District, Beijing, China
e-mail: yangwei@nsfc.gov.cn

several respects is still playing catch-up with the West. In the USA, the challenges are also formidable. There is a research culture that puts undue pressure on scientists to produce breakthrough research, a need for government oversight that is not unduly intrusive but nevertheless consistent with public demands for accountability, and a need for rigor in designing effective educational approaches to help bring about the cultural change needed.

Introduction

Within the global science and technology arena, the USA and China are world leaders in economic investment in research and development (R&D). Such leadership in R&D gives both countries a highly visible platform from which to address issues related to the ethical conduct of research, a critical area for a well-functioning and productive scientific enterprise. Ethical issues related to scientific research and its applications must be considered globally because of the melding of multiple cultures, regulatory systems, and institutions, thereby creating the potential for tensions among the values, norms, and legal frameworks represented by international collaborators. As Leshner and Turekian (2009, p. 1459) have noted, “there is substantial variation in the norms and standards that govern the work of scientists in different countries. Effective collaboration requires harmonizing these standards of conduct so that scientists can work together with full trust and confidence.”

Both China and the USA are committed to developing effective and trustworthy collaborations, between each other and with other countries. Both participate in the Global Research Council (GRC), which is “comprised of the heads of science and engineering funding agencies from around the world, dedicated to promoting the sharing of data and best practices for high-quality collaboration among funding agencies worldwide” (<http://www.globalresearchcouncil.org>). The GRC explicitly includes research integrity among its priorities, and the GRC principles for peer review are also the guiding principles for the National Natural Science Foundation of China (NSFC). Moreover, AAAS and the China Association for Science and Technology (CAST) began in 2007 a collaboration dedicated to examining ethics in science and are developing several case studies for use in both countries’ research integrity education efforts. These shared experiences and commitments inform the overview presented in this chapter.

What Is Research Integrity?

“Research integrity,” as used in the USA, refers to intellectual honesty in designing, conducting, evaluating, and reporting research guided by established professional norms and ethical principles for doing research. It involves taking personal responsibility for one’s work and for taking affirmative steps to protect the integrity of the scientific record (This description is a synthesis by the authors of

the discussion in the Institute of Medicine 2002, pp. 34–35). It includes expectations that researchers will not engage in “fabrication, falsification and plagiarism,” the official definition of research misconduct of the US Government (Office of Science and Technology Policy 2000), but extends beyond that to include the way scientists are expected to behave in their work and their interactions with other scientists.

In China, research integrity has a unique history that still influences contemporary thinking and practices. In ancient China, the conduct of a scholar was measured by “cheng” (诚). The composition of the left and right parts of this Chinese character implies “to speak the truth.” Morality is often regarded as the ideological summit of a scholar, as exemplified by the classical essay by Laozi (233 BC). The convention of ethics, on the other hand, was framed in the form of “Three Guidelines and Five Ethical Rules” (which defined the relations among people of different classes, genders, and generations). In the “Spring and Autumn” (770BC–476BC) period, the diversity of the scholarly community was characterized by constant debates among “100 schools” of academic factions, such as Taoism, Confucianism, Legalism, etc. Confucianism eventually dominated the mainstream of the scholarly community, and its emphasis on humaneness led to a rather tolerable approach to research integrity in China.

China has a tradition of unbalanced ethical and moral standards among experts in different fields. As stated by Confucius, “The mind of the scholar is conversant with righteousness; the mind of the laymen is conversant with gain.” (The Analects, 4.16). The social status of the scholars in philosophical exploration was high; they were the model for the moral standard and were portrayed as the masters with high integrity. Those exploring the material aspect (such as natural science and technology) of learning were regarded as materialistic and tricky and had low social status. Although honesty had traditionally been considered a general moral requirement for all people and their behaviors, concrete norms had not been set for research activities until the arrival of modern science in the twentieth century, when the long march to build research integrity started (Yang 2013). The modern standard of scientific ethics and integrity was introduced mainly by the scholars who were educated abroad. The rules of citation, the reproducibility of research data and findings, and the protection of intellectual property were unfamiliar to the general public and to many old-style scholars.

There are many meanings for the word “integrity,” and there is no equivalent word in Chinese to match exactly the English word. Similar words are used by Chinese institutions, such as scientific ethics, construction of a study ethos, research morality, when characterizing different groups of people. In *Opinions on Strengthening Research Integrity of Our Country* issued by 10 Chinese department agencies and academies in August 2009, research integrity is roughly defined as “. . . the following behaviors of scientific workers in their scientific and technological activities: inspiring the spirit of science, with pursuing truth, seeking truth from facts, innovation-oriented, open-minded and collaboration as its core, in compliance with applicable laws and regulations, adherence to ethical principles of

scientific study, and following the code of conduct accepted by the scientific community.” This is similar to the aspirational nature of research integrity in the USA, while also including reference to existing legal and professional requirements.

What Are the Perceived Problems in Research Integrity?

In contemporary China, the societal perception toward research integrity has experienced several pivotal changes. The first started about a century ago with the establishment of scientific method and procedure for rigorously presenting one’s findings. The development of this scientific culture is attributed to those Chinese scholars returning from abroad, along with positive feedback from their students. The return of many overseas Chinese scholars under the “open-up” policy reinforced the situation.

Respect for intellectual property signifies the second change. Though Chinese journals in science and mathematics adopted an international style of citation in the first half of the twentieth century, other journals, especially those in social science, took the group citation style (namely, all citations were appended at the end, without explicit indications of where they were inserted in the text) until the 1980s. Journals in medicine, engineering, and agriculture are somewhere in between the two opposite styles of citation. Precise and comprehensive citation style was gradually recognized by academia in China in the past three decades, with the natural sciences leading the way and the social sciences last to join the other disciplines. These changes were prompted by the general reform and opening up of China and the specific programs of international academic exchange.

Respect for the cross-language intellectual properties marked the third change. Chinese-origin submissions of research papers to international journals boomed in the early 1990s. At the beginning, the bulk of those submissions had been intended for the English versions of various Chinese journals in science that had covered the same content but in different languages. Academics had the impression that dissemination of scientific knowledge could be enhanced by multiple languages, and overlooked the issue of “self-plagiarism” between different language versions. The copyright law of China at that time stated that the author was free to submit the work to another journal if he or she did not receive an acceptance note from a journal in 30 days. Authors were also allowed to submit their published works to journals of different languages since “the authors have the translation right.” (Copyright Law of PR China, 2001 edition). In that period of time, many Chinese scholars had mixed feelings about their publications (including the reviews) in journals of different languages (Yang 2013). At the turn of this century, the situation started to change. Gradually, the different language versions of Chinese journals became independent in content. Several debates about dual Chinese/English submissions took place in forums organized by the China Association of Science and Technology (CAST) and other academic institutions. Some researchers

(mostly in social science) reasoned that the copyright law was aimed to promote and to streamline the dissemination of knowledge to the vast media, while others argued that Chinese scientists should honor the copyright transfers they signed, which inevitably contained clauses on the transfers of translation rights.

The fourth pivotal change emerged from public awareness of the issue of research integrity. At the beginning of this century, members of the public were astonished that “respectable scientists” could steal someone else’s “intellectual property” or could “fabricate” or “falsify” their research findings. The public is not satisfied with the self-investigation of research misconduct allegations, as many exposed cases were not properly investigated or remained unclosed after a long time. The regulations and effective policies and procedures for dealing with research misconduct need to be improved. Strong public reaction stimulated media intervention (Hao 2009). More and more journalists endeavored to expose the dark secrets of scientists. Government officials were the next in the line to understand the severity of the issue. They coordinated a concerted approach to combat research misconduct.

Regardless of the progresses mentioned above, there are many forms of research misconduct facing the scientific community in China. Yuan (2011) summarized 122 counts of research misconduct mentioned in 40 documents issued by 32 of the leading universities in China. Some forms of misconduct were not easily judged or sanctioned. It is necessary to develop strategies to prevent questionable research practices related to authorship, data management, etc.

There is no obvious answer as to why some scientists lack research integrity and engage in unacceptable research behaviors. For some observers in the US, it is often considered to be a problem of “bad apples,” where a relatively few scientists commit misconduct for reasons associated with a psychological breakdown. However, this perspective has shifted to recognize a context in which “although researchers might be well intentioned, there is truth to what psychologists have observed: that everyone is capable of missing a moral issue (moral blindness); developing elaborate and internally persuasive arguments to justify questionable actions (defective reasoning); failing to prioritize a moral value over a personal one (lack of motivation or commitment); being ineffectual, devious, or careless (character or personality defects, often implied, when someone is referred to as ‘a jerk’). . .” (Institute of Medicine 2002, p. 62).

While not dismissing the role of personal shortcomings, many now believe that the problem is more systemic to science than simply a reflection of a few bad apples (Iorns 2013). The problem of a research environment that works counter to research integrity will be discussed below, but suffice it to mention here that until recently, there has been very little commitment to gathering the data and insights necessary to better understand the relationship between researchers’ behavior and the environment in which they work.

Finally, another perceived problem associated with the notion of research integrity is accountability. Misconduct is a failure of accountability when public funds are misused or wasted on research built on false or fabricated studies.

It can lead to bad policy and perhaps even harmful actions. As the US National Science Board declared in 2008, “Accountability must be an integral part of planning successful collaborations to assure supporters that research integrity is a priority. . .” (National Science Board 2008, p. 4). Whether you are a researcher seeking new truths, a funder making an investment in the future, or a citizen who counts on science to improve the human condition, you will want scientists to be held accountable for anything they do that diminishes the integrity of scientific research.

Accountability also comes into play when scientists claim they are aware of the problem and are taking steps to address it. In its 2002 report, the Institute of Medicine (IOM) stressed that “Fostering an environment that promotes integrity in the conduct of research is an important part of. . .accountability” (Institute of Medicine 2002, p. 1). There is an expectation that the research community will be able to show that its efforts to improve the integrity of research are having a positive impact. In this case, the community has so far fallen short. There is “no solid evidence” to show what is or is not effective at fostering a “research environment that is conducive to nurturing ethical research practices” (Frankel 2003).

Discussions about research integrity in the USA and China inevitably raise concerns about research misconduct. There is no definitive account of the amount of research misconduct in the USA and no reliable data on whether misconduct has been increasing or decreasing, although over the past several decades there appears to be an increase in the reporting of instances of misconduct in the professional and popular press. Nevertheless, the absence of firm numbers does not mean that the problem can be dismissed. Even if research misconduct is rare, it still has broadly significant ramifications whenever it occurs. The social relevance of science, the large expenditures of public monies on research, and continuing reports of high-profile incidents of misconduct in the press have fueled public concerns, prompted congressional hearings and federal regulations, and opened the eyes of many in the research community to a serious problem.

In China, research misconduct is defined more expansively than in the USA. It includes the following 13 categories: (1) Plagiarism; (2) Fabrication; (3) Falsification; (4) Multiple submissions, under the same or different languages; (5) Improper and exaggerated authorship; (6) Conflict of interests biasing reviews, evaluations, or grant assessments; (7) Lobbying officials for government grants and sending messages to influence review panels, promising to return favors; (8) Using academic prestige to dominate the field and suppress potential challengers; (9) Unfair or honorary authorships, and selling and buying research papers; (10) Deliberately neglecting to cite earlier or the most related works; (11) Fabricated citation of a bogus author or journal; (12) The creation of “trash” or “fake journals,” which collect submission fees from authors, conduct no formal review, and then only print enough copies to send to the authors; and (13) Inappropriate use of statistics.

Although it has been difficult to obtain a reasonable assessment of the amount of research misconduct in the USA, in China, where it is defined more broadly, research misconduct is considered extensive and severe. The *Journal of Zhejiang*

University Science (JZUS) is an international journal published by Zhejiang University. It is among the best of the university journals in China and receives submissions from all over the world. It was the earliest journal in China that implemented Crosscheck to screen for similarities. The result from a 5-year screening of over 5,100 submissions indicated that 31 % of the submissions contained above 30 % similarities with the existing literature (Zhang 2010). The revelation of these data sent shock waves through the scientific community in China.

When similar software was used to cross-check Ph.D. theses with the existing Chinese literature, a similar figure was reported. The severity of the issue persuaded various graduate schools in China to enforce similarity checks before the submission of theses. At a press conference in August 2014, the NSFC revealed six severe cases of misconduct discovered by data mining between submitted and funded proposals by similarity checks, along with 400 plus minor ones earmarked during reviewing, against a total submission of 151,000 proposals.

In ancient China, when “Kekao” (national examination offered by the emperor) was the only way to become an officer, some scholars risked their lives to bring in hidden notes. Today, the heavy burden of homework and the absence of integrity education in the primary and secondary schools induce young pupils to copy each other’s homework. When those youngsters enter universities, they find the web a paradise for facilitating their homework. When a Stanford University faculty was recruited to Zhejiang University to teach scientific writing, he used his own software to check the course reports submitted by an elite class and found that a large percentage of them were done by “cut and paste” from the Internet. He swiftly gave all those students zero marks. The students felt offended about the harsh grades and discussed on the web about taking revenge. As reported in *Nature*, the alleged and convicted cases of research misconduct in Zhejiang University from 2009 to 2012 were 43 and 23, respectively (Cyranoski 2012). Since 1998, there has been active censoring by the NSFC of scientists who submit plagiarized grant proposals. This campaign has resulted in a decline of 70 % in alleged misconduct per applications over the past 14 years, but the total number of allegations remains at the same level.

What Factors are Likely Causes of These Problems?

If the focus is on the few bad apples, then one might conclude that failures of research integrity are due to personal moral shortcomings. If, however, the problems are considered more systemic to the scientific enterprise, then the focus must turn to the larger research environment, where collaborators, institutional resources and policies, professional journals and societies, government regulations, the media, and public perceptions and expectations all interact to influence researchers’ behavior.

This complex system is not well understood, but it is viewed by virtually all relevant stakeholders as critical to the development of research integrity. Indeed, government regulations in the USA specify that research institutions “must [f]oster a research environment that promotes the responsible conduct of research, research

training, and activities related to that research or research training,” (42 CFR Part 93, Sect. 93.300(c) 2005.). The 2002 IOM report declares that:

“It is . . . incumbent on all scientists and scientific institutions to create and nurture a research environment that promotes high ethical standards, contributes to ongoing professional development, and preserves public confidence in the scientific enterprise.” (Institute of Medicine 2002, p. 33).

Despite its importance, and despite the fact that virtually every scientist acknowledges its centrality to good scientific behavior, the IOM acknowledged that in the end, “the means of promoting integrity in the individual researcher and developing an institutional climate that fosters integrity are not precisely known” (Institute of Medicine 2002, pp. 25–26). In its report, therefore, it recommended that more resources be made available

“to fund studies that explore new approaches to monitoring and evaluating the integrity of the research environment. . . for research designed to assess the factors that promote integrity. . . [and] assess the relationship between various elements of the research environment and integrity in research” (Institute of Medicine 2002, p. 128).

There have been some efforts to address the issues associated with assessing the research environment and its impact on research integrity. In summer 2000, the US Office of Research Integrity launched a new funding program on “research on research integrity,” which continues to this day. ORI’s 2001 funding announcement noted that “no systematic effort has been made to evaluate the different approaches to transmitting high standards for integrity in research, making it difficult to know which ones, if any, are effective,” (U.S. Office of Research Integrity 2001) and encouraged the submission of proposals to address that gap. A recent effort is the Survey of Organizational Research Climate (Crain et al. 2013), which generates data on “seven dimensions of local research climate to inform, motivate, and help to evaluate efforts to improve those climates and to promote responsible research.” Much more remains to be done.

In China, also, the scientific community tends to attribute the failure of research integrity mainly to a deteriorating research climate instead of a few bad apples. Research misconduct has been fueled by several driving forces (Qiu 2010; Yang 2013). One is the budget incentive. In many major research universities or research institutes, competitive research grants constitute oversized fractions of budgets, providing an economic incentive that is a factor in ethical violations. For example, the competitive research grants constitute 35–45 % of the total budget of “C9” universities (the nine most renowned Chinese universities, analogous to the Ivy League in the USA). That is more than education funding, tuition, and donation combined. It makes the universities obligated to further enlarge the grant total, even at the risk of contributing to research misconduct.

A second driving force is a performance-based award system embedded in many universities and research institutes. The low government salary leads those

universities to set additional “university credits” to increase their salary competitiveness. Those credits are substantial (may be as high as 50 % or even higher of the total income of professors) and are typically quantitative to facilitate measurement by administrators. Performance-based subsidiary income can act as a perverse incentive if it prompts researchers to produce questionable studies, with respect to both their need and their value, in order to line their pockets with additional income. Two side effects emerge from these salary incentives. The first is bean counting: administrative management always tends to evaluate researchers in a numeric way. Misconduct can be inadvertently encouraged by the use of quantitative rather than qualitative measures of merit. The second side effect is awards for publications and grants. Many universities or research institutes award researchers (salaries or research grants) for publications in high-impact journals, or for receiving big research grants. The government’s performance-based policy of allocating budgets to national universities or research institutes should help to lessen the need for and impact of such perverse incentives.

The third driving force for the slippery slide is the talent hierarchy, namely, escalated “talent titles” with increasing honors and resources. There are tens of different titles associated with talent, resembling various steps in the administrative system. A talent hierarchy in academia may encourage scientists to hype their findings, expand their egoism, and claim credit for team performance as their own. Consequently, some young scientists may be tempted to step outside ethical boundaries in order to climb the academic ladder.

The fourth driving force comes from societal, especially governmental, impatience and high expectations for quick results. The society always asks questions like “why can’t China win a Nobel prize this year?” and “why do you look like an under-achiever?” This constant pressure may lead researchers to look for a shortcut in their academic career, since “failure” is hardly tolerable in a Chinese society. Too much pressure for researchers and students imposed by assessment and evaluation mechanisms may drive misconduct. For example, many medical doctors or nurses are required to publish papers to get a professional title, resulting in the publication of low-quality papers, or even taking improper actions to have a paper published.

These four driving forces are further intertwined with two situational factors. Many researchers attribute the causes of research misconduct to five aspects: personal, research team, research code/norms, managerial mechanism, and research environment. Academic norms in some disciplines are not well developed, widely accepted, or broadly disseminated. Some people can make mistakes or even commit research misconduct due to ignorance of such norms. Many scholars are not familiar with the concept of self-plagiarism, and there is still controversy over the justification of dual publication of Chinese and English versions of the same article. Importantly, insufficient instruction and guidance from supervisors and questionable research practices of senior researchers may have a negative impact on young scientists’ conduct of research.

How, If at All, is Training/Education Used to Mitigate Those Factors?

Both the USA and China have placed great emphasis in recent years on the importance of increased ethics training and education of scientists. In the USA, the 2002 IOM report made clear that education on the ethical conduct of research is the path “most likely to have the desired results with the least level of intrusion and the greatest direct impact on overall norms” (Institute of Medicine 2002, p. 59). More recently, the US National Science Foundation (2009) emphasized the critical nature of ethics education by declaring that “education in RCR is considered essential in the preparation of future scientists and engineers.”

“[T]he provision of instruction in the responsible conduct of research derives from a premise fundamental to doing science: the responsible conduct of research is not distinct from research, on the contrary, competency in research entails responsible conduct and the capacity for ethical decision making” (Institute of Medicine 2002, p. 84). Education and training received a big boost from the US government, beginning in 1989. That year, the National Institutes of Health (NIH) required all of its training programs to include instruction in scientific integrity (U.S. Department of Health and Human Services 1989). In 1994, NIH sent an expanded message to the research community, stating that “Plans that incorporate instruction in the responsible conduct of research for all graduate students and postdoctorates in a training program or department, regardless of the source of support, are particularly encouraged” (National Institutes of Health 1994).

Another major milestone occurred in 2009, when NIH noted that “there have been a number of developments related to instruction in responsible conduct of research. The scientific community has responded by developing innovative courses, workshops, research projects on instruction in responsible conduct of research, and instructional materials.” As a consequence, it issued a Notice to update its policy on responsible conduct of research education. The new Notice (National Institutes of Health 2009) was more direct in what NIH would require as part of research ethics instruction. It addressed more specifically who should participate, how often instruction should occur, and the form that instruction should take and offered “guidance to applicants, peer reviewers and NIH staff in determining how well specific plans for instruction in responsible conduct of research compare with the best practices accumulated over the past two decades by the research training community.”

The US National Science Foundation (NSF) also took steps in 2009 in response to the enactment of the America COMPETES Act (P.L. 110–69). That legislation announced (U.S. National Science Foundation 2009) that

“Effective January 4, 2010, NSF will require that, at the time of proposal submission to NSF, a proposing institution. . .certify that the institution has a plan to provide appropriate training and oversight in the responsible and ethical conduct of research to undergraduates, graduate students, and postdoctoral researchers who will be supported by NSF to conduct research.”

Collectively, these interventions by the government demonstrated how its power of the purse – its role in funding scientific research and education – can influence

teaching in graduate and professional education. Policymakers were determined to do their part in holding the research community accountable for adhering to accepted research practices and ethical standards.

Since 2000, there have been increasing efforts to introduce ethics education and training for scientists via online mechanisms. Taking into account both USA-based and international resources, more than 30 sources of online research ethics instruction have been identified (<http://www.miami.edu/index.php/ethics/projects/WHO/resources>), and it is likely that hundreds of US universities have adopted some form of online ethics training for researchers.

Despite these efforts, NIH has stated that:

“While on-line courses can be a valuable supplement to instruction in responsible conduct of research, online instruction is not considered adequate as the sole means of instruction. A plan that employs only online coursework for instruction in responsible conduct of research will not be considered acceptable, except in special instances of short-term training programs. . . , or unusual and well-justified circumstances” (National Institutes of Health 2009),

a position that casts doubt on the adequacy of online training as a sufficient approach for teaching research integrity in the USA.

Although starting somewhat later than the USA, training in research integrity is gathering momentum in China. In the turn of the new century, some leading universities and research institutes in China have recognized the importance of research integrity and assigned the function of the education of responsible conduct of research and the judgment of research misconduct to their academic committee. In 1997, CAST established a special committee for research integrity and conducted educational activities on scientific ethics. In 2006, the Ministry of Education (MoE) established a committee to promote academic ethics, and the Ministry of Science and Technology (MoST) issued an executive order [Order of MoST, No. 11, 2006] on the treatment of research misconduct. In early 2007, joint meetings for promoting research integrity were initiated by MoST, MoE, the Chinese Academy of Sciences (CAS), Chinese Academy of Engineering (CAE), NSFC, and CAST to coordinate actions in promoting responsible conduct of research by regulations and education. In 2007, CAS instructed its 100 institutes to develop educational programs on research ethics for their members (Hepeng 2007, p. 1207). In August 2009, several government agencies and key scientific organizations jointly issued a policy statement for promoting research integrity in which they stated that:

“Universities and colleges should strengthen the development of courses and teaching materials on research integrity education in order to enrich the content of education and perfect teaching methods. They should take seriously their responsibility to strengthen the training of talented instructors and researchers of research integrity” (Joint Committee 2009).

Research-oriented universities are developing courses on ethics and research integrity, mostly for 1st-year (occasionally 2nd-year) graduate students. A handy reference for that endeavor is the textbook *Scientific Integrity – Text and Cases in Responsible Conduct of Research* (Macrina 2005). The book was translated into

Chinese in July 2011 by NSFC, and 120,000 copies of the translation were sold to university faculties and students. It has since served as a textbook for research integrity for college seniors and graduate students, on the recommendation of six government ministries and funding agencies. The city of Beijing printed 100,000 copies of *An Outline for Scientific Morality and Ethics*, edited by a task group on research integrity education established by CAST. The group also edited a collection of examples of scientists with high academic morality and integrity; 20 monographs and 18 reference books on research integrity were printed last year, totaling 40,000 copies. Several textbooks on research integrity have emerged, such as a graduate textbook published by Tianjin University Press in 2011. CAST is working on a joint set of cases with AAAS. The exchange of expert views from the two countries indicates that both the black and white situations revealed in actual misconduct cases in China and the hypothetical cases that focus on the gray areas of research conduct can be beneficial to young researchers in China.

CAST and the Ministry of Education (MoE) jointly conduct nationwide education programs on research integrity for new graduate students and new faculties. When the new graduate students start their curriculum, a concerted approach is taken to have research integrity training as the first class after their enrollment. The training effort can be exemplified by the grand lecture on scientific values and research integrity given at the Great Hall of the People for 5000 graduate students in the first month of their enrollment. Lectures are also given by experts in various provinces by the members of Ethics Committee of CAST. This and other education programs are believed to reach about a half of the new graduate students. Every year, each university provides compulsory lectures on ethics for new faculty to make sure their first steps in academic careers are sound. Statistics (collected by CAST and MoE) show that 18,000 lectures on research integrity were given in China in 2013, which reached 2.19 million graduate students, 3 million undergraduates, and 260,000 university teachers. In addition to the education effort, regulations for research integrity are put forward by MoE, MoST, CAS, and the Surveillance Committee of NSFC to define the ethical boundaries for research conduct.

In order to transfer such education from special lectures into daily learning and research activities, more efforts of “training the trainees” are being made by major universities in their faculty development centers in recent years. For instance, in Nankai University, RCR education has been included as an essential part in training new faculty and newly promoted faculty every year since 2011, and similar activities have been started by a number of universities in the recent years. Various new forms of integrity training have emerged. For example, the policy of text screening for plagiarism has raised the awareness of students about the wrongs of plagiarism, and also encouraged them to become knowledgeable about the details of research codes, norms, and the specific requirements for the conduct of research.

Clearly, for China, the numbers to reach are enormous and the need for materials remains high. In the USA, the challenge is less one of numbers and materials but more one of finding what works, a problem that the Chinese, as will be discussed later, are only now beginning to confront.

Is There Evidence that Training/Education Works?

Whether in the USA or China, “Education in the responsible conduct of research is critical, but if not done appropriately and in a creative way, education is likely to be of only modest help and may be ineffective” (Institute of Medicine 2002, p. 124). Yet, “little is currently known about the success of RCR education programs in achieving any specified outcomes” (Powell et al. 2007, p. 250).

The importance of assessing the quality and impact of research ethics education has not gone unnoticed by the scientific community.

“Given the widespread application of instruction in ethics as a potential solution for misbehavior in the sciences, not to mention the substantial time and resources required for the development and implementation of instructional programs, a critical question arises: Are such programs effective?” (Antes 2009, p. 1). Antes and colleagues took a look at the literature and concluded that it “suggest[s] a great deal of interest in ethics instruction, but limited systematic, rigorous evaluation of ethics instruction” (Antes 2009, p. 9).

Looking at a few of the studies done over the past several years yields mixed results. Plemmons et al. (2006) found “the impact on knowledge was greater than that for changes in skills or attitudes” about RCR. Powell and colleagues observed that “The only statistically significant improvement associated with the course was an increase in knowledge, while there was a non-significant tendency toward improvements in ethical decision-making skills and attitudes about the importance of RCR training” (Powell et al. 2007, p. 249). Others have found that while some ethics education approaches

“were effective in enhancing participants’ . . . moral efficacy and moral courage, . . . Moral judgment and knowledge of responsible conduct of research practices were not influenced. . .” (May and Luth 2013, p.545). Finally, a more upbeat study by Mumford and colleagues found that “training not only led to sizable gains in ethical decision-making, but that these gains were maintained over time” (Mumford et al. 2008, p. 315).

The fact is that “although there appears to be a general consensus about the importance of ethics education for researchers and scientists, there is little agreement about the most effective approach to instruction, or even the most appropriate goals for these programs” (Antes 2009, p. 1). In their meta-analysis of efforts to “assess prior program evaluation efforts,” Antes and colleagues found that evaluation studies “reported mixed findings regarding the effectiveness of instruction. Some ethics courses have been shown to induce the desired effects, whereas others indicate little or no effects of ethics instruction on learning outcomes” (2009, pp. 1–2). Furthermore, as part of the bigger picture, one needs to find agreement on what changes will lead to desired effects and how much of a change will lead to results that make the effort worth the costs.

In China, a preliminary evaluation of the recent campaign in research integrity training is positive. Data from various graduate schools of major universities in China reveal that graduate students have a clearer awareness of what types of

research conduct they should avoid. Similarity checks of submitted Ph.D. theses in many universities have indicated a decline in “cut-and-paste” sentences/paragraphs from the existing literature. The culture is changing from “why not cheat” to “it’s not worth getting caught.” Increasingly, students realize that research misconduct is a mistake they cannot afford to make, as written down in several confessions by young researchers who committed plagiarism. The program managers of NSFC give talks on research integrity around the country, which may also contribute to the awareness of questionable practices in grant applications. Nevertheless, evaluations of China’s efforts are in their infancy, and their quality and effectiveness will be the next big issue for evaluation and improvement in the country.

Are There “Best Practices” or Highly Recommended Approaches to Training?

In 2009, NIH issued a Notice stating that the

“guidance provided below is directed at formal instruction in responsible conduct of research. It reflects the accumulated experiences and the *best practices* of the scientific community over the past two decades. These practices have been incorporated into many of the best regarded programs of instruction in responsible conduct of research” (National Institutes of Health 2009). (Emphasis added; this characterization can be solely attributed to NIH based on its review, rather than on any consensus within the scientific community.)

Another effort at identifying best practices is the Project for Scholarly Integrity of the Council for Graduate Schools, the only USA-based national organization “dedicated solely to the advancement of graduate education and research” (<http://www.cgsnet.org/about-cgs>). In 2012, it published *Research and Scholarly Integrity in Graduate Education: A Comprehensive Approach*, which it described as a

“best practice guide [that] documents the results of. . . a multiyear, multi-institutional CGS initiative to identify promising practices in embedding research and scholarly integrity into graduate education. The document discusses a wide range of innovative strategies including the use of assessment to enhance and build support for high quality, relevant research integrity programs. It also includes case studies, useful tools, and analysis of baseline survey results on activities, resources, and institutional climate for research integrity” (Council of Graduate Schools 2012).

It is not clear the extent to which this effort has influenced the adoption of any of the practices and recommendations it proposes beyond those institutions participating in the original study. Nevertheless, it is one of very few efforts of such magnitude that seeks to be evidence based in its approach.

Realistically, however, when one examines the evidence presented above about the dearth of rigorous assessments of research ethics training and, where assessments have been conducted, acknowledges their mixed results, it is premature to think in terms of best practices for research integrity education and training. There may be “common” practices, but referring to them as “best” practices would be misleading.

One of the more common practices in the USA relates to the content of instruction, where government agencies have indicated what topics should be considered essential to education and training in research integrity. ORI, for example, in 2000 identified nine core areas that could be included in research integrity instruction: (1) data acquisition, management, sharing, and ownership; (2) mentor/trainee responsibilities; (3) publication practices and responsible authorship; (4) peer review; (5) collaborative science; (6) human subjects; (7) research involving animals; (8) research misconduct; and (9) conflict of interest and commitment. These nine topics have dominated research integrity instruction since then, but several years later, ORI supported a project to recommend whether new core areas should be included. In July 2007, the project reported that six additional areas were identified by a group of 18 external experts, but ORI never officially adopted any of them (U.S. Office of Research Integrity 2007). Those topics included the following: (1) the financial and operational responsibilities of Principal Investigators; (2) social responsibilities of researchers; (3) historical background in responsible conduct of research; (4) current issues in responsible conduct of research; (5) lab safety and environmental health; and (6) philosophy of science, including roles of bias and worldviews in science. Although not widely adopted, there are instructors who have broadened the topical coverage in their educational offerings beyond the nine “core areas.”

In 2009, NIH took a step in broadening the original ORI list by adding the following topics to the core nine: “the scientist as a responsible member of society, contemporary ethical issues in biomedical research, and the environmental and societal impacts of scientific research” (National Institutes of Health 2009). Both the ORI and NIH policy statements are guidelines, however, with institutions and instructors given flexibility on what is ultimately included. In fact, NSF has taken a different approach, informing researchers that “NSF believes that the research community, encompassing both individual researchers and institutions, is best placed to determine the content of RCR training without a need for NSF-specified standards” (U.S. National Science Foundation 2011).

Although those topics are pervasive in research ethics education and training, there is also recognition in the research community that the research environment changes over time. Such a dynamic environment means that the roles and responsibilities of researchers will also evolve, thereby altering the ethical challenges that researchers face. Hence, educational efforts must be flexible and responsive to those changes.

The Chinese approach to ethics education has been top down, namely, from ministries/funding agencies to universities/research institutions, then to researchers, which may be more likely to work there than in the USA. It is viewed as a valuable approach in China’s initial stage of combating research misconduct. At the national level, it creates a research climate built upon the public awareness of various misconduct behaviors. At the university level, it leads to policies such as compulsory integrity courses, research integrity lectures to newly appointed supervisors, and adoption of their own codes of research conduct. At the student level, it enforces a disciplinary environment for the respect of intellectual property.

The extensive education campaign staged in China by CAST and MoE, as mentioned above, is rather unique. It combines the concepts of research integrity (as developed along with modern science) with the traditional moral values of scholars. The campaign focuses on the spirit of science, scientific morality, scientific ethics, and scientific norms. However, China's ambitious newly launched campaign has not yet been accompanied by systematic evaluation, so its effects on nourishing the research climate in China is still too early to assess.

What Improvements Might Be Made in Education/Training?

To answer this question requires insight into the strengths and weaknesses of current efforts, something that is far from settled knowledge. As Joseph Whittaker, a Dean at Morgan State University, has observed, "The lack of data on what works, what doesn't work, and what has had mixed results has impeded the development of programs that build on prior successes and avoid prior failures" (Hollander and Arenberg 2009, p. 16). Better tools and strategies for evaluating educational and training initiatives are sorely needed, as is greater clarity on the goals of research integrity education and training so that whatever approaches are employed can be measured against those goals. Otherwise, it will be difficult to persuade instructors, administrators, policymakers, and, most critically, trainees and students that education in research integrity can make a positive contribution to the country's investment in research and is deserving of support.

The report by the National Academy of Engineering of a workshop on "Ethics Education and Scientific and Engineering Research: What's Been Learned? What Should Be Done" noted that "skills and knowledge are not sufficient if the individual does not have the personal and social motivators that encourage praiseworthy behavior." The report continues by urging that "Environments must be structured to reward individuals who demonstrate ethical behavior" (Hollander and Arenberg 2009, p. 14). Good role models and mentoring would seem to be an essential component of such an environment. So, too, would be empowering students by giving them the confidence, insights, tools, and skills needed to fulfill their ethical responsibilities. In the long run, embracing empowerment of students as a core objective would be an improvement that could be expected to enhance all such initiatives.

While such empowerment is essential, the task is admittedly daunting. To cite Kalichman, it may be "wishful thinking to expect any form" of ethics education or training "to counter perceptions of the institutional culture or what is seen on a daily basis" by scientists and students (Kalichman 2013, p. 8). To counter those perceptions, researchers should do what good scientists are quite good at – studying a problem and testing different hypotheses about what works and why. Admittedly, "Self-assessment is never comfortable. But if the scientific community is to live up to its responsibilities to maintain the quality and integrity of science, then one has no choice but to do so, and to do it with the same rigor that scientists apply in the laboratory or in the field" (Frankel 2003).

The top-down education effort in China may be complemented by a bottom-up package for improved research integrity. Three tentative approaches are currently conducted by CAST and MoE. The first approach involves coordinating about ten universities to develop detailed course books on research integrity training, with cases collected in their own universities but of common education values. The second approach is the annually conducted training series on current issues of research misconduct. Namely, CAST and MoE organize annual national forums to train graduate school executives of 100 leading universities. The contents of the training are focused on several hot issues of research misconduct in that year. For example, ghostwriting was one of the issues selected in 2014. These graduate school executives will later conduct the research integrity trainings in their respective universities. The third approach is to encourage individual universities to develop different research integrity codes addressing the characteristics for various disciplinary fields within the university, while adhering to common guidelines of research integrity. That approach takes into account the evolution of research integrity cultures in different disciplines, while acknowledging that common guidelines apply across all disciplines. Progress in these diverse training approaches is expected to expand the horizon of research integrity training and reinforce its impact in the future.

Conclusion

In both China and the USA, the campaign against misconduct and for promoting research integrity has focused on both regulation and education. The initial approach was to establish regulations of research conduct. Various government agencies have been tasked with promulgating and enforcing regulations that deal primarily with misconduct in science. While the USA has settled on a narrow regulatory definition of misconduct, China has adopted a more expansive definition (Chong 2006; Lin 2009).

The scientific communities in both countries realize, however, that for real and lasting change to occur, it must be achieved through education that reinforces the notion that good science and ethical science go hand in hand. Yet, education must itself be supported by strong incentives to “do the right thing.” Unfortunately, in both China and the USA, the research environments affect the governance of science in ways that have actually created incentives to cut ethical corners. In China, a good academic climate is still to be built and reforms are required (Cao et al. 2013). To succeed, China will need to overcome strong currents with deep historical and cultural roots, where an “authoritarian ‘top-down’ power structure inside the scientific community will tend to discourage internal criticism and stop monitoring from being as effective as it could be” (Dickson and Hepeng 2006).

In the USA, the problem is neither an “authoritarian” system nor the absence of “internal criticism.” In fact, the research environment has been heavily criticized in recent years, even described by one Nobel laureate as being “disfigured by inappropriate incentives” (Schekman 2013). Others argue that existing “incentives

create a subconscious bias toward making research decisions in favor of novel results that may not be true” (Nosek 2012). A critical issue for US researchers and their institutions is how to generate evidence that will offer guidance on creating an environment that will promote research integrity.

In the USA, government mandates have helped to spur and shape research integrity education and training. There is a great deal of activity in America’s universities and elsewhere. These efforts span a diverse range of approaches, content, target audiences, and instructor backgrounds, reflecting a commitment to experimentation that captures the spirit of science. Yet, there is little evidence to demonstrate their effectiveness or to identify “best” practices, in part because so few studies have been undertaken and in part because agreement about the goals of such instruction, what changes would produce the desired effects, and how to weigh the effects of change against the costs involved are not clear. For China, the challenges are meeting the needs of large numbers of students and faculty with a relative shortage of educational materials. As mentioned above, there are major efforts underway to get good teaching materials into the hands of 1st-year graduate students and their instructors, but upper-level graduate students and postdocs need them as well. Moreover, as in the USA, the rush to meet this burgeoning need has not been combined with a sustained effort to assess the effectiveness of such materials.

Where one is likely to find common ground between the two countries is on the need to produce scientists who are open to questioning others, to speaking out when their colleagues engage in questionable behaviors, to taking affirmative steps to report misconduct by other researchers, to serving as role models and mentors to others, and to understanding the social complexity of the issues they will face. If successful, then China and the USA will produce a scientific workforce both capable and motivated to use its acquired knowledge, skills, and attitudes to bring about a transformative change in the research culture.

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Abstract

Growth of the research enterprise in Korea and the United States has been accompanied by calls for an increased focus on research integrity. Concerns have grown both because of cases of research misconduct and apparent lapses in the reproducibility of science. Education and training are believed by many to have an important role in helping researchers to meet these challenges. The purpose is to answer the simple question of how should one act, to choose not to lie, cheat, or steal, but also how to handle less clear instances (e.g., who should bear both the credit and responsibility of authorship). While there may well be areas in which Korea and the United States differ substantially, it is clear that basic values such as honesty, objectivity, and responsibility are held in common

I.J. Lee

Department of Ethics Education, Seoul National University of Education, Seocho-gu,
Seoul, South Korea
e-mail: ijlee@snue.ac.kr

M. Kalichman (✉)

Research Ethics Program, University of California, San Diego, La Jolla, CA, USA
e-mail: mkalichman@ucsd.edu

by researchers internationally. The question therefore is not so much whether these values are accepted but how to foster a climate in which it is easier to honor those values than not. One answer to that question is simply to promote a research environment in which both educational programs and researchers advocate for good practices in science (e.g., good data management, giving credit where due, and open discussion).

Introduction

The United States now has nearly 25 years of an intense focus on the challenge of research integrity. As seems to be the case internationally, this began with concerns about cases of research misconduct. However, even the earliest education requirements from the US National Institutes of Health (NIH 1989) shifted the focus more generally to the “responsible conduct of research.” In other words, the question was not just how can one decrease the risk that scientists would commit serious misconduct but how can they be empowered to conduct science responsibly? The latter challenge has taken on a new dimension in recent years as the focus has shifted to the problem of reproducibility in science. These “3 Rs” (research misconduct, responsible conduct, and reproducibility) have similarly been of concern in Korea. Although these actions of individual researchers take place in a larger context (e.g., their research institution, government, and society as a whole), the focus for this discussion is very much on the perceptions, understandings, abilities, and actions of individual researchers. The goal of this chapter is to review these issues in the context of personal perspectives of the two authors about the United States and Korea, including summaries of a recent survey of Korean researchers.

What is Research Integrity?

Research integrity can be taken to have many different meanings. For the purpose of this discussion, it is considered inclusive of terms such as research ethics and responsible conduct of research. As the focus on these topics in the United States was stimulated in part by cases of research misconduct (e.g., summarized in Steneck and Bulger 2007; Kalichman 2013), Korea was substantially influenced by a single scandal, the case of Hwang Woo-Suk (Lee 2009; Kim and Park 2013). In 2005, Hwang, a former professor of Seoul National University, committed multiple ethical violations. Because of his high profile as an international stem cell researcher, the case had widespread repercussions for Korean science and the nation (Kim and Park 2013).

Allowing for differences in translation, the Korean focus has to varying degrees included not only research ethics and research integrity but also bioethics. Research ethics is seen as a comprehensive term that includes research integrity. The term “bioethics” has been used since the 2013 enactment of the “Bioethics and Safety

Act” (2013), which requires all research with human subjects to be reviewed by an Institutional Review Board (IRB). Korea has tended to speak of research ethics rather than research integrity in guidelines of government and universities (Ministry of Education of Korea 2007; 2014a). In contrast, at the government and regulatory level in the United States, there is a reliance on terms such as research integrity (e.g., the Office of Research Integrity) and responsible conduct of research (e.g., NIH 1989; NIH 2009; NSF 2009) rather than ethics.

Regardless of the country, these various definitions of “research integrity” are derived from values that are the foundation of credible and useful research: honesty, objectivity, responsibility, etc. The fundamental question is “How should one (a researcher) act?” The “right” and “ethical” way to act is one that serves to promote the integrity of the research. That means that the work is done in a way which is truthful but also in the sense that it is done well. To do so requires consideration of many factors including, but not limited to, ethics; laws, guidelines, and commonly accepted standards of conduct; best practices; and consideration for the highest standards of research, the interests of the subjects of research, obligations to other researchers, and the successful completion of science in the public interest. Taken together, the emphasis is on research as a profession for which there is an expectation that members of the profession will have the knowledge, skills, and attitudes sufficient to carry out their professional obligations.

What Are the Perceived Problems in Research Integrity?

In the United States and Korea, there are two major categories of problems perceived in the domain of research integrity. The first is research misconduct. This clearly exemplifies an extreme lack of integrity: An individual has done something considered to be unequivocally wrong. By the US federal definition of research misconduct, this includes fabrication, falsification, and plagiarism (Office of Science and Technology Policy 2000). More simply, the problem is defined by behaviors that to varying degrees reflect lying, cheating, and stealing, all of which are clear and serious deviations from the goal of integrity. While such behavior is egregious, it is probably not frequent. Most estimates are that few scientists commit research misconduct (Steen 2011), and even when surveyed about research misconduct, individuals are not reporting that they have done so routinely but only that they are willing to do so or they have done so at least once (e.g., Martinson et al. 2005). Regarding Martinson et al. (2005), it should be noted that while approximately one in three scientists reported having committed questionable research practices, these practices are, by definition, ones that might be questioned (i.e., not necessarily research misconduct); reports of clear research misconduct were much less frequent. While it would of course be preferable that all scientists invariably avoided even the possibility of questionable misconduct, that expectation is probably naïve given that scientists are human beings. And while one should of course still aspire to that goal, it is worth keeping in mind that all realistic measures of total fraud have indicated that it is far less frequent in science than in

Table 1 Levels of government regulation for research ethics in Korea

Legislation: Academic Promotion Act (Ministry of Education of Korea 2014b)	With focus on academic promotion, Act charges academic institutions with promoting environment that decreases risk of research misconduct
Presidential decree: comanagement regulations on National Research Development (Ministry of Science, ICT and Future Planning of Korea 2014)	These regulations regarding administration of nationally funded research and development projects explicitly prohibit researchers from committing fabrication, falsification, improper allocation of authorship, plagiarism, or other unethical research behaviors when proposing, performing, reporting, or presenting their research. Further, professional and academic research institutions must provide and administer rules set by the National Science and Technology Commission regarding research ethics
Instructions from the Ministry of Education: guidelines for securing research ethics (No. 60, 2014)	Established in 2007, and revised in March 2014, these guidelines are designed to prevent research misconduct and encourage responsibility in research institutions

many other professions (medicine, law, elected government positions). Taken together with the demonstrated successes of science, the vast majority of science remains credible.

In contrast to the US government-wide definition of research misconduct as fabrication, falsification, and plagiarism (Office of Science and Technology Policy 2000), Korea has three levels of government regulations relevant to research ethics (Table 1). These regulations and guidelines apply to all researchers and universities that are funded by the government. Not surprisingly, fabrication, falsification, and plagiarism are also viewed as research misconduct in Korea. However, research misconduct is additionally defined to include deliberate disruption of a research misconduct investigation, retaliation against a whistleblower, or serious deviation from practices commonly accepted in the academy (Ministry of Education of Korea 2007; 2014a). The definition also includes improper authorship as an example of research misconduct beginning with guidelines established in 2007 (Ministry of Education of Korea 2007). This is consistent with a widespread impression (Lee 2014) that improper authorship occurs frequently among Korean researchers (Fig. 1). Many young researchers recognized this as one of the most serious problems in the domain of research ethics. Ghost authorship (i.e., papers written by someone who is not named as an author) and arbitrary assignment of authorship by academic advisors (e.g., naming individuals as authors despite a lack of contribution to the published work) were perceived as negative factors for research integrity. Researchers, particularly in humanities and social sciences, view not only plagiarism but redundant publication (republishing research that had already been published as if it were a new, independent work) as serious research misconduct.

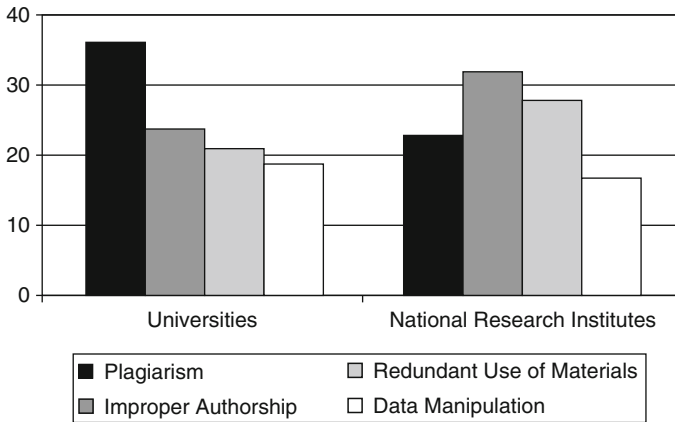


Fig. 1 Percent of respondents identifying each of four items as one of two most serious ethics concerns in Korean research. Total = 100 % for each category (Universities, National Research Institutes) (Lee 2014)

More recently, new Korean guidelines focus on re-use by researchers of their own data or materials (Ministry of Education of Korea 2014a). Article 7 of these guidelines requires that research findings for a graduate dissertation must be novel, the researchers should not report work that duplicates something already reported, and any use of previously reported research must include appropriate citation and permission from the original publisher. Although these deviations aren't explicitly identified as research misconduct, Korean researchers understand redundant publication without proper citation to be an unethical research practice.

Although research misconduct may be relatively infrequent, a second category, deviations from responsible conduct, is probably much more frequent. This presumption is based on anecdote, data, and analysis.

- *Anecdote*: As teachers of research ethics, the authors often hear concerns from trainees about the conduct of other researchers. These are sometimes about potential research misconduct, but more often the issue is a matter of authorship practices, data management, ineffective mentoring, etc. These aren't necessarily matters of research misconduct, but they reflect different standards or approaches, many, but not all, of which might be defensible.
- *Data*: Several recent reports highlight the problem of reproducibility in science (e.g., Begley and Ellis 2012; Prinz et al. 2011). It is certainly possible that a research report will not be reproducible because it is built on a foundation of falsification or fabrication. That argument is supported by the discovery that most retractions occur because of research misconduct (Fang et al. 2012). However, retractions tend to be reserved for the most egregious of problems and almost never because of something such as a "failure to replicate." If the findings of a paper cannot be reproduced, this can be for many other reasons that do not warrant removal from the literature (Ioannidis 2005). For example, it may be that

a research study cannot be replicated because of insufficient attention to statistics, recordkeeping, or publication of research methods. While these failings are arguably inconsistent with the responsible practice of science, they do not necessarily meet the definition of research misconduct nor would they typically be cause for retraction of a paper.

- *Analysis:* Despite considerable attention to the problem of research misconduct, there is much that one does not know and may never know about why such misconduct is committed and how frequently it actually occurs. Instead of focusing on these questions, it might be more useful from a pedagogical point of view to ask what must have gone wrong to allow research misconduct to occur. Framed in these terms, it is noteworthy that cases of research misconduct are characterized frequently, if not always, by multiple failures in the practice of good science. The domains of these failures include, but are not limited to, designing research to minimize the risk of bias, good data management practices, sharing of authorship as a responsibility, not just a matter of credit, attention to detail in data analysis and the preparation of a manuscript, creating an open environment of collaboration and sharing, asking and encouraging the asking of questions, empowering all members of the research team to speak up if something seems wrong and to blow the whistle if necessary, and being part of an environment of ongoing mentoring about the responsible practice of science. In short, a case can be made that research misconduct will be made harder by an environment that promotes the practice of good science (i.e., the responsible conduct of research).

What Factors are Possible Causes of Problems in Research Integrity?

One of the most frequently cited reasons for misbehavior in science is high pressure in an environment in which oversight seems minimal and rewards (continued employment, academic advancement, grants, and other awards) are substantial. In the United States, attention to possible misconduct in research was fueled by a number of cases in the 1970s and 1980s. One of the earliest, in 1974, was that of William Summerlin, who used a black marker to make it appear that he had transplanted black skin onto the backs of white mice (Hixson 1976). In explaining his actions, Summerlin invoked intense pressure. Over the subsequent 40 years, funding and pressure in science have fluctuated, but it is doubtlessly true that researchers risk loss of funding and secure employment when their research does not go well.

In a recent online survey in Korea (Lee 2014), respondents (Table 2) gave three main reasons for committing research misconduct or questionable research practices (Fig. 2). The highest ranking was high stress for advancement, followed by lack of awareness that their practices were considered misconduct and a belief that the gains from committing research misconduct would outweigh any losses. Clearly, if consequences for misconduct are not severe, then the latter belief may be understandable even if not acceptable. It is to be hoped that many, and probably most, do not succumb to academic pressures by committing misconduct. However,

Table 2 Characteristics of respondents to recent online survey of researchers in universities and national research institutes (Lee 2014)

		Universities ^a	National Research Institutes
Status	Professors	2069	0
	Full-time researchers	274	397
	Full-time lecturers	319	0
	Master's or doctoral graduate students	17	1
Research field	Humanities	456	12
	Social science	638	63
	Natural science	290	97
	Engineering	554	189
	Medicine/pharmacy	413	12
	Agriculture/fishery/oceanography	71	10
	Art/sports	237	9
	Interdisciplinary	20	6
Gender	Male	1921	320
	Female	758	78
Age	20–29	6	0
	30–39	403	84
	40–49	1149	199
	50–59	929	105
	60 and over	192	10
Duration of career	<5 years	173	12
	5–9 years	520	62
	10–14 years	638	115
	15–29 years	452	78
	20–29 years	657	101
	30 years or more	237	29
Total		2679	398

^aNational/public universities, 768; private universities, 1911

the temptation is likely great for those who feel there is little likelihood to be caught. This isn't a sign of a particular failing of scientists; it is an all too human characteristic. Evidence for that is easily found among the vast majority of drivers exceeding freeway speed limits.

Factors influencing research misconduct are likely to vary depending on career stage. In the Korean survey, it was noted that those newer to research were more likely to identify a lack of awareness that certain practices constitute research misconduct as a factor in committing misconduct, while those with longer careers cited high stress to succeed and that gains from research misconduct outweigh the losses. These results suggest that different approaches may be needed to protect against misconduct among early- and late-stage career researchers.

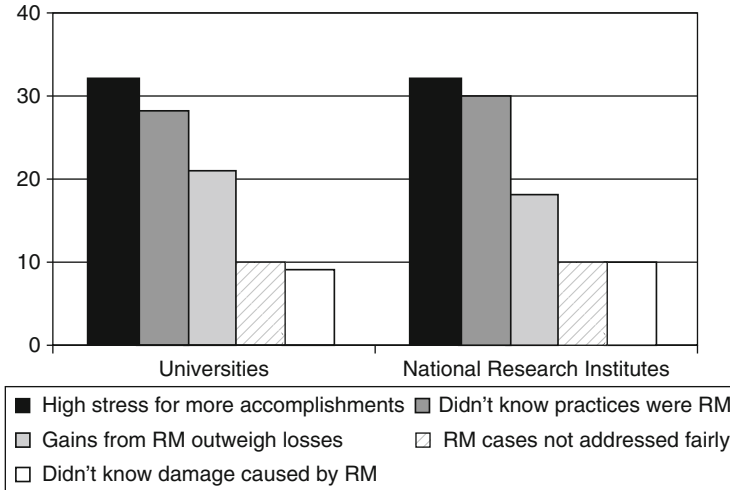


Fig. 2 Percent of respondents identifying each of five different reasons as being one of two most important causes for committing research misconduct in Korea. Total = 100 % for each category (Universities, National Research Institutes) (Lee 2014)

How, If at All, Is Training Used to Mitigate Factors That Impair Research Integrity?

Given that courses in research ethics are not likely to change either the reality of external pressures nor the perception of those pressures, it might seem that education has little role in prevention. However, returning to the discussion above in which it was noted that research misconduct cases are often characterized by failures of various good practices of science, it may be that training in good science (e.g., good practices for data management, authorship, and collaboration) will help promote an environment in which good science is fostered and research misconduct is discouraged. While it remains to be proven that training can either encourage good science or mitigate bad behavior, it is clear that those polled in Korea selected compulsory research ethics education more frequently than any other strategy (Fig. 3).

In both the United States and Korea, there has been disappointingly little initiative on the part of research institutions to promote education in research integrity. As a result, both have been reactive rather than proactive by requiring a “top-down” approach. In the United States, the primary driving force for research ethics education has been requirements from two federal agencies, the NIH and the US National Science Foundation (NIH 1989; NIH 2009; NSF 2009). In Korea, research ethics education has been required by the Ministry of Education of Korea (2014a). According to article 8 of the guidelines, the Minister of Education and the leadership of universities and research institutes share responsibilities to secure the necessary resources for educational programs and other measures that

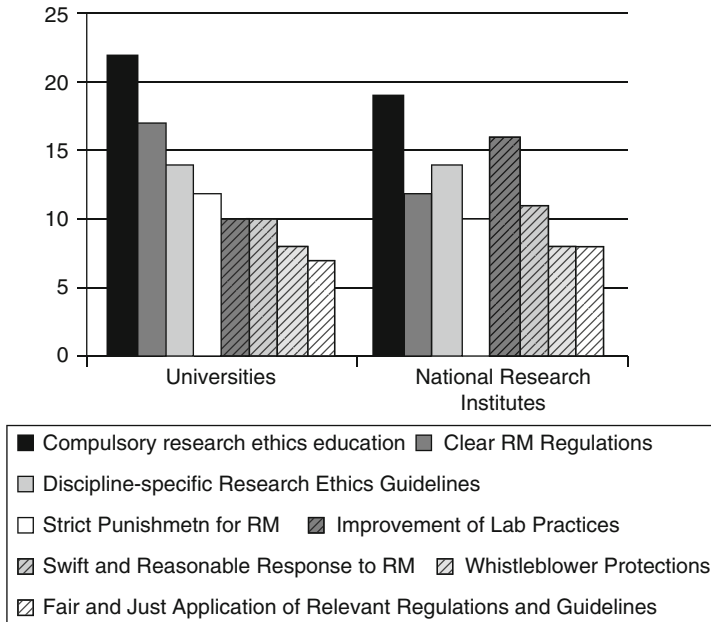


Fig. 3 Percent of respondents identifying each of eight different strategies as being one of two highest priorities for addressing the problem of misconduct in research in Korea. Total = 100 % for each category (Universities, National Research Institutes) (Lee 2014)

will decrease the risk of research misconduct. This has been a useful starting point, but a case can be made that efficacy is severely compromised when researchers respond only to external requirements rather than taking ownership of the creation and delivery of such programs (Lee 2012). In theory, rather than the current limited focus only on current trainees, a more robust system would integrate a focus on ethics in the earliest training of future scientists, at least at the undergraduate level if not earlier. Other areas to be explored might include the use of a publicly sworn oath for researchers, providing easy access to resources setting out high standards and the means to meet those standards, and promoting consistent and clear sanctions for cases of misconduct.

Is There Any Evidence that the Training Works?

To answer whether training works, it is first necessary to be clear about the definition of “works.” Because there are many different possible goals for RCR education (Kalichman and Plemmons 2007), it is possible to assess any one of many different outcomes. However, even with clarity about goals and how to measure effectiveness, it is not necessarily the case that anyone teaching any course will be successful. Different instructors, different settings, and different

audiences are all factors that will confound an answer to the question of whether ethical research training works.

Keeping in mind the difficulty in finding a simple answer to whether training works, many investigators have attempted to assess the success of individual courses or programs. The results are not compelling. Even in published studies, the results sometimes indicate no significant impact of training (e.g., Kalichman and Friedman 1992; Drake et al. 2005). Many studies have reported statistically significant outcomes of interest (e.g., Elliott and Stern 1996; Powell et al. 2007), particularly for ethical decision-making, moral reasoning, and sensemaking (Bebeau 2002; Mumford et al. 2008), but in fairness the magnitude of these changes is modest at best (Antes et al. 2009). This begs the question of how much of a change is enough to justify the effort.

In Korea, it is understood that one-time or short-term research education is less likely to nurture positive attitudes and understandings than more substantial, consistent, and systemic programs. At a national level, one part of a proposed solution is to develop an online research ethics program as an option for all graduate students and postdoctoral researchers funded by the government to meet requirements for research ethics training.

While objective, definitive evidence for the effectiveness of research ethics education is not yet available, 72–75 % of respondents to the online survey in Korea responded that research ethics education can promote research ethics consciousness and good research practices (Fig. 4). However, the impact of existing

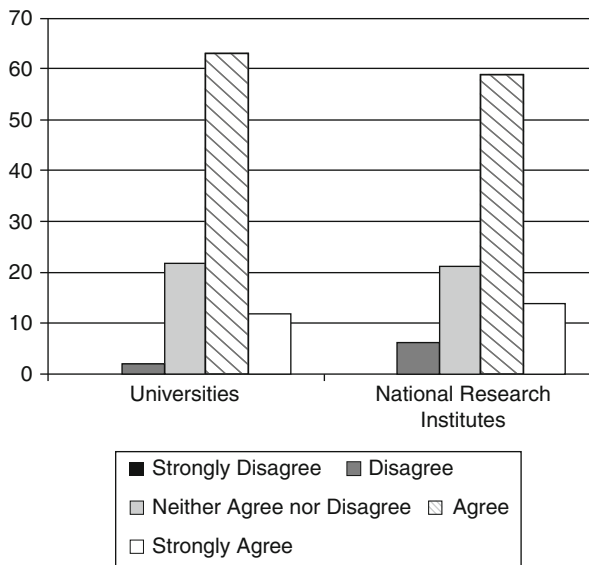


Fig. 4 Percent of respondents in Korea agreeing or disagreeing with the importance of research ethics education in nurturing awareness about research ethics and the responsible conduct of research (Lee 2014)

training in addressing actual concerns of researchers was ranked somewhat lower. This suggests that the current research ethics education could be improved. One strategy widely accepted is to use a case study–oriented approach, reflecting unique features of each academic field.

Taken together, it might seem best to conclude that the evidence for effectiveness of research ethics training is discouraging. However, there is one other way to look at this question that might be useful. If research ethics training is seen generally as an opportunity for learning more about research ethics rather than for learning any particular skill or knowledge, then perhaps many courses are highly successful. This question has not been examined extensively, but at least two qualitative studies (Plemmons et al. 2006; McGee et al. 2008) reported that an overwhelming majority of students report positive outcomes. The catch is that different people report different benefits of the courses. Not everyone gets the same thing from research ethics education. While this isn't as simple as a single measurable outcome, it is consistent with the spirit of creating opportunities for all researchers, regardless of background or experience, to speak with one another, to learn from one another, and to foster a community of open conversation about the ethical dimensions of the practice of science.

Are There “Best Practices” or Highly Recommended Approaches to Training?

Based on a substantial literature in education (Bransford et al. 2000), and also in adult learning specifically (Knowles 1990), it is widely understood that “active learning” is more likely to promote meaningful change than passive learning. People tend to learn better by doing than by simply being told what to do. In the field of research ethics, this has resulted in widespread calls to use cases (Macrina and Munro 1993; Stern and Elliott 1997; Pimple 2007). Cases can be either summaries of real-world incidents or contrived versions of difficult situations. Whether fictitious or real, cases can give students the opportunity to wrestle with tough problems, articulate possible answers and approaches, hear perspectives of others, and seek common ground through discussion. Clearly, these are all useful outcomes. However, it is important to not mistake the method (using cases) for the goal (active learning).

Depending on how they are used, cases may not engender active learning (e.g., if they are simply cautionary tales of how things might go badly), and active learning can occur with many approaches other than just cases. Some examples that might be considered as variations on the theme of “cases” include current events, role playing, and video. However, other formats (e.g., debates, surveys, published papers, literature, or lectures based on asking questions of the students) are clearly distinct from cases. These other approaches meet the goal of engendering active learning; however, by having a variety of approaches, it is possible to keep things fresh and interesting, rather than simply repeating the same exercise every time. The importance of case discussion and other approaches to active learning are generally accepted by research ethics educators in both Korea and the United States.

Although there is much to be said for classroom teaching and research ethics, there is also some evidence that such teaching is at best of nominal benefit (Kalichman and Friedman 1992; Antes et al. 2009) and at worst counterproductive (Eastwood et al. 1996; Anderson et al. 2007). Instead, a compelling argument can be made for the importance of bringing conversations about research ethics into the research environment (Kalichman 2014). If nothing else, it's worth pointing out that any one course is really a negligible fraction of the research experience for a graduate student. If their experiences in the research environment lack discussions of research ethics or, even worse, are contrary to what is taught in a research ethics course, then it seems hard to imagine a successful outcome. Therefore, there is an argument to be made for including ethics conversations in the research environment as a best or at least good practice.

Summary

On the key points discussed here, Korea and United States are largely similar. Both countries were motivated to focus on research integrity because of research misconduct scandals. Both have developed national standards for identifying and addressing serious research misconduct as well as requirements for training in responsible conduct of research for the next generation of researchers. And both have recognized that much remains to be done in clarifying achievable goals for education, developing best practices, and promoting the widespread adoption of those practices. Based on what is known to date, the authors advocate for approaches that focus on good practices for the conduct of science, engage researchers in learner-centered education, and combine classroom efforts with strategies that will increase conversations about responsible science in the research environment.

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Abstract

The World Conferences on Research Integrity provide a useful vantage point from which to view research integrity in the global arena. This commentary reflects on the role and development of the World Conferences and reviews changes in research integrity and related issues since the initiation of the conferences. It identifies shifts in focus from individual researchers who engage in misconduct to empirical research on research integrity, work environments of researchers, the human and behavioral aspects of research integrity, and the influence of research systems on integrity and misconduct.

Introduction and Summary

Approaches to the conduct of research differ across national and disciplinary boundaries, giving rise to variations in perspectives on research integrity. The World Conferences on Research Integrity have reflected this variation, but have

M.S. Anderson (✉) • J.A. Adam • S.C. Snyder
Organizational Leadership, Policy, and Development, University of Minnesota, Minneapolis,
MN, USA
e-mail: mand@umn.edu; adam0426@umn.edu; snyde592@umn.edu

also played a role in promoting greater agreement on fundamental aspects of research integrity. The conferences have tracked the evolution of policy, oversight, and instruction as ways to foster integrity in research.

Research is pursued worldwide through the global distribution of scientists and research institutions and through extensive networks of international research collaboration. Researchers are drawn to places where they can get access to the objects of their study (volcanoes, diseases, cultural systems), necessary equipment and materials (telescopes, gene pools, historical records), and the expertise of their collaborators. None of these components is exclusive to a single country for all areas of research, and so research activity is global in scope.

Systems that support research vary widely across national boundaries. The ways in which research is funded, the priorities that are set by governmental or other authorities, and the institutional structures that shape research initiatives and prepare young scientists are set up in different ways in different countries. These variations give rise to different interpretations of how research should be done, which are expressed in policies, codes, norms, and practices that are not uniform worldwide.

A further complication is that research, being a human enterprise, is subject to the vagaries of human motivation and behavior. No matter what system of rules and norms is in place, individuals may succumb to temptation to skirt the rules to individual or group advantage. Even the most fundamental, virtually universal rules about proper conduct in research are breached from time to time by individuals, and this unfortunate phenomenon is also not confined to any single country. The clearest evidence of such misconduct is the egregious cases that originate in various countries and get worldwide publicity.

As the interpretation of what constitutes proper research conduct varies, so do approaches to fostering good conduct. Overall, there are three general mechanisms that encompass most approaches: policy and regulation, oversight and compliance, and instruction and training. The nature and extensiveness of these systems vary considerably, as countries shift from very little formal oversight to more highly articulated systems. It is apparent that the USA has the most highly developed system of integrity oversight, due in part to legislative responses to major cases of misconduct beginning in the 1980s (Steneck 1994). As other national and institutional systems of oversight emerge, they reflect to varying degrees the development of the US system. Most include, for example, the three forms of misconduct (fabrication, falsification, and plagiarism) recognized in the US common definition of misconduct (Office of Research Integrity 2011). Some, such as *The European Code of Conduct for Research Integrity* (European Science and ALLEA (ALL European Academies) 2011), include additional behaviors. Some researchers and policymakers, notably in Europe, want to avoid the formal oversight mechanisms characteristic of the US system.

These various perspectives on and approaches to research integrity led to the initiation of the World Conferences on Research Integrity. This chapter comments on developments in global research integrity from the perspective of the World Conferences.

The World Conferences on Research Integrity

The World Conferences began when the US Office of Research Integrity provided funding for Nicholas Steneck, then a consultant to the Office, to explore possibilities for convening an international forum for consideration of issues related to research integrity (Mayer and Steneck 2012). As co-chairs, he and Tony Mayer, as representative of the European Science Foundation, organized the First World Conference in Lisbon, Portugal, in 2007 and the Second in Singapore in 2010. Sabine Kleinert of *The Lancet* and Melissa Anderson of the University of Minnesota stepped in as co-chairs for the Third World Conference in Montréal in 2013 and, Fourth Conference in Rio de Janeiro, Brazil, in 2015. The conferences are attended by national and institutional leaders with responsibility for research integrity, representatives of funding agencies, journal editors, leaders of academic societies, scientists, and other researchers (notably those doing empirical studies on research integrity and misconduct), policymakers, developers of instructional programs on the responsible conduct of research, journalists, and students.

The First World Conference in Lisbon was the initial opportunity for research leaders to come together to discuss research integrity, misconduct, and related issues. There were calls for more attention to integrity within the scientific research system and a few presentations based on empirical data on the prevalence of misconduct and effective ways of handling allegations of misconduct. These were balanced, however, by a number of presentations that affirmed the sufficiency of scientific self-regulation. This principle reflects, first, the personal responsibility of scientists who adhere to the highest standards of personal morality and to the requirements of the scientific method and, second, the collective capacity and responsibility of the scientific community to discover and correct both error and misbehavior through peer review, replication, and reporting (or whistle-blowing). From this standpoint, anything that is wrong in science must be corrected by members of the scientific community.

By the time of the Second World Conference in Singapore, the idea that self-regulation is sufficient for dealing with misconduct was largely absent from conference discussions. More attention was focused on developing recommendations on research integrity for the global research community, particularly as cross-national differences in research systems were becoming better understood. In particular, there was momentum for the development of a broad statement on fundamental responsibilities of all researchers and principles that support those responsibilities. Through pre-conference collaborative input, substantial development during the conference, an open forum at the conclusion of the conference, and final post-conference editing, the *Singapore Statement on Research Integrity* (2nd World Conference on Research Integrity 2010b) was created and issued as a consensus document from the conference. It presents four principles (honesty, accountability, professional courtesy and fairness, and good stewardship) as a basis for good conduct in research and 14 responsibilities or areas of responsibility. The *Singapore Statement* is intended to provide a basis for the development of more elaborated statements on standards of behavior or codes of conduct,

as well as documents with more specific provisions for local concerns and research sites.

The Singapore Conference also generated momentum in four areas, each associated with a postconference workshop as well as a document issued after the conference. These areas were as follows: conducting misconduct investigations, developing codes of conduct, expanding training in the responsible conduct of research, and articulating best practices for editors and publishers (2nd World Conference on Research Integrity 2010a). An important outcome of the conference was a book of proceedings that presented the *Singapore Statement*, the workshop documents, and summaries of many of the conference presentations (Mayer and Steneck 2012).

The Third Conference, in Montréal, opened up participation worldwide through a call for proposals for presentations and posters, particularly on empirical studies on research integrity and related issues. By the time of this conference, the focus had shifted beyond countries' internal structures and activities to networks of international collaborative research. In these collaborations, differences in policies and codes of ethics can have significant impacts on the integrity of research processes and outcomes. The conference yielded another consensus document intended as a companion to the *Singapore Statement* as a basis for more elaborate and locally relevant codes. The *Montréal Statement on Research Integrity in Cross-Boundary Research Collaborations* (2013) lists 20 responsibilities of individual and institutional partners in collaborations. It is directed to collaborations that cross "national, institutional, disciplinary, and sector boundaries" (*Montréal Statement*, 2013), where the last refers to collaborations between academic, corporate, and governmental organizations.

The Montréal Conference also yielded a book of proceedings as well as documents issued as products of focus tracks that ran through the conference in the areas of cooperation between journals and institutions in cases of misconduct, education in the responsible conduct of research, and research integrity in relation to societal responsibility as represented in the final point of the *Singapore Statement*.

The Fourth World Conference, May–June 2015 in Brazil, focused on yet another point of concern in the promotion of research integrity. Much has been made of the responsible or irresponsible behavior of individual scientists, but the role of the overall system of research had not yet been fully considered. The theme of the Rio Conference was, "Research rewards and integrity: Improving systems to promote responsible research." It reflected the concern that incentives and practices in research systems exert pressures that may lead researchers to engage in misconduct or otherwise compromise the integrity of their work. The conference examined systems at the levels of countries, funding agencies, and research institutions. The conference also responded to an expressed need for more practical guidance on how to conduct investigations of alleged misconduct, how to maintain integrity in the publication process, how journals and editors can promote integrity, and how young researchers can improve their empirical studies of integrity topics.

Commentary on Global Research Integrity

The World Conferences offer a useful vantage point from which to comment on worldwide developments related to research integrity. They reflect changes and developments related to research integrity in recent years and suggest how attitudes toward responsible research and ways of promoting good conduct have shifted. Some of these changes are reviewed in this section.

International Developments

At the time of the First World Conference, the term “research integrity” was not yet in widespread use internationally, partly because the term “integrity” as used here could not be readily translated from English into some other languages. The word’s connotation of wholeness or completeness was not particularly useful in translation, and its application to individuals (as in, “a person of integrity”) brought to mind individual morality which was widely viewed as impervious to change and beyond the scope of institutional intervention. It was easier to focus on misconduct which was dismissed as exceedingly rare and outside the purview of normal science.

Over time, however, the eruption of major misconduct scandals in various countries has prompted serious consideration of how research institutions, funding agencies, journals, and the scientific community at large should deal with misconduct. The publicity, embarrassment, shame, and anger that attend a major case have quite reliably led to committees, policies, codes of conduct, and other means of promoting compliance with high standards of research behavior. For example, when Alfredo Fusco was recently alleged to have engaged in misconduct, the situation highlighted the lack of systems or guidelines for handling allegations of misconduct (Abbott 2013). Scandals have often proven salutary, in the sense of focusing attention on research conduct and fostering greater openness about the processes and outcomes of science.

At the same time, heightened awareness of misbehavior in research, particularly in the popular press, has had serious consequences. Among these is the recent suicide of Yoshiki Sasai, a collaborator and co-author of Haruko Obokata whose two scientific papers originally published in *Nature* were retracted because of serious problems. The suicide was linked to the pressures of media attention focused on the retractions (Alvarez-Buylla 2014). The problems faced by whistleblowers after exposing misconduct have also become a matter of concern. The Office of Research Integrity’s *Whistleblower’s Bill of Rights* (2014a) was created to address this concern.

Though some scientists who are subject to findings of misconduct may need help in coping with the consequences of their misdeeds and re-establishing their careers, others may need to be convinced to do their work differently so as not to continue their errors. In the USA, the P.I. Program (originally RePAIR (Restoring Professionalism and Integrity in Research)) was established to deal with repeat offenders, but has since broadened its mission to serve researchers and others who are

challenged by the demands of their professional careers (P.I. Program: Professionalism and Integrity in Research 2014).

A frequent theme at the World Conferences is that attention to misconduct must be balanced by promotion of integrity, that is, a more positive expression of scientific conduct. As the word “integrity” has been used more frequently, its meaning has become less of a stumbling block. In the *Singapore Statement*, integrity is listed as the first responsibility and is identified with trustworthiness: “Researchers should take responsibility for the trustworthiness of their research.” In 2012, the newly established Global Research Council, whose members are the heads of major funding agencies worldwide, chose scientific integrity as an initial point of focus. They issued a *Statement of Principles for Research Integrity* (Global Research Council 2012), whose basic principles of honesty, responsibility, fairness, and accountability are derived from the *Singapore Statement*. The Global Research Council’s *Statement* takes a strong position in favor of integrity (“The Responsible Conduct of Research is at the very essence of the scientific enterprise and is intrinsic to society’s trust in science”) and further recognizes the roles of funding agencies “in creating an international environment in which research integrity is at the core of all activities.” Such statements by high-level officials affirm research integrity as fundamental aspect of research worldwide.

Approaches to Fostering Integrity

As noted above, the three basic means of promoting integrity in research are policy and regulation, oversight and compliance, and instruction and training. Each of these has been elaborated in the global arena in recent years, as the World Conferences have illustrated.

Policies and codes of conduct are often a necessary, if far from sufficient, component of a strategy to promote research integrity. The *Singapore* and *Montréal Statements* were intended to promote the development of policies and codes. Examples of cross-national documents are the Global Research Council’s *Statement of Principles for Research Integrity* (2012) noted above, *The European Code of Conduct for Research Integrity* (European Science and ALLEA (ALL European Academies) 2011), and *Responsible Conduct in the Global Research Enterprise: A Policy Report* issued by the InterAcademy Council/IAP (2012). There has also been considerable development of policy at the national level, sometimes by national agencies and sometimes by groups of institutions. Examples are the *Australian Code for the Responsible Conduct of Research* (2007), Canada’s *Tri-Agency Framework for the Responsible Conduct of Research* (Panel on Responsible Conduct of Research 2011), the Universities UK’s *The Concordat to Support Research Integrity* (2012), and *Toward Excellence in Science* (Chinese Academy of Sciences 2014).

On a less formal level, both China and Korea have experienced significant shifts in recent years in their traditional approaches to authorship and citation guidelines.

Such practices as group citation (China) and multiple submissions of findings to different journals (China and Korea) have been set aside in favor of precise and comprehensive citation (Yang, Frankel, and Leshner, “Research Integrity: Perspectives from China and the United States” in this volume) and strategies to avoid self-plagiarism (Lee and Kalichman, “Research Integrity: Perspectives from Korea and U.S.” in this volume).

Oversight and compliance have not received nearly as much attention as policy. At present, the USA remains unique in the extensiveness of its oversight and insistence on compliance with regulations. Requirements for training in the responsible conduct of research were put into law through the *America COMPETES Reauthorization Act of 2010* (P.L. 111–358). These requirements apply to all students and postdoctoral researchers who are supported by funding from the National Science Foundation (2010). As the National Science Foundation has specified, “‘Oversight’ as specified in the certification language refers to tracking and verification that the requirement has been met. Institutions are responsible for verifying that undergraduates, graduates, and postdoctoral researchers who receive salary or stipend support on the NSF award to conduct research, receive the requisite RCR training” (National Science Foundation 2010). According to the NSF’s *Semiannual Report to Congress: September, 2014* (National Science Foundation, Office of the Inspector General 2014), the Office has made site visits to research institutions to examine compliance with the training requirement and has requested the details of 50 randomly selected institutions’ plans to provide training in the responsible conduct of research to its NSF-supported students and postdoctoral fellows.

Instruction remains the best direct action by which institutions can foster research integrity. Good mentoring by faculty is, of course, also desirable but difficult to mandate and verify at the institutional level. Delegates to the World Conferences have consistently requested access to good instructional materials and best practices for pedagogy in the responsible conduct of research. Some countries still have very little training in any of their research institutions. Online resources such as the Online Ethics Center for Engineering and Science (2014) have compiled and made available a great deal of instructional material, and various nonprofit and for-profit companies have developed online training in the responsible conduct of research. The US Office of Research Integrity (2014b) has invested substantially in interactive, online video instruction, including their production of *The Lab: Avoiding Research Misconduct*, which allows students to make decisions about the best course of action at critical points and to see what consequences might occur because of those decisions. Despite the usefulness of these online resources, the US National Institutes of Health (2011) now specifies that all programs covered by its mandate for training in the responsible conduct of research must include face-to-face discussions between trainees and faculty, that online instruction is not sufficient to meet the training requirement, and that research faculty in the institution should participate in the training “in ways that allow them to serve as effective role models” (2011).

Focus of Attention

As the World Conferences have matured, there have been several shifts in the focus of delegates' attention. One change is expansion of empirical research on research integrity, misconduct, and related topics worldwide. Each successive conference has seen more proposals for presentations based on surveys, interviews, focus groups, analyses of policies or other documents, and reviews of published literature.

A second shift is from a focus on individuals' misbehavior to consideration of the environments in which that behavior occurs. Organizational climate, research culture, and distinctive aspects of working environments in various countries have emerged as important points for consideration.

A focus on research as a human endeavor, subject to the vagaries of human decision-making and motivations, represents a third emerging change. Dan Ariely's keynote address at the Montréal Conference invited delegates to consider irrational aspects of human behavior and their influences on researchers (see, e.g., Ariely 2012). This perspective has been supported in other conference presentations that have focused on the realities of research life in laboratories and the ways in which scientists must struggle to live up to high standards of behavior in the face of uncertainties and challenges of pushing the boundaries of scientific knowledge. In a further extension, Ramamoorti, Morrison, Koletar, and Pope (2013) consider the psychological underpinnings of fraud.

Finally, the World Conferences have increasingly gone beyond individuals and their proximate environments to consider how research systems affect the integrity of research. Reward systems, incentives, competitive pressures, bleak prospects for young researchers (Alberts, Kirschner, Tilghman, and Varmus 2014), the economics of science (Stephan 2012a, b), and waste in science (Ioannidis et al. 2014) all exert significant effects on the daily lives of researchers worldwide. The World Conference in Brazil focused on how these effects can be mitigated by changes in research systems.

Research integrity and related issues now appear with considerable regularity in publications worldwide. Much of scientific work is publicly funded, and public scrutiny is a natural complement to the attention that scientific breakthroughs command. The World Conferences have provided a way for the global scientific community to exchange ideas about how to foster integrity and purge misconduct. Their usefulness as a way to track and document changes in the global integrity arena has been a serendipitous outcome.

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Section IX

Integrity Versus Fraud and Corruption

Brian Martin

Brian Martin

Abstract

The chapters in the section “Integrity Versus Fraud and Corruption” are introduced.

When speaking of “academic integrity,” the word “academic” has two potential meanings. One refers to members of the university, including students, academics, and other staff, and their activities. Academic integrity for this group can address issues such as plagiarism by students and academics, conflicts of interest, staff-student sexual relationships, hiring policy, and intellectual freedom. A second meaning of “academic” refers to intellectual activities commonly associated with universities that are undertaken in other contexts. Academic integrity in this wider perspective can be concerned with a range of issues, including scientific fraud, plagiarism by professionals such as judges and architects, intellectual freedom, and free speech more generally.

These issues are extremely broad and potentially involve various types of fraud, cheating, employment policies, bureaucratic systems, and human rights. Think, for example, of financial fraud and the global financial crisis, cheating on income tax by individuals and by massive corporations, discrimination in workplaces, power plays in organizations, and assassination of journalists. The chapters in this section address a few key topics in this wide domain, while hinting at the many others that could be covered.

David Vaux in ► [Chap. 61, “Scientific Misconduct: Falsification, Fabrication, and Misappropriation of Credit”](#) surveys what is known about scientific fraud and how to address it. Some scientific researchers falsify or fabricate data, and some claim credit for the ideas and texts of others. Science is not nearly so automatically self-correcting as many people believe, and considerable effort is required to identify and expose fraud and have the problems rectified. Vaux provides an

B. Martin (✉)

Humanities and Social Inquiry, University of Wollongong, Wollongong, NSW, Australia
e-mail: bmartin@uow.edu.au

overview of this crucially important area, describing both fraud detection and a variety of ways to deter misconduct and encourage good practice.

Brian Martin in ► [Chap. 62, “Plagiarism, Misrepresentation, and Exploitation by Established Professionals: Power and Tactics”](#) looks at types of plagiarism, misrepresentation, and intellectual exploitation in several arenas both inside and outside the university. Misrepresentation occurs when credentials and accomplishments are falsified or exaggerated. Martin addresses “institutionalised plagiarism,” in which one person takes credit for the work of another in a routine, standard way, for example, when bosses take formal credit for the work of subordinates. Such practices are seldom even called plagiarism even though they fit standard definitions.

Daniel Kleinman in ► [Chap. 63, “From Matters of Integrity to Cultural Transformation: Higher Education in the Era of Neoliberalism”](#) addresses a deep and crucially important issue: the influence of business culture on university agendas and practices. Focusing on the USA, where these processes are well advanced, he outlines how neoliberal policies enable business culture to infiltrate university operations, thus altering the character of university education and research. While most studies of academic integrity look at violations at the level of the individual, Kleinman draws attention to structural influences with more far-reaching consequences.

Jason Delborne in ► [Chap. 64, “Suppression and Dissent in Science”](#) analyzes the suppression of dissent, which occurs when individuals espouse or study perspectives that challenge mainstream views or threaten powerful groups and, as a result, come under attack, for example, being denied publication or grants or even losing their jobs. Suppression of this sort is a direct challenge to intellectual freedom in two important ways: it silences or discredits dissident individuals and sends a warning to others to avoid deviating from the norm. Delborne surveys the dynamics of suppression and describes ways to challenge it.

Tom Devine and Alicia Reaves in ► [Chap. 65, “Whistleblowing and Research Integrity: Making a Difference Through Scientific Freedom”](#) tell about whistleblowing, with special attention to scientists. Whistleblowing is speaking out in the public interest, typically about corruption, abuse, or hazards to the public. In a society with intellectual freedom, whistleblowing should be normal and perhaps not even warrant a special name, yet all too commonly whistleblowers are met with savage reprisals: their attempts to speak the truth are treated as unacceptable, even traitorous. Devine and Reaves give numerous examples of whistleblowing scientists, describe the most common sorts of reprisals, and itemize ways of defending freedom of speech.

The chapters here point to the need to expand the ambit of studies of academic integrity beyond the usual focus on university education, to encompass research and speech by established professionals. In particular, they point to the role of integrity, and integrity violations, by those with the most power, including established scientists and senior managers in business and government. Furthermore, some of the biggest problems are built into the way social systems operate and are so deeply entrenched that they seldom receive attention. For anyone concerned about intellectual integrity, there are many topics to explore and challenging goals to pursue.

Scientific Misconduct: Falsification, Fabrication, and Misappropriation of Credit

61

David L. Vaux

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Abstract

Much published science, especially biomedical science, is not reproducible.

While most of this is likely due to sloppy research practices, part of it is due to deliberate falsification or fabrication of data, i.e., research misconduct.

D.L. Vaux (✉)

The Walter and Eliza Hall Institute, Parkville, VIC, Australia

Department of Medical Biology, The University of Melbourne, Parkville, VIC, Australia

e-mail: vaux@wehi.edu.au

Plagiarism is also a form of misconduct, and although it might not cause errors to enter the literature, it undermines trust, creates inefficiencies, and deters honest researchers from careers in science. While a growing number of papers are being retracted, and the biggest reason for retractions is misconduct, it is not clear whether there is an increase in the incidence of misconduct, an increase in awareness, or both. Authors, readers, reviewers, editors, publishers, and institutions all have responsibilities in detecting and managing misconduct and correcting the literature. To improve the situation, the incentives to fabricate need to be reduced, and rewards for authors, readers, reviewers, editors, publishers, and institutions who do the right thing should be increased. Every country needs to establish research integrity bodies to provide advice and oversight, collect data, and improve codes of practice.

Introduction: The Problem

More is invested in research than ever before, with about a million new publications being listed on PubMed each year. However, studies from industry that set out to test reproducibility found that as much as 90 % of the research published by academic laboratories cannot be reproduced (Begley and Ellis 2012; Prinz et al. 2011). Because repeatable experiments and observations are at the heart of the scientific method, this represents an enormous inefficiency. As well as wasting the time and resources of academic researchers, it has led to financial losses by pharmaceutical companies, both due to actions of the companies themselves and because of faulty information they have relied on. For example, after researchers at Baylor reported that a type of antihistamine called latrepirdine could improve symptoms in Alzheimer's disease (Doody et al. 2008), Pfizer spent \$725 million and carried out a clinical trial involving 600 patients, only to find that the drug did not work.

As John Ioannidis has convincingly argued (Ioannidis 2005), much of the lack of reproducibility might be due to publication bias and inappropriate statistical analysis. This, together with sloppily conducted science, probably accounts for the vast majority of the problem. However, it is clear that some of the errors in the literature, and the failure of research to be reproducible, is due to research misconduct, i.e., the deliberate fabrication or falsification of results. In surveys of researchers, about 2 % admitted to having done so themselves and a third admitted to other questionable research practices (Fanelli 2009).

For example, in 2003 the physicist Jan Hendrik Schön retracted no fewer than seven papers from *Nature* for scientific misconduct ("Retractions' realities" 2003), eight from *Science*, and a further six from *Physical Review* journals. In hindsight, there were abundant warning signs, such as his prodigious output. In 2001 alone he was listed as an author on 40 primary papers.

Similarly, it was implausibly high productivity that gave away cardiologist John Darsee. He authored five major studies in his first 15 months at Harvard, in the lab of renowned cardiologist Eugene Braunwald. Once the true story came out, he had

to retract 30 papers and abstracts from his time at Harvard and another 50 from his earlier time at Emory (Knox 1983). But even these numbers pale beside those of Joachim Boldt, who has about 90 retractions, and Yoshitaka Fujii, who has 183 (see <http://retractionwatch.com/category/yoshitaka-fujii/> and <http://retractionwatch.com/2014/01/16/another-retraction-for-former-record-holder-joachim-boldt/>).

Errors in research, whether due to misconduct or not, can waste money of governmental agencies; ~\$400,000 is the estimated loss for each paper that is retracted (Stern et al. 2014).

The problem of misconduct is not limited to academic laboratories. In 2005, *New England Medical Journal* belatedly published an expression of concern about a paper from Merck for failing to mention heart attacks in three patients in the trial of Vioxx (Curfman et al. 2005). In 2004, Merck withdrew the drug and settled legal action with a payment \$4.8 billion (Horton 2004) (<http://www.officialvioxxsettlement.com/>). In testimony to a Senate investigation, the FDA found that as many as 55,000 premature deaths might have been caused by Vioxx.

Two Aspects to Integrity in Research

For research to proceed efficiently, two aspects of scientific integrity need to be fostered. Firstly, there is the integrity of the scientific literature, which can accumulate errors due to inadvertent mistakes as well as due to deliberate falsification or fabrication of data, i.e., research misconduct. Secondly, there is the integrity of the scientists themselves, who need to act honestly both in how they generate and report data and in how they adhere to ethical regulations and how fairly they allocate credit. Plagiarism, for example – the use of another’s words or ideas without attribution – might not cause scientific errors to enter the literature, but it is classed as research misconduct, because it is dishonesty in the conduct of research. Similarly, self-plagiarism, in which authors publish the same work more than once, does not introduce errors into the literature, but is to unfairly claim credit for research productivity. Researchers also must act honestly when conducting peer review of papers and grant applications. If research is not perceived to be a fair process, and where cheating is tolerated, confidence in research as a career, and the willingness of people to engage in it and fund it, will be undermined.

Growing Number of Retractions

A bellweather of the problems in academic publishing has been the growing number of retractions. Journals can correct errors in the literature and alert their readers to problems in published papers, in three ways: they can publish a correction, they can publish an editorial note of concern, or they can retract the paper, either with or without the authors’ consent. The number of papers that are retracted can give an indication of the amount of misconduct, but it is only a very crude

measure, both because some papers are retracted due to innocent mistakes and because authors, journals, and institutions are reluctant to publish retractions because they feel it damages their reputations.

The Web site *Retraction Watch* (<http://retractionwatch.com/>) and the journal *Nature* (Van Noorden 2011) have both commented on the growing number of retractions. Is this due to increasing incidence, or increased detection, or both? Although a relatively small proportion of retraction statements say that the reason for the retraction was research misconduct, when Fang et al. followed up to determine the reason, they found that the vast majority (67 %) were for misconduct (Fang et al. 2012). In a subsequent paper, they attributed the increase in retractions to the lower quality controls for publishing flawed papers, increased detection (particularly of plagiarism), and a growing willingness of journals to retract (Steen et al. 2013).

The Difference Between Poor Practices Versus Misconduct (Intent)

Errors in the scientific literature, and the poor reproducibility of research findings, most likely occur for three reasons. Firstly, a small number of errors are just due to chance alone. If 20 laboratories all perform the same experiment, the lab with anomalous positive result might publish their findings, whereas the 19 other labs that did not make this observation would not even submit their findings. A much greater source of errors are those that arise from sloppy research with poor controls, lack of blinding, reagents that have not been validated, etc. These are the “flags” that Begley refers to in his commentary (Begley 2013). Lastly, there are the errors that arise from deliberate falsification or fabrication of data. These, together with plagiarism, are usually used to define “research misconduct,” and the critical element is *intent*, i.e., it was done in order to deceive.

Although all research misconduct shares the common features being both deliberate and dishonest, the seriousness varies enormously, from the very minor, such as deliberately failing to cite competitors, to the extremely serious, such as falsifying data that endangers the lives of human research subjects.

The Singapore Statement

In 2010, the Second World Conference on Research Integrity produced *The Singapore Statement on Research Integrity* (<http://www.singaporestatement.org/>). It provides a concise description of how researchers should behave, based on principles of honesty, accountability, fairness, and good stewardship. Among 14 listed responsibilities, it cites the importance of reporting findings fully, maintaining records, including as author all those and only those that meet the criteria applicable to the research field, giving credit to those who have contributed but are not authors, and declaring conflicts of interest.

Incentives

The main motivations for misconduct are, at their base, either financial or reputational. As fewer and fewer researchers are in tenured positions, and more and more rely on competitive grants to fund both their salaries and their laboratory costs, scientists know that if they do not keep publishing, their careers will be at an end. This is compounded when funding is based on non-objective measures or on simplified metrics such as volume of publications, rather than their quality. Similarly, students and postdoctoral researchers know that if their experiments fail, they will not get publications, and the next career step will be jeopardized. Foreign students and postdocs know that a successful experiment published in a prominent journal can lead to residency and citizenship and perhaps a tenure-track position, whereas experiments that fail to produce the hoped-for result will mean they have to return to their home country. Thus, the temptation to dishonestly generate experimental results is ultimately financial, but it is rarely to gain riches, more frequently to just keep a job (Kornfeld 2012).

Among more senior researchers, including those that have job security, there are strong incentives to build a reputation by consistently publishing in high-profile journals, to be invited to give plenary talks at international meetings, for membership of academies, and to be awarded prizes.

Such pressures have not only tempted researchers to fabricate papers, they have also led some to corrupt the peer review process, by tricking editors so that they act as referees for their own manuscripts (Ferguson et al. 2014).

The case summaries from the US Office for Research Integrity give some insight into how research misconduct occurs, how it is (sometimes) brought to light, and what sort of penalties are applied. For example, Dr. Jun Fu was a postdoctoral fellow at the University of Texas MD Anderson Cancer Center (<https://ori.hhs.gov/content/case-summary-fu-jun>). Having admitted to intentionally falsifying a figure in a research publication, he entered into a 2-year voluntary settlement agreement in which his research was to supervised and certified by his employing institution, and he could not sit on grant review committees. Adam Marcus and Ivan Oransky discuss the penalties handed down to those found guilty in an article in the *New York Times* (http://www.nytimes.com/2014/07/11/opinion/crack-down-on-scientific-fraudsters.html?_r=0).

Fabrication/Falsification

It is important to realize that there is a wide spectrum of severity of research misconduct. On the less severe end of the scale are practices such as intentionally failing to cite the work of competitors and citing your own work more frequently than necessary. Similarly, cropping out cross-reactive bands in Western blots or changing the white threshold of an image to “clean up” the background should not be done, because it alters the original data, but it is a relatively mild sin.

On the other end of the scale is generation of data by just making up numbers or generating false images by duplicating, altering, and relabeling other ones.

In determining the severity of the misconduct, or whether it is misconduct at all, it is important to determine the degree of intent, although this is not always easy.

Figures in papers are often comprised of many similar-looking parts, whether they be photomicrographs, gels and blots, flow cytometry plots, or traces from a patch-clamp amplifier. It is therefore always possible for someone to inadvertently grab the same image file twice, leading to a duplicated and wrongly labeled part of a figure. On the other hand, if many duplications are found in the figures in a paper, and they also involve rotations, differential cropping, or mirror images, and if similar anomalies are also apparent in other works by the same authors, deliberate falsification or fabrication is much more likely. With increased pressures to publish, and the availability of image processing software, the temptation to cut corners and artificially generate the desired result has never been greater (Rossner and Yamada 2004). Hundreds of examples can be found on the post-publication peer review site PubPeer (<https://pubpeer.com/>). However, although sites such as this can alert readers to concerns about research papers and can provide very strong evidence, they do not provide proof of intent or reveal which of the authors on multi-author papers bears responsibility. For this, action is required either by the authors themselves or through the establishment of an inquiry by their institution.

For the last decade or so, many journals have explicitly stated in their guidelines to authors what kinds of image manipulation are acceptable and which are not. The *Journal of Cell Biology* (JCB) has shown leadership in this area (<http://jcb.rupress.org/site/misc/ifora.xhtml>). Currently, however, even those journals that do have clear guidelines vary in how rigorously they ensure compliance or publish corrections when authors infract.

Stealing Credit

The importance of obtaining credit for work is illustrated by the frequency and vehemence of authorship disputes. Papers are the primary currency of research, and authorship is therefore the main mechanism for determining how credit is allocated. Authorship therefore gives benefits but also carries responsibilities (Strange 2008).

Like other forms of misbehavior, authorship issues can range from the trivial to the serious, with plagiarism – the taking of another’s words or ideas without attribution – being classified as “research misconduct,” along with fabrication and falsification. The reason authorship is so important is because it is the currency that determines not only honors such as prizes and membership of academies but also the grants and fellowships that pay the researcher’s salary.

In life science publications from academic institutions, the first author is usually the student or postdoc who did most of the hands-on experimental work. The last author is typically the laboratory head. Usually, authors in between will be closer to the first position if they have contributed experimental data and closer to the last position if they have provided analysis and writing.

Peter Lawrence highlighted the problem of misallocation of credit in a Commentary in *Nature* in 2002 (Lawrence 2002). He listed many examples of where senior researchers, who were not even present when discoveries are made, nevertheless received the accolades for the breakthrough, often to the exclusion of their more junior colleagues who actually did the work. This phenomenon has been termed “The Matthew Effect” (Merton 1968). Merton compared the inappropriate flow of credit from junior researchers who produce the work to senior researchers who do not:

For unto every one that hath shall be given, and he shall have abundance: but from him that hath not shall be taken away even that which he hath. Matthew 25:29

Although there have been calls for many years to improve the unfair power structures that operate in science to determine how credit is allocated (“On being a scientist. Committee on the Conduct of Science, National Academy of Sciences of the United States of America” 1989), little change has occurred.

Ghost and Honorary Authorship

Two of the unethical ways in which authorship is corrupted are known as *ghost* and *honorary* authorship. Ghost authorship is when someone who would fulfill the usual requirements to be listed as an author – namely, to have provided substantial intellectual input to a paper – is not named among the authors. Pharmaceutical companies have used ghost authorship as a way of hiding their role in a publication. For example, Merck was accused of using ghost writers for papers published about its antiarthritic drug Vioxx, which allowed them to avoid disclosing relevant financial relations (Ross et al. 2008).

Honorary authorship is when an author is listed without having fulfilled the usual requirements to justify their inclusion, i.e., where they have not made a substantial intellectual contribution to a paper. Sometimes when drug companies write papers, they offer honorary authorships to “opinion leaders” so in order to influence clinicians. For example, internal documents released by Wyeth to an inquiry by the US Senate showed that they commissioned papers about their hormone replacement drug Premarin and then recruited prominent clinicians to act as the authors, whereas those from Design Write, the company that wrote the papers, were not listed (<http://www.grassley.senate.gov>).

Honorary inclusion as an author can also be claimed by department or laboratory heads for work that they have not produced themselves, or it can be offered to friends or collaborators to curry favor. The honorary inclusion of a famous person or someone known to the journal’s editors can increase the chances that a paper is sent out for review. Honorary authorship on one paper can be offered by a group leader in exchange for honorary inclusion as an author on another group’s paper.

Whether honorary or ghost authorship is classed as research misconduct varies among nations. In the *Australian Code for the Responsible Conduct of Research*,

obtaining grant funding, general supervision, or provision of reagents from third parties in and of themselves does not justify inclusion as an author, and, moreover, inappropriate authorship is listed as an example of research misconduct. In contrast, in the USA, authorship issues (other than plagiarism) are not considered to be misconduct by the Office for Research Integrity.

In a positive move, many journals are now adopting the practice of listing the specific contributions of each author. This discourages honorary authorship and makes it easier to know who should receive the most credit, and, if an error is subsequently found in the paper, it helps to determine who might be responsible. For example, in the paper by Kapoor et al. (2014), there are 30 authors listed, but the “Author Contributions” section mentions only three, revealing which of the authors contributed.

What to Look for (Red Flags)

People can become aware of accidental errors, or possibly deliberate research misconduct, in two ways. Firstly, they can become aware if they notice misbehavior of a colleague or a co-author. Alternatively, they might see something as a third party, when they are reading a paper and reviewing a manuscript for a journal or when they are acting as an editor.

Whether it is before a paper is written or after it is submitted and published, the earlier errors are noticed and corrected the better. When criticizing work at lab meetings, during manuscript review, or when reading published papers, there are a number of “red flags” that can signal sloppy science or possible misconduct.

Similar text, that may amount to plagiarism, can be detected by simple Google searches or by commercial software that is available at many institutions (e.g., “iThenticate” (<http://www.ithenticate.com/>) and “Turnitin” (<http://turnitin.com/>)).

Sloppy statistics, such as failing to describe the type of error bars that are shown in figures, or results that look implausibly consistent can be a giveaway.

Images should be looked at on a computer screen, rather than on a printed copy, because the resolution is greater, it is possible to zoom in, and the contrast and brightness can be altered. Things that should raise concern include sudden linear changes in brightness of the background of an image, a washed-out or perfectly uniform background, inadequate resolution, or parts of an image that appear to be duplicated. For more examples, see PubPeer (<https://pubpeer.com/>) and papers by Vaux and Begley (Begley 2013; Vaux 2008).

Researchers have a duty to take action if they become aware of errors or possible research misconduct. If they notice a mistake in one of their own publications, they should write to the journal and ask them to publish a correction or, if the mistake affects the conclusions of the paper, ask for it to be retracted. If a colleague is suspected of error or misconduct, the action to take would depend on the specific circumstances, such as whether it involves a publication or not, whether the colleague is more senior or junior, and whether the error is thought to be accidental

or deliberate. Well-run institutions have mechanisms in place so that researchers can easily obtain advice on what to do.

If an error is found in a publication by a third party, the options are to contact one or more of the authors, a responsible person at the host institution, and the journal editors, post a post-publication peer review comment on the Web, and/or contact the national integrity office (if there is one).

Peer Review and the Responsibilities of Journals

In the general journals (e.g., *Nature*, *Science*, *PNAS*), and most of the life science journals, manuscripts are submitted online (via the Web) and are first seen by a member of the editorial board. In the high-profile general journals, the editors will be full-time paid employees of the publisher. In the other journals, the editors are usually part-time, and may be paid or volunteers, but will usually be prominent researchers with expertise in the field covered by the journal.

The first decision the editor needs to make is whether to send the manuscript out for review. Although in an ideal world this decision would be made on the basis of the scientific content of the paper, editors are often busy and make a decision without reading the paper, but just on the basis of the title and abstract, and whether the authors are known to them, or come from an institution they respect. In the high-profile general journals, this arises much more frequently, because here the editors will seldom have deep expertise in the area the paper addresses. In other words, publication bias can arise because the editors often do not base their decisions on the science alone. The influence particular authors can have on the decision to consider a paper for publication and the biases against papers from authors or institutions that are unknown to the editors are illustrated by the Korean stem cell case.

In years prior to publication of the papers that were later found to be fabricated, Korean stem cell expert Dr. Woo Suk Hwang had trouble publishing his work in high-profile journals. They would usually refuse to even send his manuscripts out for review. When Hwang met Dr. Gerald Schatten, a prominent stem cell researcher from the University of Pittsburgh, he offered to help Hwang get his papers published in journals such as *Nature* and *Science* in exchange for being listed as an author. When the story subsequently broke that the two papers in *Science* had been fabricated, Schatten's defense was that he had not participated in or overseen any aspect of the work and had not interacted with most of the scientists that did the experiments. He also claimed to have minimal involvement with another co-authored paper in *Nature* (Marris and Check 2006). The lesson from this episode is that there is bias in what gets published. Acceptance of a paper – especially in the high-profile journals – is based more on who the authors are and where they come from, rather than the quality of the scientific content.

In this single-blind process, which operates in most scientific journals, the same problem arises with the reviewers. If an editor does send a manuscript out for review, knowing who the authors are might influence whether they choose

reviewers who they think are extra tough or extra lax. When the reviewers receive the manuscript, the first thing they will look at will be the names of the authors, and if they are known to them, or are collaborators or competitors, it might influence their attitude to the paper.

In the 19th February 2004 edition of *Nature*, there were ten papers with figures that showed error bars, but only three of the papers described what the error bars were anywhere in the paper (Vaux 2004). This suggested that seven of the ten papers had not been carefully read by the authors, reviewers, or editors. Clearly, as the decision to publish had been made without the papers being carefully read, it was based on some other reason. The most likely explanation is reviewer and editor bias.

Journals Should Screen the Data in All Accepted Papers Prior to Publication

Journals play several important roles in ensuring the integrity of scientific research. They have the final say in publishing corrections, editorial notes of concern, and retractions. As gatekeepers for what gets published, they can prevent erroneous or falsified papers from appearing, but to do so they must operate a rigorous peer review process. If journals are alerted to potential problems by reviewers or readers, determining the validity of the allegations and which of the authors is responsible usually requires cooperation with the authors' institutions, but this might not be requested and, if it is, might not be granted.

With leadership from Dr. Mike Rossner, the *JCB* has been innovating in adopting methods to prevent publication of erroneous figures (Rossner 2006). The *JCB* routinely screens the images and figures in all manuscripts accepted by the reviewers but prior to publication, looking for inadequate resolution, sudden changes in brightness, loss of visibility of the background, over-enhancement of contrast, etc. They find that for 25 % of papers, they need to ask the authors for the original data and to remake a figure, and in about 1 % of cases, they revoke acceptance. Practices at other journals vary – *Nature* checks the images in just two of the articles in each edition; *Science* relies mainly on its reviewers to identify problems; the *Journal of Biological Chemistry* has adopted many of the same author and review guidelines as the *JCB*, but does not routinely ensure compliance (Couzin 2006). However, almost all journals have now at least published image guidelines, so authors will know up-front what minimal resolution is acceptable, whether or how images can be altered, cropped, and spliced and how statistics should be described.

COPE

COPE, the Committee on Publication Ethics, has been a great source of advice for journal editors since its establishment in 1997. Although its mandate is limited, and it was established by journal editors to help other editors, its efforts have raised the

standards of publication integrity and also provided benefits that have flowed on to authors, publishers, and institutions. For example, the COPE flowcharts, which give step-by-step recommendations on how to handle a variety of misconduct related issues, have been helpful to countless editors and have also helped whistle-blowers and authors know what to expect (<http://publicationethics.org/resources/flowcharts>).

Responsibilities of Institutions

The way the host institution manages allegations of research misconduct is critical, but is often handled suboptimally, not least due to conflicts of interest (such as fear of reputational damage) and lack of experience and established protocols.

In trying to avoid reputational damage when a case of research misconduct becomes public, an institution can risk even greater damage by engaging in a cover-up. Yet the institutions play an essential role, because unlike the publishers and readers of research papers, the institutions have access to the authors' original data and can individually interview each of the authors to try to determine which ones were responsible for any mistakes or misconduct.

Institutions can hear of concerns of possible research misconduct from outsiders, such as journal editors or reader of papers or grant applications, or they can be contacted by a whistle-blower who might also be a member of the same institution or even a close colleague of the persons being accused. In many countries, the investigations have two phases. First, there is a preliminary investigation and collection and securing of evidence. The main goal of this state is to determine whether the allegations do not have substance and can be dismissed. If the case cannot be dismissed, then the investigation should continue to a more thorough stage.

Unless the case can be summarily dismissed, e.g., because it is apparent the allegations were mistaken, issues that now need to be addressed on a case-by-case basis include: is it possible to proceed as anonymous allegations, or does the name of the accuser need to be revealed? When is it best to inform the person against whom the allegation is made? What sort of supporters and advisors should be appointed to council and assist both the complainant and the accused? Which people should be interviewed and who should be present? Should the investigation be external and independent or internal? At what stage should other interested parties, such as funding bodies and journals, be informed? Do any expert investigators or witnesses need to be consulted? Who should be indemnified? When and what kind of legal advice should be sought?

Much useful advice on conducting investigations can be found at the ORI site (<http://ori.hhs.gov/investigations>). As outlined in this website, the key goal of the investigation is to substantiate or refute the allegation. The investigation must be carried out without regard to the motivation or status of the accuser, and the inquiry panel is responsible for gathering and assessing the evidence and conducting the case. The burden of proof lies with the inquiry panel, not the accuser. The terms of reference for the inquiries should not be set narrowly, so that if, during their

investigations, the panel uncovers additional evidence of misconduct, they can extend their investigations until all related instances of misconduct are uncovered.

Once the inquiry panel has made its findings of fact, the host institution has to determine the best way for restitution. The institution bears responsibilities to the scientific public and the journals, that can be fulfilled by correcting or retracting publications. They also have responsibilities to funding bodies, that might involve alerting them or returning funds. They have a responsibility to those who have been found to have engaged in misconduct and to provide sanctions that are proportionate and, ideally, a path for reform. If mistreatment of animal or human research subjects was involved, they have a responsibility to determine what went wrong in their governance, so that similar failures will not be repeated.

Unfortunately, when an allegation is forwarded to an institutional official, they may not have much experience in handling such cases. Where there is a national office or ombudsman for research integrity, they can seek advice from them, but in countries where there is no such body, institutional officials administering cases of potential misconduct can find themselves alone, which makes mistakes much more likely.

Considering the two aspects of research integrity (integrity of the scientific record and integrity in the practice of science) in cases of research misconduct, the role institutions can play in upholding the former is more straightforward, as it will involve publishing corrections or retractions, but in this case a cooperative relationship with the journals is essential. COPE has published guidelines for cooperation between research institutions and journals on research integrity cases (Wager and Kleiert 2012). They recommend that institutions:

- Have a research integrity officer (or office) and publish their contact details prominently;
- Inform journals about cases of proven misconduct that affect the reliability or attribution of work that they have published;
- Respond to journals if they request information about issues, such as disputed authorship, misleading reporting, competing interests, or other factors, including honest errors, that could affect the reliability of published work;
- Initiate inquiries into allegations of research misconduct or unacceptable publication practice raised by journals; and
- Have policies supporting responsible research conduct and systems in place for investigating suspected research misconduct.

The path to upholding integrity in the practice of science is less straightforward. The overarching principle is that research should be conducted honestly, and credit should be awarded fairly (“On being a scientist. Committee on the Conduct of Science, National Academy of Sciences of the United States of America” 1989). For this, education and classes in research integrity principles will have less impact than having researchers and administrators lead by example, by having procedures in place to handle allegations of misconduct and to manage such cases efficiently, and by not tolerating those who cheat. Those in countries with research integrity offices or ombudsmen have a source of advice on how to make allegations of

misconduct and how to conduct investigations. Integrity offices also provide oversight to ensure allegations of misconduct are handled appropriately. In some countries, such as the USA and UK, the national science academies play an active leadership role in upholding research integrity, for example, by publishing articles on research ethics and mentoring such as that mentioned above or by discussing research ethics online (<http://blogs.royalsociety.org/in-verba/author/elizabethb/>). Others should follow their example or set even higher standards.

Institutions are wise to have procedures in place that anticipate the occurrence of research misconduct. Relying on education and the promotion of integrity principles on their own are unlikely to prevent all occurrences of research misconduct (Kornfeld 2012), but require measures to ensure compliance. Heavy-handed, restrictive “big brother” approaches are expensive to implement and are likely to cause resentment. The “fire alarm” approach to handling misconduct is both cheap and likely to be effective.

In the “fire alarm” model, researchers are not required to know how to investigate and manage cases of misconduct themselves, they are just required to “push the alarm button” to summon help when they see something that causes them concern. The key requirements of this model are that everyone must know how to sound the alarm, and once the alarm is sounded, the institution must have protocols in place to take action. The “fire alarm” model is relatively cheap to operate (e.g., compared to a surveillance model), empowers whistle-blowers, and is less likely to generate antagonism with administrators than other systems. In addition, as colleagues are most likely to spot problems, have the knowledge to distinguish what is acceptable in their particular field, and may see things early, the fire alarm model is more likely to minimize the amount of damage that occurs. While the fire alarm model could, like all other models, be abused, for example, if opponents of a scientist make multiple complaints as a form of harassment, whether action is taken against the accused person, or whether they are even informed of the allegation, would depend on the nature of the allegation and the strength of the evidence provided by the whistle-blower or as part of a preliminary investigation.

Roles and Responsibilities of Whistle-Blowers/Individuals

As written in the *Singapore Statement on Research Integrity* (<http://www.singaporestatement.org/>), researchers have a duty to report to the appropriate authorities any suspected research misconduct and other irresponsible research practices that undermine the trustworthiness of research.

The best way for researchers to fulfill this duty is complex and depends greatly on circumstance. Issues that need to be considered include:

- Anonymity (whether the whistle-blower’s name needs to be revealed);
- Who to raise concerns with (journal editors, authors, institutional officials, national research integrity offices, department heads, the individual who is suspected, PPPR blogs such as PubPeer, or PubMed comments, funding bodies);

- The position of the whistle-blower in the hierarchy;
- Whether delay could cause harm to human subjects or experimental animals;
- The nature of potential conflicts of interest; and
- The prevailing legal environment and whether it protects free speech.

Just as all researchers have a duty to report concerns of possible research misconduct, all would be wise to seek advice first. A search of the Web provides links to many national whistle-blower organizations.

In Australia, *the Code for the Responsible Conduct of Research* states that institutions must appoint one or more “advisers in research integrity,” so that those who have concerns can get confidential advice. The advisers inform the individual what options they have and, for example, how to make a formal allegation. The adviser’s role is one of support; they are not to investigate the case.

The Way Forward

The increasing numbers of retractions indicate a growing awareness of issues of research integrity and new avenues for reporting concerns. The Web has made anonymous post-publication peer review possible, in sites such as PubPeer. Individual scandals have prompted the strengthening of practices that promote research integrity in a number of countries, and this has led to establishment of offices for research integrity (ORIs) or research integrity ombudsmen. It has culminated in the series of World Research Integrity Conferences (<http://wcri2015.org/>) every few years, since the first in Portugal in 2007.

The Promise of the Web

In recent years, alarm about falling integrity in science has prompted a number of positive responses. The growth in the Internet has made it possible for bloggers to raise concerns anonymously. For example, it was concerns initially raised in a blog, and then publicized in the popular media, that ultimately led to the retraction of the Woo Suk Hwang’s stem cell paper (Kennedy 2006). Blogs reporting allegations of research misconduct, such as the Abnormal Science blog (<http://ktwop.com/tag/abnormal-science/>), 11jigen’s blog (<http://katolab-imagefraud.blogspot.com.au/>), and Paul Brooke’s science fraud blog (which was closed down following legal threats), have given way to more organized post-publication peer review sites, such as PubPeer (<https://pubpeer.com/>). PubPeer allows concerns about any published paper to be raised anonymously and automatically contacts the authors and invites them to respond. PubPeer has itself been threatened with legal action demanding that it release the names of registered commenters, but the strong freedom of speech laws in the USA give more protection than in other countries.

World Conferences and National Offices for Research Integrity

There have been four World Conferences on Research Integrity (<http://www.researchintegrity.org/>). These not only provide an opportunity for researchers, administrators, editors, and publishers to air their issues and propose possible solutions, they provide an opportunity for the latest research into scientific integrity to be discussed. The Second World Conference on Research Integrity in Singapore produced the Singapore Statement (<http://www.singaporestatement.org/>) which succinctly describes 14 responsibilities of scientists and how they flow from a set of four principles.

Several countries have established national offices for research integrity (ORIs) or ombudsmen for research integrity. The ORI in the USA (<http://ori.hhs.gov/>) will oversee any allegation of misconduct involving NIH-funded research in the previous 5 years. The NSF has a similar office where concerns can be lodged (<http://www.nsf.gov/oig/hotline.jsp>). In Germany, the DFG has an Ombudsman for research integrity (<http://www.ombudsman-fuer-die-wissenschaft.de/>). Denmark has a Committee on Scientific Dishonesty (<http://ufm.dk/en/research-and-innovation/councils-and-commissions/the-danish-committees-on-scientific-dishonesty>). Those countries that do not have a national office that can handle confidential reports of possible research misconduct leave its management in the hands of the research institutions, where serious conflicts of interest almost inevitably arise.

Improving Scientific Integrity in Publishing

Double-blind peer review (DBR) offers one way of reducing publication bias. In DBR, the authors' names and affiliations are submitted on a Web page that is not presented to the editor who decides whether the paper should be sent out for review or the reviewers themselves. They are left to give their opinions on the merits of the science alone, not on whether they know the authors. Like the double-blind clinical trial, DBR is an innovation that attempts to reduce bias and increase objectivity in scientific publications (Vaux 2011). Post-publication peer review, whether on a dedicated site such as PubPeer, as part of PubMed Commons (<http://www.ncbi.nlm.nih.gov/pubmedcommons/>) or on a site hosted by the publisher, should improve integrity of the literature and de-emphasize the published paper as the be-all and end-all of career advancement.

Summary

Although it remains true that science is ultimately self-correcting, society as a whole will benefit more, and progress will be more rapid, if research is conducted efficiently. To do so requires minimizing the number of errors that enter the literature and quickly correcting those that inevitably do. Research will also be

performed more efficiently if those who conduct it are fair and honest. However, as a human endeavor, science must be managed actively for its integrity to be upheld. This requires not only a bottom-up, “grass roots” effort based on principles of honesty and fairness, it also requires some top-down mechanisms to ensure compliance. There must be mechanisms in place so that errors and concerns of possible misconduct can be reported. Publishers should try to minimize entry of errors into the literature by screening manuscripts and using unbiased peer review and should cooperate with institutions when problems arise. Nations and national scientific academies should provide mechanisms to offer advice and oversight for research institutions. Researchers need to have integrity in how they conduct themselves, and whether it is through official channels or anonymously via the Web, when they see errors or have concerns about possible misconduct, they should, after seeking advice, speak up.

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Plagiarism, Misrepresentation, and Exploitation by Established Professionals: Power and Tactics

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Brian Martin

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Abstract

Many academics and other professionals are implicated in plagiarism, misrepresentation, and exploitation, yet research about this is limited compared to the large body of research on student cheating. In what can be called competitive plagiarism, academics, judges, politicians, journalists, and others use the words and ideas of others without adequate acknowledgment. Misrepresentation occurs when professionals inflate or manufacture their credentials and achievements in curricula vitae, job applications, and media releases. Intellectual exploitation involves taking credit for the work of others in a routine fashion. Examples include ghostwriting and managers taking credit for the writings and ideas of subordinates. This sort of exploitation fits the normal definitions of plagiarism but this label is seldom applied; it can be called institutionalized plagiarism.

Understanding the persistence of intellectual exploitation can be understood by examining the tactics commonly used by plagiarizers to reduce outrage over their actions. These include cover-up, devaluation, reinterpretation, official

B. Martin (✉)

Humanities and Social Inquiry, University of Wollongong, Wollongong, NSW, Australia
e-mail: bmartin@uow.edu.au

channels, intimidation, and rewards. Powerful plagiarizers have access to most or all of these techniques, whereas student plagiarizers usually can use only cover-up and reinterpretation. The existence of institutionalized plagiarism depends on a lack of questioning of exploitative systems.

Introduction

Most of the extensive research on plagiarism concerns students. Yet plagiarism can also occur after students graduate or obtain academic positions. There are numerous documented cases of plagiarism by established academics as well as by other professionals, many of whom have university degrees and are supposed to know better. Though cases are sometimes reported in the media or academic journals, there is hardly any systematic research into the levels and significance of plagiarism by established professionals. Therefore, the most that can be done initially is to describe some of the many types of problems and responses to them.

Accepted integrity principles in scholarship and in intellectual work more generally, outside academia, include honesty, transparency, fairness, and accurate representation. Honesty involves reporting findings accurately and seeking to tell the truth at all times. Transparency, a related concept, refers to being open about dealings, for example, fully reporting research methods and potential conflicts of interest. Fairness to collaborators means giving them appropriate credit via co-authorship or acknowledgments; fairness to prior scholars can be provided by giving suitable citations. Accurate representation includes appropriately recognizing one's own accomplishments in research, teaching, and administration. This all may seem straightforward, but many standard practices actually encourage violations of these principles.

Integrity shortcomings among established professionals can be classified into three types: plagiarism, misrepresentation, and exploitation, though there are many overlaps between these. In this categorization, "plagiarism" refers to competitive plagiarism, in which a professional uses ideas from someone else in violation of the norms of behavior in the field. For scholars, this means using words or ideas from other scholars without appropriate acknowledgment. It also includes plagiarism in other occupations, such as by judges, politicians, journalists, diplomats, and businesspeople.

The most well-known type of misrepresentation is fraud, such as altering or manufacturing data. Misrepresentation also includes practices such as padding curricula vitae with accomplishments that are invented or overstated and claiming nonexistent degrees or degrees from nonaccredited institutions. Then there is hyperbole in claims made in job, promotion, and grant applications and in media releases about discoveries, as in the claims frequently heard about contributing to a cure for cancer. Several types of misrepresentation appear to be commonplace in many organizations and occupations, yet they are hardly ever stigmatized with the label "fraud."

The third category of integrity shortcoming can be called exploitation. Examples are taking credit for the work of students (as in honorary authorship), ghostwriting,

and bosses or leaders taking credit for the work of subordinates. Exploitation also can be called institutionalized plagiarism, because it satisfies all the normal characteristics of plagiarism, yet rarely is seen as problematical in the same way as student cheating. When a university president gives a speech written by a staffer, without giving acknowledgment to the author, this is seldom called plagiarism.

Understanding the existence and perpetuation of these integrity violations can usefully be addressed through studying common tactics used by perpetrators: cover-up, denigration of opponents or targets, explanations, formal procedures, intimidation, and rewards. These sorts of tactics are potentially involved in all integrity matters, but the full gamut of tactics is more likely to be observed when perpetrators are powerful.

Competitive Plagiarism

The following statement appeared in the preface to a book:

An earlier version of the first five chapters, which I had sent to several professional colleagues for their critical comments some years ago, was published without my knowledge or consent by one of them in a book of his own. (Parenti 1978, p. x)

Some established scholars use subtle or brazen techniques to take unfair advantage of the work of others (Mallon 1989). In the category of competitive plagiarism, others working in the same field are common targets. For example, a senior scholar may be invited to referee a paper and, noticing an original idea in it, write a paper using the idea and, using connections, get it published before the author of the paper being refereed – especially if this senior scholar recommends rejection of the plagiarized paper. Similar sorts of plagiarism of ideas can occur via casual conversations, seminars, and informal briefings. Stories circulate about such practices and about scholars to avoid, but there is little systematic evidence. Most of those targeted by such techniques do not make a fuss, especially if they remain in the same field as the offending senior scholar. Marek Wronski, a Polish medical researcher, has exposed a large number of scholars in Europe for copying the work of others in their theses and publications, reporting on his findings in a long-running monthly column in the Polish magazine *Academic Forum* (some English translations are available at <http://www.bmartin.cc/dissent/documents/Wronski/>). Similarly, Debora Weber-Wulff (2014) has documented dissertation plagiarism in Germany, with many academics and politicians implicated.

Competitive plagiarism also occurs in other professions and occasionally leads to exposés. For example, judges may use unattributed text in their written judgments, journalists may copy the work of others, and businesses produce texts and other materials based on uncited sources. Politicians in their speeches may draw on the writings or speeches of others, including other politicians, and sometimes are called to task for their unacknowledged borrowings.

Competitive plagiarism among established professionals is probably more common than generally recognized, but also easier to deal with, especially when word-for-word copying is involved, because this is ever easier to detect due to the availability of improved software for digitizing publications and text-matching, with plagiarism via translation of texts in other languages providing a set of special challenges (Sousa-Silva 2014). Even a small incidence of plagiarism can have damaging consequences, because scholars become hesitant to share their ideas for fear they will be exploited by others. Plagiarism by professionals therefore deserves greater attention.

It should be noted that some plagiarism of ideas happens unconsciously: a researcher hears about a new concept, evidence, or approach and later forgets the source of the idea, thinking it is original, something called cryptomnesia. This raises the question of how often ideas are truly original: many ideas developed by scholars are the product of an accumulation of influences from reading, seminars, observations, discussions, and casual conversations. Documenting and properly acknowledging all these influences would be an enormous and perhaps impossible task. Word-for-word plagiarism is simpler to detect and, as a violation of integrity, less problematical.

Authors of books often provide detailed acknowledgments to those who have helped them in various ways. On the other hand, many authors of journal articles do not attempt to offer such acknowledgments beyond what is implied by formal citations. This can be confirmed by examining articles in refereed journals and noting that many authors do not acknowledge the comments of reviewers or anyone else.

Misrepresentation

Some academics misrepresent their achievements, for example, their stature in the field, their degrees, their publications, their teaching performance, their workload, and their contributions to governance. A key location for such misrepresentations is the curriculum vitae, which is supposed to be a fair account of a person's achievements. Some CVs list degrees that were not obtained (Attewell and Domina 2011), degrees that only involved payment of a fee, but presented as legitimate (Brown 2006), or degrees as conferred that are only pending. In a list of publications, the scholar may be incorrectly listed as first author; sometimes co-authors are omitted entirely. Publications are sometimes said to be "in press" when they have only been submitted. In many fields, books are considered significant contributions; misrepresentation can occur by listing edited books as authored books or listing article-length reports as books. A CV may suggest that a person is responsible for bringing in research grants, when actually others did most of the work; sometimes non-existent grants are listed. In the text in CVs, individuals can exaggerate the significance of their research accomplishments, their contributions to course design, and their teaching experience. For example, a few guest lectures might be made to appear as running an entire course. It is common for poor teacher evaluations to be

omitted; more serious is when evaluation figures are altered. Concerning administrative duties, routine committee membership may be presented as a significant contribution to leadership, short-term administrative positions presented as ongoing or substantive, and credit taken for the administrative accomplishments of others.

Another type of misrepresentation is hyping of research findings. Such exaggerations are common in grant applications and media releases.

Some sorts of misrepresentation are more serious than others. Falsely claiming a degree is more serious than failing to list co-authors of a published paper. Some sorts of misrepresentation are easier to detect than others: details of publications can be checked by consulting journals, whereas obscure conference publications may be hard to track down. Degrees can be verified through requesting diplomas and by contacting conferring institutions. However, selection committees and grant committees often do not have the resources or time to check details in applications, so a great deal of misrepresentation escapes detection. A few well-known intellectuals, for example, Bruno Bettelheim, have fashioned careers based on extensive misrepresentation, only to be exposed much later (Pollak 1996).

Another important factor is that few individuals have an objective perspective on their own accomplishments. When co-authors evaluate their contributions to a research paper, each one is more acutely aware of their own efforts and input than of their co-author's, so each of several co-authors may say they did more than half the work. The same sorts of misperceptions occur in shared teaching.

In administrative tasks, contributions are even harder to evaluate, so exaggerations can develop and persist with little possibility for verification. An independent investigator might ask each member of a committee for an assessment of contributions and attempt some sort of reconciliation of differences in perception, but such investigations are rare. Some academics believe sincerely that they have made important administrative contributions while their colleagues see something quite different, which may include serious shortcomings or even abuses. Misrepresentations thus can result from self-deception, often resulting from confirmation bias based on an initial self-exaggerating perception. Those in senior management positions are especially susceptible to this, because subordinates, in order to please their superiors, may not offer feedback to correct delusions and moreover may even feed such beliefs through false flattery (Trivers 2011).

A few forms of misrepresentation, such as fake degrees, are stigmatized and if exposed can seriously damage an academic's career. Other forms, however, such as exaggerating contributions to publications, grants, supervision, teaching, and governance, are commonplace. Yet misrepresentation can advance an academic's career by giving a slight but crucial edge in applications for jobs, promotions, and grants. Applicants may realize that being scrupulously honest can undercut their prospects and hence may join in subtly exaggerating their achievements in order to level the playing field.

Penalties for lower-level misrepresentation are rare, going by the lack of publicized examples. Although hyping the significance of research findings is routine, scholars are not often castigated for this, except when they work in controversial fields where they are subject to scrutiny by opponents.

In summary, academic integrity includes giving a fair presentation of one's scholarly achievements, but various forms of low-level misrepresentation are common and seldom stigmatized, much less penalized. A few types of misrepresentation – notably altering or manufacturing data – are treated as major violations and called fraud, while the garden-variety forms of misrepresentation usually escape censure (Martin 1992). Colleagues might notice them but say nothing.

Exploitation

Intellectual exploitation occurs when systems of work routinely lead to misallocation of credit (Martin 1994). Exploitation involves institutionalization of what would elsewhere be called plagiarism. In many types of exploitation, those who are exploited may willingly enter the arrangements or simply acquiesce because they do not know any better.

Some scholars take credit for the work of others through arrangements that are, in some places, standard practice. Common targets include students, research assistants, and spouses, particularly wives (Martin 2013). Research students are prime victims, because they are subordinate to their supervisors and are doing publishable or near-publishable work. A supervisor may simply expect to be a co-author of papers while having done little or none of the work and may even claim sole authorship of a student's work (Witton 1973). For example, a supervisor, without informing the student, may give talks at conferences and submit articles to journals or even publish a student's thesis as their own book. In some places, this would be seen as a serious ethical violation (and such practices would be seen as competitive plagiarism), but in others it is standard practice and students may be unaware, not care, grudgingly acquiesce, or treat this as a necessary prelude to their own academic advancement, looking forward to exploiting their own students.

Some senior scholars fund teams of students and assistants who collect references, write drafts of text, check facts, and proofread text, while the scholars assert sole authorship (Russell 2007). In other cases, textbooks are written by staff paid by publishers, and suitably positioned academics are recruited to be the official authors (Coser et al. 1982; McCrostie 2009).

In some labs, the team leader brings in the money for equipment, salaries, and scholarships and in turn expects to be a co-author of most or all papers written, regardless of any contribution to or even familiarity with the work. This practice is widespread despite the efforts of some editors to insist on prerequisites for co-authorship. Targets for exploitation in such circumstances include students, research assistants, postdoctoral fellows, and sometimes even fairly senior scientists. This sort of exploitation is perpetuated by expectations of grant bodies: the chief scientist in applications needs to demonstrate extraordinary productivity. Those who are scrupulously honest and renounce co-authorship when it is not warranted may jeopardize their prospects for grants and thus imperil the careers of others on their teams.

Spouses, especially wives, can be victims of exploitation, and often they do this willingly. In what has been called the “two-person career,” one partner in a marriage has a position and reputation, while the other partner contributes in many invisible ways (Papanek 1973). This includes not only household support tasks of cooking, cleaning, and child-rearing but also significant intellectual contributions including developing research ideas, collecting data, finding references, writing sections of papers, revising drafts, and proofreading. The scale of contributions would in other circumstances warrant co-authorship, but one or both partners avoid such recognition in order to serve the advancement of one of them (Fowlkes 1980; Fuegi 1994; Spender 1989, pp. 140–194). For example, Aurelia Plath in her book *Letters Home*

writes movingly of having done all the reading and note-taking for her husband’s book, then having written the first draft, and at last having put the manuscript into “final form” for the printer. At some point in this process Otto Plath revised a bit and inserted a few notes — including adding his name on the title page as sole author, a regrettably not uncommon practice. (Morgan 1977, p. 192)

Ghostwriting

A special form of institutionalized plagiarism goes by the name of ghostwriting, which typically involves an anonymous or under-credited author, called a ghostwriter or ghost, who writes much or all of a work, with most or all of the credit going to someone else. When celebrities, such as sports or movie stars, publish their autobiographies, these are often actually written by ghostwriters who are paid to write or extensively rewrite and edit the text. A ghostwriter might rely on interviews with the nominal author, or collect information from a range of sources, and then prepare a text that sounds as if it had been written by the celebrity. There are even manuals about making a career out of ghostwriting (Shaw 1991); their existence attests to this being an accepted practice.

In some cases, ghosts receive partial credit. For example, Alex Haley was credited with assisting in the writing of *The Autobiography of Malcolm X* (X with Haley, 1965). In other cases, the contribution of the ghost is included in the acknowledgments but not in the author line or omitted entirely. Occasionally, the nominal author may comment publicly that they have yet to read their own autobiography. If anything less than full credit is provided, the ghostwriter is, according to standard definitions, being plagiarized, even when the ghost takes the initiative in the arrangement.

However, few ghosts protest about lack of credit. They usually treat the arrangement as contractual and consider payment for services rendered as proper compensation. Because this is a mutually agreed process, ghostwriting can be considered institutionalized.

Ghostwriting can also occur in scholarly contexts, for example, when supervisors write parts of the theses of their research students and when editors extensively

rewrite submissions by authors (Bedeian 1996a, b). In these sorts of circumstances, the ghostwriters do not seek payment: the success of the recipients of their largesse is the reward.

Some syndicated newspaper columnists make enough money to be able to use ghostwriters for some or most of their columns. This can lead to the hypocritical phenomenon of columnists fulminating against a politician who in making a speech used unattributed text from another politician, in which the column is written by someone else.

Political speechwriters are another type of ghostwriter, so institutionalized that there are books about their important role (Schlesinger 2008). Few famous speeches are attributed to the person who wrote them. For example, US President Eisenhower's famous farewell address, in which he warned about the power of the military-industrial complex, is seldom noted as having been written by Ralph Williams and Malcolm Moos. Sometimes ghostwriters themselves plagiarize, resulting in a curious assignment of blame. When in the 1980s US Senator Joseph Biden was exposed for using the words of Robert Kennedy and Neil Kinnock without attribution, few commented that it was Biden's speechwriter who used the words, which in turn were written not by Kennedy and Kinnock but by their speechwriters, who were not credited.

Many judges use text from the submissions from lawyers on behalf of plaintiffs or defendants – usually the party that prevails – without attribution (Richmond 2014). Some lawyers see the adoption of text from their briefs in this way as a sign of success, so this sort of plagiarism might be considered a form of attempted tacit ghostwriting.

Although ghostwriting is sometimes justified as legitimate because the parties involved agree to it, this is never accepted as justification for undergraduate students purchasing essays from a term-paper service. Ghostwriting can also be defended on the grounds that everyone knows that it is occurring. Those familiar with the scene recognize that few celebrities write their autobiographies and that few politicians write their speeches, but nonetheless many people are misled. If proper credit were given, it would undermine the credibility of the alleged author. For example, a politician would lose face for beginning a speech by saying "I'm now going to read a speech written by my staffer Alice Author, adding occasional extemporaneous comments of my own." Politicians only occasionally mention the role of speechwriters, much less give detailed explanations of the speechwriting process, in forums where constituents are reading or listening. If they did, they would puncture a widespread illusion, and other politicians would find this unwelcome. Newspapers are more likely to publish articles nominally written by politicians than by their political staffers, so there is an incentive to maintain the illusion of politician authorship.

Another type of ghostwriting occurs regularly in science and is especially common in biomedicine. Pharmaceutical companies fund research by their own scientists, who write articles based on the findings. To gain greater credibility, the marketing units of the companies seek to find academic scientists who will agree to be listed as the authors of these articles. The resulting articles may have one or

multiple authors, in which the named academic authors may have had little or no role in the research – sometimes only reading the article or making minor changes – while some or all of the pharmaceutical company researchers are not listed at all. In this way, the company benefits because the papers are seen as more independent and the academic ghost authors benefit by gaining credit for more papers. Many such ghostwritten papers are published in top journals in the field and are part of organized campaigns to promote particular drugs. Sometimes the major articles are accompanied by numerous semi-ghostwritten articles in lesser journals, providing a phalanx of apparently credible findings. Some medical journal editors have made efforts to curb this practice, but their efforts are hampered by the journals' dependence on income from the companies, via advertisements in the journals and massive purchases of reprints that are used to promote drugs to doctors (Angell 2005; Goldacre 2012; Logdberg 2011; Sismondo 2009).

A parallel form of informal ghostwriting occurs when journalists write articles reproducing text from media releases and other documents, most commonly from governments and companies, without acknowledging the source. Although no money changes hands, this arrangement serves both parties: journalists produce stories without needing to do much work, while public relations units get their message to the public via a seemingly independent source.

Bureaucratic Plagiarism

In many organizations, it is routine practice for subordinates to write speeches, reports, articles, slideshows, and other outputs and for their superiors to take formal credit for the work. For example, in government departments, junior employees may do most of the work in researching, drafting, checking, and polishing a report on a policy issue, while a more senior employee is listed as responsible. The nominal author may have made little or no contribution to the work. Sometimes the actual authors are listed, but in small print or as acknowledgments. This sort of practice has been called “bureaucratic plagiarism” (Moodie 2006).

Bureaucracies are organizational systems based on hierarchy and a division of labor, in which workers are interchangeable cogs. The bureaucratic form is found throughout modern societies, including in government departments, corporations, churches, trade unions, and environmental groups. Universities are partly bureaucratic, coexisting with professional and collegial systems.

Bureaucratic systems are set up so that the work of employees serves the functions of the organization as a whole, which is often tied to the patron of the organization. In practice, junior employees often are exploited by their managers. Institutionalized plagiarism is not mandated by the bureaucratic form, but it becomes easy and may be seen as normal.

Outcomes of bureaucratic plagiarism include media releases, policy documents, laws, research reports, public statements, speeches, and articles in newspapers, magazines, and trade journals. It is rare for this sort of plagiarism to be questioned.

The double standard involved is most acute within universities, where plagiarism by students is castigated. When university presidents issue public statements or give speeches that have been written by their staff, there is a potential clash with the ethos of doing one's own work: students are not allowed to have their assignments written by paid staff.

Bureaucratic plagiarism can be considered a type of ghostwriting and, like ghostwriting, usually all involved acquiesce in the arrangements. Subordinates are paid for their work or can be satisfied by their efforts having a public impact. Furthermore, the arrangements are so standard that within relevant parts of organizations, "everyone knows" who is actually doing the work. Subordinates who do good work can expect to receive bonuses, promotions, or good references. When this sort of internal reward is not forthcoming, they may become disgruntled with their boss or perhaps with the system as a whole, but few ever speak out about the exploitative practices.

Plagiarism Tactics

To better understand the dynamics of different sorts of plagiarism, misrepresentation, and exploitation, it is useful to examine tactics commonly used by perpetrators and their opponents. When powerful individuals or groups do things that might cause offense to others, they commonly use one or more of the following methods to reduce outrage (Martin 2007):

1. Cover up the action;
2. Devalue the target;
3. Reinterpret the action by lying, minimizing consequences, blaming others, or reframing the action in a positive way;
4. Use official channels that give an appearance of justice; and
5. Intimidate or reward critics.

These methods are used in relation to a wide variety of unjust actions, including sexual harassment, massacres, and torture, so it is not surprising that they also frequently occur in struggles over plagiarism and other violations of integrity (Martin 2008).

Consider the example of a senior academic who has used ideas provided by a junior, untenured colleague. The first method of reducing outrage is to hide the copying: if no one knows about it, then of course no one can be outraged. The second method is to denigrate or discredit the junior colleague, by pointing to intellectual shortcomings or character defects. The senior academic might hint that the junior colleague is a poor scholar, a slack teacher, or a sexual predator. If the junior colleague is seen as deficient, then any injustice to this colleague will be seen as less serious.

The method of reinterpretation has several facets. The senior academic might falsely claim that they had the idea first, before reading the junior colleague's draft

paper (reinterpretation by lying). They might say using the idea is not a big deal (reinterpretation by minimizing consequences). They might say a co-author was responsible for adding the idea to their paper (reinterpretation by blaming). Or they might say it is standard practice, because ideas like this are common currency (reinterpretation by framing).

If the junior colleague puts in a formal complaint, the university procedures – few of which are set up with plagiarism of ideas by senior academics in mind – may well find the complaint unsubstantiated or impose only a mild penalty, such as a verbal warning. Finally, the senior academic might threaten, explicitly or implicitly, the junior academic with denial of tenure if the matter is taken further or offer support for tenure if it is dropped. Craig Thompson (1998) tells a story along these lines. After his work was used by a tenured colleague without acknowledgment, Thompson did not make a formal complaint, being warned by colleagues that the plagiarist had powerful friends and that the center where Thompson worked might be shut down.

Compare this to the situation of an undergraduate student who intentionally plagiarizes. The student usually has only two methods to reduce outrage. The first is cover-up: hiding or disguising the plagiarism so it is not discovered. The second is reinterpretation, for example, saying they didn't understand what was required or didn't think it was significant. Few students have the capacity to devalue their teachers, use official procedures to their advantage, or threaten or reward academics.

Looking at plagiarism in the light of methods that can be used to reduce outrage, the fundamental difference between plagiarism by students and by established professionals is the power of the perpetrators. Those with more power are better able to thwart exposure and avoid penalties.

Those who wish to challenge plagiarism, especially when it seems to involve serious attempts to cheat, have five corresponding methods for increasing outrage:

1. Expose the action;
2. Validate the target;
3. Interpret the action as an injustice;
4. Avoid official channels; instead, mobilize support; and
5. Resist intimidation and rewards.

The “target” in this scenario is the person whose work is plagiarized. In the case of student plagiarism, in which the teacher and/or institution has far more power than the student, usually the only relevant methods are exposing the plagiarism and interpreting it as inappropriate, perhaps as cheating, depending on the context. On the other hand, when the perpetrator is a powerful academic, who may be able to denigrate and threaten challengers, publicity is often the only effective way of bringing them to account (Martin 2008).

Many who try to challenge plagiarism learn the hard way about the limits of official channels. Neal Bowers (1997), whose poetry was plagiarized by a mysterious writer, has described his frustration with journal editors, some of whom ran poems

under a false name even after Bowers supplied them with documentation of the plagiarism. Furthermore, many of Bowers' colleagues offered him no sympathy.

In cases of institutionalized plagiarism, those with greater power or money receive credit for the work of those with lesser status. In most cases, there is no challenge to the arrangements: ghostwriters, for example, are usually content with payment and may even defend their lack of formal recognition. When subordinates seek to gain greater credit or question the entire system, they can be met with various obstacles, including reinterpretations (e.g., that "this is the way it is done"), devaluation, and intimidation. A junior employee who insists on being named as author or contributing author to an organizational publication might be passed over for promotion or even terminated. Similarly, a research student who protests against honorary authorship conferred on a senior professor could be penalized by being given bad references or even undermined in their research.

There have been few open challenges to academic exploitation and more generally to institutionalized plagiarism, and the literature on this topic is correspondingly sparse (Martin 2013). To understand the tactics of challenging plagiarism, there is more material involving challenges to competitive plagiarism. The crucial step is to collect convincing evidence; usually this involves word-for-word plagiarism rather than plagiarism of ideas, which is harder to prove. This evidence might be provided to university or professional authorities but has a greater impact when made public, for example, published in academic journals, the mass media, or on social media sites. Openly publishing evidence avoids the outrage-reducing methods of devaluation, official channels, and intimidation that play a role when complaints are made inside institutions.

The implication of this assessment is that challenging misconduct by senior academics, professionals, managers, or others with power and prestige can be difficult, and the usual approach of making complaints through formal channels – for example, writing letters to university officials – has significant limitations, and leaves the complainant open to reprisals. Taking the evidence to wider audiences is often the only way to have an impact.

There is another phenomenon that complicates these struggles: false or malicious allegations of plagiarism or misconduct as a means of attack. Consider a common scenario: a senior professor takes credit for the work of a research student, giving talks and publishing papers based on the student's research. If the student complains, the professor may accuse the student of plagiarism.

Another use of false allegations is to discredit a competitor. High achievers, whose rising status is a threat to colleagues, are sometimes subject to allegations of misconduct. So are those who challenge groups with vested interests. For example, David Lewis, a microbiologist whose research showed the health hazards of treated sewage used as a fertilizer, was accused of scientific fraud as a method of discrediting him (Lewis 2014).

The implication here is that assessments of academic and professional misconduct need to take into account the wider context. Looking only at the claims made can sometimes be unfair because motivations and power differentials are left out of the picture. A minor mistake by a junior scholar might be subject to scrutiny and

penalties, whereas major abuses by senior scholars are never investigated. It is necessary to examine who is making claims, what they have to gain (if anything), and the wider context of practices, including systemic misrepresentation and exploitation. Official channels, such as grievance procedures and making complaints to editors and professional associations, often serve to protect powerful perpetrators because officials either refuse to act or look at evidence in a narrow way that obscures the role of power.

Conclusion

Most discussions of plagiarism focus on students, especially those still learning scholarly acknowledgment practices. In comparison, plagiarism by established academics and other professionals receives little attention. Furthermore, institutionalized ways of claiming credit for the work of subordinates, which fit usual definitions of plagiarism, are hardly ever called plagiarism. There is a disjunction between the strictures placed on students and an array of exploitative practices in academia and beyond that can best be explained by differences in power. It is possible to stigmatize student plagiarism because students have little power to resist, whereas established academics have more tools to avoid or resist challenges to their abuses and prerogatives.

A similar pattern occurs in the area of misrepresentation. Certain practices, especially manufacturing or altering data, are castigated as scientific fraud, whereas other types of misrepresentation, such as exaggeration on curricula vitae, grant applications, and media releases, are treated as normal.

Enforcing integrity norms can be unfair if undertaken in a selective manner. There is a danger in focusing on individual violations without understanding the wider context: an individual might well have transgressed norms, but penalties for this can be unfair if the norms themselves leave out systemic forms of misrepresentation and exploitation.

One possible implication of the existence of institutionalized plagiarism, misrepresentation, and exploitation is that education in scholarly integrity needs to include analysis of practices, power, and tactics. Students need to know how to give appropriate citations but also how to recognize when supervisors are taking unfair credit for the work of subordinates and why it is hard to challenge this sort of intellectual exploitation. Students also need to understand some of the tactics used by powerful exploiters and the risks in trying to challenge them.

There is no easy road to transforming exploitative practices and systems. Greater understanding of how these systems work is a good basis for making strategic interventions toward fairer systems.

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From Matters of Integrity to Cultural Transformation: Higher Education in the Era of Neoliberalism

63

Daniel Lee Kleinman

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Abstract

For nearly a half century, commentators, policymakers and activists have been captivated by stories of unethical behavior by academic scientists and companies arising from industry-funded academic research. These cases reflect lapses in individuals' integrity in the face of corporate temptation and corporate violations of integrity in the light of threats to profit. While we should not ignore these breakdowns in high standards of integrity, in this chapter, I suggest more worrying are broad changes underway in academic culture and practice. In the pages that follow, I point to the progressive loss of non-economic or extra-commercial values in higher education and highlight the possible implications of these changes.

D.L. Kleinman (✉)

Department of Community and Environmental Sociology, University of Wisconsin-Madison, Madison, WI, USA

e-mail: dlkleinman@wisc.edu; daniel.kleinman@wisc.edu

Introduction

Tatsuya Suda, formerly a professor of computer science at the University of California, Irvine, was sentenced in February of 2014 to 3 years of probation and ordered to pay \$400,000 after being convicted of taking secret research payments from Japanese companies while employed as a professor. Some 25 years earlier, Betty Dong, a researcher at the University of California, San Francisco, was blocked from publishing research funded by Boots Pharmaceuticals, ostensibly because Dong's results revealed that one of the company's thyroid medicines was no more effective than three cheaper, competing drugs.

For nearly a half century (see, e.g., Radder 2010; Slaughter and Leslie 1997; Slaughter and Rhoades 2004; Washburn 2006), readers, analysts, and policymakers have been captivated by stories of industry-funded faculty behaving unethically and firms suppressing research results that could adversely affect their profits. The former amounts to lapses in individuals' integrity in the face of corporate temptation, while the latter can be viewed as cases of corporate violations of integrity in the light of threats to profit. But while we should not ignore egregious violations of academic norms ostensibly induced by university-industry relations (UIRs), such cases are relatively rare, and attention to such uncommon events can lead us to ignore broader changes in academic culture and practice, which may point to a deeper reorientation of higher education.

We are living at a period in which universities from London and Paris to Los Angeles and Seoul are under increasing pressure to show their direct and explicit economic value, that they can provide clear economic benefit. At the same time, many universities are called on to adopt business world practices and commercial values. Market metrics, like consumer demand, are often brought into university settings as strategic guides. In this context, the extra-economic virtues of higher education are under threat. This chapter explores the broad influence of industry culture and practice on academia and provides a framework for how we might think about such impacts. While most of the examples in the pages that follow come from the United States, instances from around the globe suggest that the influence of business culture on the character of higher education is not unique to the United States. In the current environment, our greatest worry should be the progressive loss of non-economic or extra-commercial values that have long played an important role in guiding public higher education, not individual-level cases of violations of norms of academic integrity.

Background

With the advent of the biotechnology revolution in the United States beginning in the late 1970s and the 1980s, commentators began to express apprehension that a once-isolated ivory tower had been breached. Analysts and advocates pointed to at least four specific concerns. First, they worried that university-industry relations would undermine researcher autonomy. As the American Association of University

Professors put it in 1983: “University scientists may be pressured into taking work on research problems that do not interest them by a university eager to acquire a profitable patented, or to please or attract a corporate associate” (American Association of University Professors 1983, p. 21a). Here, we face the problem of deep-pocketed firms shaping academic scientists’ research agendas. Second, they were troubled by what they believed would be an increase in secrecy among scholars in an environment that is supposed to be characterized by openness and the free flow of ideas and research materials. More generally, analysts and critics expressed concerns about broad threats to academic freedom. As Hart noted in 1989, a commercial orientation toward academic research can create “a secretive and repressive atmosphere” (Hart 1989, p. 28). Third, analysts feared that the spread of university-industry relations would weaken faculty commitment to the public interest and would lessen the number of faculty positioned to provide disinterested and unbiased evaluation of biotechnology (Krimsky 1984). Finally, a number of writers and activists suggested that scientists who profit from their research through industry funding would introduce biases into their research results (Shenk 1999).

The anxieties expressed by writers and advocates in the early days of the biotechnology industry were not entirely without foundation. Michael Blumenthal and his colleagues “asked biotechnology faculty [in the United States] the extent to which their choice of research topics had been affected by the likelihood that the results would have commercial application.” They found that “Faculty members with industry support were more than four times as likely as faculty without industry funds (30 versus 7 %, $P < 0.001$) to report that such considerations had influenced their choices to some extent or to a great extent” (1986, p. 1364). Additionally, their data revealed that industry-supported professors were also four times more likely than their colleagues who did not receive corporate funding to indicate that their research had resulted in trade secrets (1986, p. 1364). The results by Curry and Kenney reinforced the findings of Blumenthal and his colleagues. Their survey respondents suggested that commercial considerations affected the research projects of almost half of industry-funded researchers. At the same time, Curry and Kenney found that more than 25 % of faculty who did not receive support from business acknowledged that commercial factors influenced their project decisions (1990, p. 52).

The concerns raised by analysts and activists in the 1980s have been repeatedly echoed since the turn of the millennium. In her 2006 book, *University, Inc.*, Jennifer Washburn documents the “corporate stranglehold on academic science” (xviii). Writing in 2004, Sheldon Krimsky argues that “commercial links in the biomedical sciences have been predatory and destructive of scientific objectivity and openness” (x). And former Harvard University President Derek Bok expresses similar worries in his (2004) volume, *Universities in the Marketplace*.

Discussion of the means to confront the dangers of university-industry research relations has not waned since the publication of the work of Washburn, Krimsky, and Bok. In a 2008 commentary in *Minnesota Medicine*, Dale Hammerschmidt repeats concerns made some 30 years earlier, noting: “There are two basic dangers in interpreting industry-sponsored research on health care: first, failing to recognize

the inherent biases in such studies and, second, discounting the value of such research because of concern about those biases” (Hammerschmidt 2008). And a report sponsored by the US National Academy of Sciences published in 2009 summarized precisely the concerns raised in the heyday of the biotechnology revolution: that university-industry relations could create conflicts of interest, restrict the flow of information, and lead to skewed pro-industry research findings (Lo and Field 2009).

These phenomena – matters of individual and corporate integrity in the face of changing incentives in academic research – are not unimportant. In some sectors of higher education, university-industry relations have a substantial influence on research practice. According to Lo and Field (2009), in biomedicine, as many as 67 % of academic programs in US institutions may have relationships with industry. While, of course, an array of factors can lead to restrictions on the flow of information in materials (see Campbell et al. 2002), Lo and Field note that scientists’ commercial interests can lead to such restrictions and that clinical trials with industry ties are more likely than those without such connections to produce findings favorable to industry. At the same time, this kind of support is restricted to a limited slice of higher education (most especially clinical and translational researchers), and as analysts and policymakers have shown repeatedly, mechanisms can be put in place that can minimize the most flagrant violations of norms of academic integrity resulting from university-industry relations. Thus, many universities now require researchers to complete forms documenting their connections with firms and have policies explicitly limiting the period of time research results can remain under wraps. In sum, while there are real concerns for academic integrity raised by formal connections between universities and firms, they already receive substantial attention, and the indirect influences of the commercial world on academia typically do not make the news or draw the attention of policymakers. By contrast, calls for universities to serve one central function – facilitating economic development – and the spread of business codes and practices into higher education pose fundamental threats to the idea that universities should serve extra-economic (some call these public good) roles, and in the face of slow economic growth and severe fiscal challenges, preserving a place for tertiary education independent of the economy and business is a substantial challenge even for highly placed leaders who support this position.

Changes in Culture, Causes for Concern

If we believe universities should serve a role distinct from firms and the market, we should be concerned by developments that suggest a merging of the functions of universities and industry. We should be troubled, furthermore, if universities become mere adjuncts or handmaids for industry. From this perspective, universities should serve functions that neither companies nor markets can. Thus, it will never be profitable to educate students for a life of citizenship and with broad work-world-relevant, but not occupation-specific, capacities. Basic research may lead to

profitable applications but not in a time frame that firms would typically find acceptable. Market mechanisms will not support the development of niche crops or drugs developed for small markets, and the private sector will never be an insulated environment for social critique, analyses necessary to inform public debate and assure accountability of governments and companies. These are not questions of individual research or corporate integrity, but of what values or principles higher education should embody.

Educating for Employment

Postsecondary education has always involved preparation for employment. In some varieties of institution and in some countries, this is truer than in others. Still, educators have long and consistently thought that tertiary education is for more than job preparation. In the United States, prominent education leaders, such as former Harvard University President Derek Bok, have stressed the importance of citizenship education in universities. Bok notes that civic responsibility must be learned, and he goes so far as to suggest required courses in the way democracy works and country-specific courses on state institutions, political philosophy, basic economics, and national and world affairs (2006). Beyond the importance of civic education as part of a comprehensive university experience, analysts have found that narrowly occupational education is less likely than broader training to prepare students for a changing economy. Thus, in their research, Richard Arum and Josipa Roksa found that liberal arts majors had more substantial gains over time than students in non-liberal arts majors in critical thinking, complex reasoning, and writing skills (2011). These are the skills that employers believe are important for successful work performance in a diverse array of jobs (Kleinman [forthcoming](#)) and seem likely to be associated with jobs that create greater job satisfaction than more narrowly focused, regimented employment.

But despite the arguments presented by educators and the evidence provided by researchers, in an environment of limited economic growth and widespread calls for lower taxes, politicians persist in arguing for narrow occupationally oriented university education. Thus, US Florida Governor Rick Scott asserted:

If I'm going to take money from a citizen to put into education then I'm going to take that money to create jobs. So I want that money to go to degrees where people can get jobs in this state. Is it a vital interest of the state to have more anthropologists? I don't think so. (quoted in Kleinman [forthcoming](#))

Along similar lines, North Carolina Governor Pat McCrory argued that "If you want to take gender studies that's fine. Go to a private school, and take it. ... But I don't want to subsidize that if that's not going to get someone a job" (quoted in Kleinman [forthcoming](#)).

While both Scott and McCrory are political conservatives, US President Barak Obama has made similar arguments. In a 2014 speech, he quipped: "I promise you,

folks can make a lot more, potentially, with skilled manufacturing or the trades than they might with an art history degree” (Obama 2014). And this statement is consistent with his effort to develop a “College Scorecard,” which, among other things, would measure the value of higher education institutions in terms of immediate postgraduation employment and salaries (Field 2013).

This is not to suggest that we should not be concerned about threats to academic integrity when, for example, businesses suppress publication in the interest of profit or when academic scientists view research findings through a lens of future economic gain. But while in some quarters of some institutions the impact of formal contracts between industry and academic scientists may be substantial, overall, these relations (and the threats they pose to academic integrity) still do not dominate the academic landscape in the United States or elsewhere. On the other hand, every student who goes to university expects to receive an education, and the shape of that education profoundly affects how these people subsequently behave as citizens as well as their experience of the world of work – the kinds of work of which they will be capable and the satisfactions they receive from that work. Markets and companies cannot provide education, and producing narrowly job-ready graduates, as many political leaders across the globe call for, does a long-term disservice to the students and to national economies, which end up without people educated in ways that allow them to adjust to and take advantage of rapidly changing economic situations. Ironically, many in business understand this and disagree with the short-term perspective of many politicians (see Kleinman [forthcoming](#)).

Universities as Economic Development Engines

While many analysts worry about the egregious violations of academic norms – cases of individual and corporate behavior inconsistent with widely shared notions of integrity – that accompany formal university-industry research relations and highlight relatively rare cases of fraud, misconduct, and misrepresentation, universities across the globe are expanding existing or developing new institutions that place higher education at the center of private sector and government economic development strategies (see Berman 2013; Shaffer and Wright 2010). Research parks, which first emerged many years ago, are growing in prominence, and university offices to facilitate professorial entrepreneurial activities are gaining visibility. Western Michigan University’s research park and incubator house some 22 bioscience start-ups as well as an array of other businesses, and the University hopes to build a second research park. North Carolina State University, a long-time center for university-industry collaboration, only 5 years ago was in the midst of developing an entirely new research park on its Raleigh campus (Shaffer and Wright 2010). And more recently the University of Wisconsin-Madison announced the start of its Discovery to Product (D2P) program. D2P, supported by some five and a half million dollars from the university and other sources, is an effort to “more effectively cultivate a culture of entrepreneurship among faculty and students, and better support the formation of new companies, while

systematically expanding the number of innovations that reach the market through startups or licensing arrangements with established companies” (Devitt 2013).

This orientation does not stop at the borders of the United States. European universities are developing or bolstering similar organizational units, and countries from the Netherlands to Great Britain are building on efforts initiated in the United States. The Cambridge Science Park was founded by the University of Cambridge’s Trinity College in 1970, and in 2005 the park opened an Innovation Centre to support start-up businesses. In Australia, where commercial entities affiliated with university campuses are common, the Innovation Campus was developed by the University of Wollongong. According to the Campus’ website, it aims “to provide an environment for commercial and research entities to co-locate with University of Wollongong teams and establish successful, productive partnerships.” It seeks, further, to introduce and integrate “commercial acumen into University research activities” (<http://www.innovationcampus.com.au/aboutic/vision/index.html>). China too has a number of university-affiliated science parks. Plans for the Peking University Science Park began in 1992 with the aim of creating a place for “the commercialization and industrialization of high-tech achievements and an arena for the development of enterprises” (Jun 2010).

The increasing stress of universities on their roles in economic development is part of what Elizabeth Popp Berman sees as a trend toward “economic rationalization,” the process of viewing more and more elements of human activity as contributors to the economy (2014). In this context, the array of what universities do is increasingly justified in terms of their contributions to the economy. Indeed, US university leaders sometimes highlight improvements in their institutions’ economic development roles as signal achievements and spend less rhetorical energy defending their universities’ nonmarket contributions. While universities have always been connected to the economy, the push to brandish institutions’ images as economic development engines may conceivably mean that initiatives that do not contribute directly to economic development will be ignored or go unfunded or unappreciated. In response to the initiation of D2P at the University of Wisconsin-Madison, one faculty member worried that the university would be less supportive of developing nonprofit organizations than it might have otherwise been. That professor noted that

“All across the protected space of the research university – where intellectual freedom is supposed to outweigh instrumental pressures of budgets and sales – it is often through the channels of such non-profit activism that art is brought to the public sphere, that evidence is mustered for public debate, and that ‘market failures’ are addressed for the most vulnerable and voiceless of our populations.” What will the growth of institutions like D2P mean for drama and polemic, for “visionary leaps of imagination and empathetic examples of compassion that are rendered not in formulas or bits, but in words and sounds and images”? (Downey 2013).

Scott Frickel, David Hess, and others take this concern in a different direction (Frickel et al. 2010). They worry about “undone science.” Frickel and his colleagues define undone science as research “left unfunded, incomplete, or generally ignored but that social movements or civil society organizations often identify as

worthy of more research” (2010, p. 444). Their work largely attends to the mechanisms that lead to a lack of support for research of interest to less powerful social groups. They are especially concerned about the aspirations of social movements; however, their essential point of relevance to this chapter is that “the institutional contexts of research – including different sets of political and economic pressures, normative expectations, resource concentrations, and sizes and configurations of research networks. . .” shape what research is done and undone (Frickel et al. 2010, p. 467). Some university leaders already view economic development as their first priority. Some faculty tenure committees already consider the successful acquisition of intellectual property favorably, and at a time when many universities are under financial stress, incentives for developing business start-ups are already common. As the incentives for undertaking university research increasingly align with “economic rationalization,” it will become less likely that research with no obvious market value will be supported. In this context, what firms will support academic research on the mode of operation of prospective drugs for which the market will be very small? To what extent will university agricultural scientists be encouraged to undertake the development of seed lines of use to subsistence farmers in the global south? How likely is it that researchers will be recognized at their universities for research undertaken on behalf of community groups seeking assistance understanding chemical exposure from a nearby factory?

Direct funding from companies – a phenomenon some analysts see as a threat to academic integrity – is not required to shape research agendas in higher education. In the face of fiscal crises, academic leaders promote market-facing units within their institutions and articulate a rhetoric of economic development. The result is likely to be that scholarship with less obvious or smaller benefit in the public sector and research that promises social benefit by non-market criteria will either remain undone or underappreciated. Again, here, the concern is less about individuals and corporations acting in ways inconsistent with integrity and more about how structures, systems, or cultures shape the practices of researchers and how shifts in the organization and incentives driving higher education are likely to increasingly crowd out unprofitable and nonmarket-oriented academic activities.

Administration

If the motivations for teaching and learning must increasingly be presented in market value terms and a widespread commitment to economic development by university leaders has the potential to lead to a narrowing of the research undertaken in universities and the kinds of support faculty provide to not-for-profit entities, some analysts have also expressed concern about the adoption of business-type administrative practices in academic settings (see, e.g., Tuchman 2009; Shore and Wright 2000). In this context, some recent developments are troubling, but not all. Here, one can distinguish between practices that can allow universities to fulfill broadly non-market public purposes and those that have the intended or unintended

consequences of weakening the capacity of universities to do what markets and companies cannot or will not.

Strategic planning is a practice that has prompted some concern (see Kleinman and Osley-Thomas 2014), but is not especially worrying in these terms. Indeed, one can imagine that engaging in strategic planning could enable universities to better realize a particular noneconomic rationalization mission. Strategic planning came into prominence in US higher education in the 1980s (Birnbaum 2000, p. 67). An analysis of the rhetoric around its use in US universities (Kleinman and Osley-Thomas 2014) suggests there is not a single definition of the technique and in practice it is sufficiently flexible to serve a wide range of missions. It certainly does not appear to demand adoption of corporate norms or a market orientation. It poses little obvious threat to academic integrity.

In contrast to strategic planning, budget practices that are currently being experimented with in higher education can potentially alter the orientation of the universities that utilize them. Until recently, in many US universities, incremental or legacy budgeting was widespread. Here, allocations to units within a given institution are based on provision granted in previous years. While this can certainly weaken incentives to innovate and can allow programs that have lost value to continue to function, this system also likely means that units within universities that were viewed as valuable in an era before economic rationalization would have some stability. Thus, small humanities programs potentially initiated with the genesis of a given institution and well-established initiatives intended to foster collaboration between university faculty and staff and community organizations would likely be safe under such a model. By contrast, activity-based budgeting, a system used in a number of US and Canadian universities, grants funds to university units that provide the greatest return on investment. Here, one could imagine a program in, for example, digital game development that attracted large numbers of students being given resources to grow, while a low-demand Classics program would be shut down (cf. Osley-Thomas 2014). Responsibility-Centered Management (RCM), a system that gives units the revenues they generate, could have an effect similar to activity-based budgeting. First adopted in the United States by universities in the 1970s, RCM has been widely adopted by public and private universities in the United States in recent years (University of Oregon n.d.).

Elizabeth Popp Berman argues that an essential part of “economic rationalization” is the inclination to measure the array of university activities. And, indeed, the spread of an audit culture appears to be a central component of the restructuring of higher education in Britain and elsewhere. Unfortunately, as Berman notes, it is really hard to create good metrics, particularly about something as complex as innovation or education. The tendency, naturally enough, is to fall back on the easy metrics: percent of students who have jobs 6 months after graduation, student-teacher ratios, number of start-up companies spun off, number of citations to articles, and impact factors of articles (2014, p. 16).

And the inclination to rely on inadequate measures is likely to impoverish higher education all the while making our universities appear more rational, more businesslike, and more accountable. Thus, tenure decisions for faculty could focus on

simple counts – number of publications and journal prestige as represented by such measures as impact factors. These metrics benefit certain kinds of fields and certain kinds of scholars. Scholars in niche fields where the research that might lead to a single article could take years of fieldwork will be hurt, if new metrics are implemented in unnuanced ways. Researchers who publish in newly emerging innovative open-access journals could be sanctioned. And, of course, where dollars received to fund research are a tenure assessment metric, one could imagine scientists seeking the easiest funding sources, rather than those most appropriate for them, and turning to industry and industry-oriented research when that is the variety of work readily supported.

A number of countries have experimented with narrowly conceived research metrics, but the British system, referred to as the Research Excellence Framework, has probably received the greatest amount of attention. While seeking to promote rigor and originality and to be fair, the framework has been widely criticized. Among other things, the stress on impact outside of higher education is likely, some suggest, to weaken academic freedom. More specifically, the framework weights the contributions of books and articles equally, devaluing fields that require extensive periods before the publication of scholarship and tend to produce books, rather than articles (Kahn-Harris 2011). Of course, these are fields that are distant from the market (Slaughter and Rhoades 2004), most particularly the humanities, but also the social sciences. Beyond these issues, a recent study by Ismael Rafols and his co-authors (2012) suggests that the journal-based ranking scheme currently used to evaluate UK business and management schools discourages interdisciplinary research. This is especially ironic at a time when advocates of business-university collaboration stress the value of interdisciplinary research (Kleinman et al. 2013).

In sum, while not all possible business or businesslike administrative practices undermine the capacity of universities to do what markets and firms cannot or will not, certainly some have the potential to have this effect. It seems extremely likely that budgeting approaches, increasingly experimented with in North America, may lead to the undervaluing of teaching in, and doing research on, subjects with little market value. Similarly, the varieties of scholarly impacts widely adhered to on both sides of the Atlantic have the potential to weaken research fields that are distant from the market.

Conclusions

There is certainly cause for concern when companies seek to prevent publication of research that contradicts their interests or when they restrict the free flow of information and research materials, and there is little doubt that, especially in times of research budget limitations, corporate largesse can shape the research agendas of academic scientists. But the biggest problems faced by universities in the early twenty-first century are not the product of corporate malfeasance (and thus threats to corporate or individual integrity) or even straightforward efforts of

companies to realize their own interests in relationships with universities and academic scientists. More worrying are the ways in which universities are being encouraged to narrow the education they provide in response to pressures, especially from politicians, to produce market-ready college graduates. Also troubling is how the broader political and economic environments – government cuts to higher education funding and the need to appear valuable to economically weary citizens – are pushing universities to single-mindedly develop units that aid university faculty to engage in market-relevant activities. Finally, also concerning are new budget models and measurement practices that are likely, depending on how they are implemented, to encourage faculty to respond to market and market-like incentives, potentially at the expense of less market-relevant activities.

In and of themselves, the individual changes to academic culture and practice considered here are not necessarily problematic, but they come with substantial (opportunity) costs. Universities must do what businesses cannot or will not do and what markets do not valorize. Universities should educate students broadly to prepare them for varied employment, job satisfaction, and citizenship, and institutions of higher education must aid citizens with efforts from building social movements to supporting investigative journalism. Universities should also enrich social and cultural discussion. As universities adopt commercial codes and practices and economic and political pressures push them closer and closer to the market, they are less likely to engage in the activities that make them distinctive.

What does this say about academic integrity? Integrity is defined by an established set of values. There are likely no normative systems in which falsifying or suppressing data is acceptable. But if scholars act in ways consistent with systems of research funding or metrics, few would say that that are violating academic integrity. The bigger question is: what kind of values would we like higher education to embody? In this context, the essential argument of this chapter is that universities should do what markets cannot. Systems must be in place that lead to the preservation and incentivization of education and research practices that are not profitable, but that have the potential to serve broad societal ends. Of course, we should root out egregious violations of academic norms, but the path to policies and practices to protect universities from individual cases of such behavior are fairly straightforward. Less clear is how we can preserve the extra-economic value of higher education in the face of slow economic growth and fiscal constraint. We must think creatively about how to maintain the distinctive role of universities in our society in the face of pressures pushing higher education to serve an increasingly narrow economic function.

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Abstract

Academic integrity becomes more challenging during scientific controversies, as scientists and their allies and opponents struggle over the credibility and significance of knowledge claims. Such debates are healthy and necessary, but because science remains embedded in broader institutional, political, cultural, and economic contexts, struggles over truth often reflect dynamics of power. For example, those who challenge dominant ideas may face a landscape that does not welcome contrarian positions, which may result in what this chapter describes as “dissenting” behavior by scientists. In extreme cases, contrarian scientists may face attempts at scientific suppression: discrediting or silencing a scientist or scientific claim in ways that violate accepted standards of scientific conduct. While such actions are unusual, they happen frequently enough to deserve careful consideration as breaches of academic integrity. This chapter offers a scholarly perspective on how to understand scientific dissent and suppression, as well as a list of best practices to avoid suppression, respect dissent, and encourage healthy debates in the production of knowledge.

J.A. Delborne (✉)
Department of Forestry and Environmental Resources, North Carolina State University,
Raleigh, NC, USA
e-mail: jason_delborne@ncsu.edu

Introduction

David Lewis, a scientist working for the US Environmental Protection Agency (EPA), published research that challenged the safety of land application of sewage sludge. Sludge industry representatives put pressure on EPA to discontinue Lewis' funding and produced materials attacking the scientist's credibility, which were distributed by an EPA official. The EPA denied Lewis a promotion, after applying ethics rules on the print size in a publication disclaimer, an action that the US Department of Labor reviewed and found to be discriminatory and unlawful (Kuehn 2004, pp. 338–339).

Ignacio Chapela, a microbial ecologist at the University of California, Berkeley, published a peer-reviewed letter in the scientific journal *Nature* that provided evidence suggesting that transgenic DNA had spread from genetically modified corn into landraces of Mexican maize in Oaxaca, Mexico. UC Berkeley colleagues challenged his findings publicly, a public relations firm invented false identities to attack him on professional listservs, and *Nature* followed with an unprecedented announcement that withdrew support from the published manuscript without a formal retraction. Chapela, who had also spoken out against a strategic alliance between a transnational agricultural biotechnology firm and UC Berkeley's College of Natural Resources, was subsequently denied tenure under suspicious circumstances. Chapela appealed the decision and brought a lawsuit charging the university with discrimination. The university president awarded him tenure retroactive to his initial application, but his scientific reputation remains damaged (Delborne 2011).

In opposition to the orthodox theory of the origin of AIDS, which assumes the transfer of a simian immunodeficiency virus (SIV) from a monkey to a human through a bite or other physical means (e.g., the "bushmeat hypothesis"), a number of dissenters have argued that early polio vaccines were unintentionally contaminated with SIV by a manufacturing process involving monkey kidneys and then distributed to a million people in central Africa in 1957–1960, launching the AIDS epidemic. Martin (1996) shows how the scientific community has not taken this hypothesis seriously, demanded much higher standards of evidence from the challenging theory than the orthodox theory (which itself remains highly speculative with little empirical grounding), and even failed to conduct tests on archived samples of polio vaccines from that time period, which might have shown whether the AIDS-polio connection could have been proven.

Academic integrity becomes more challenging – and arguably more significant – during scientific controversies. If we accept that science is a social process, then controversy implies conflicts in that social realm and creates opportunities for breaching standards of integrity. An egregious form of such a breach is scientific suppression: discrediting or silencing a scientist or scientific claim in a manner that goes against the norms of scientific practice. We might therefore view the suppression of science as a corrupt practice that both interferes with meaningful scientific debate (that could clarify significant knowledge) and undermines the legitimacy of the scientific community.

Scientific dissent, a much broader term, calls attention to the ways in which conflict and controversy are integral to the practice of science. Without dissent,

science would become nothing more than orthodoxy, a dogmatic way of knowing, closed to revision or challenge. Yet, science is not a realm devoid of politics, strategic behavior, or power differentials. Science is social and embedded in broader institutional, political, cultural, and economic contexts. As such, struggles over “truth” will reflect dynamics of power, and paying attention to dissent reveals how those challenging dominant ideas face a landscape that does not necessarily welcome contrarian ideas.

This chapter explores the phenomenon of scientific suppression within a conceptual framework of scientific dissent. After a more extended discussion of the role of dissent in science, a conceptual framework is presented for understanding scientific dissent as a practice. Next, scholarship in the field of science, technology, and society (STS) helps to unpack the phenomenon of suppression in science. The chapter concludes with suggestions for best practices for researchers seeking to work effectively and with integrity, especially in the midst of highly politicized scientific controversies.

The Role of Dissent in Science

If science is considered as a particular way of knowing about the world, disagreement and conflict are key aspects that distinguish science from other ways of knowing. Unlike religion, for example, science disrupts dogmatism – faith in science rests largely upon the lack of faith in science. To illustrate, a student learning a faith tradition would not usually be encouraged to imagine herself developing sets of ideas contrary to religious teachings, which could be tested and potentially overthrow accepted understandings; in contrast, a student learning about the scientific tradition continually encounters a history of competing hypotheses, lively disagreements, and celebrated scientific revolutions. Einstein, for example, is a scientific hero because his ideas overthrew the dominance of Newtonian physics. Likewise, one of the most popular works in the history of science is Thomas Kuhn’s (1996) *The Structure of Scientific Revolutions*. As such, one might argue that dissent – the practice of actively challenging a dominant idea – is central to the function and reputation of science as a way of knowing that reflects both humility (a willingness to be wrong in the face of new evidence) and rigor (a commitment to letting the strongest ideas and evidence win the day, even in the face of popular opinion) (for a more critical view, see Chalmers 2013).

Robert Merton, a founder of the sociology of science, identified “organized skepticism” as one of the key norms of science that create its ethos (Merton 1973). As but one example, the common practice of scientists challenging one another’s ideas through the process of peer review is foundational to the production of legitimate scientific knowledge. Peer reviewers are asked to be “skeptical” of the claims made in a submitted journal manuscript, with the goal of weeding out poorly constructed research, unsupported inferences, inappropriate methods, and unsubstantiated conclusions (for a thorough treatment, see Weller 2001). Such a process does not guarantee “truth,” per se, but organized skepticism creates a social

process of knowledge production that benefits from testing new ideas with the benefits of accumulated expertise. Scholars have debated whether Merton's norms of science accurately describe the practice of science in a general sense (Mittroff 1974), but the pattern within the scientific community of celebrating dissenters who are later recognized as correct (e.g., Galileo) suggests that dissent retains an important function in marking the credibility of science as a distinct way of knowing and approaching the truth.

Scholars have noted, however, that scientific dissent does not represent a neat, rational, and fair clash of ideas. Thomas Gieryn's study of boundary work and scientific credibility demonstrates the ways in which arguments over what is true often involve struggles to define the "boundaries" of science – in other words, who counts as a scientist and who does not, and what counts as science and what does not. For example, the political struggle over hiring a new chair of logic and metaphysics at the University of Edinburgh in 1836 shows how supporters of phrenology (a discredited theory of linking the physical shape of the brain with personality and intellectual abilities) squared off against opponents who did not want to disrupt the status quo. At the time, empirical evidence could not determine with confidence whether the phrenologists were right or wrong, but the political battle was fierce and consequential for the future of science at that university (Gieryn 1999, pp. 115–182). What this suggests is that dissent in science may look very different, depending on one's perspective. From the perspective of a dissenter, the clash of ideas may feel like an unfair attack on one's credibility, while from the perspective of mainstream science, the same clash can appear as the unfounded, wild ideas shouted by a nonscientist.

One way to understand this range of phenomena of scientific dissent – from rationalized debates over ideas to politicized efforts to marginalize outside perspectives – is to recognize the spectrum of uncertainty in science. At the frontier of knowledge in a scientific field, uncertainty reigns; the best and most experienced minds do not know exactly what is true. In this realm, dissent may be embraced because the cost of overthrowing or discarding provisionally accepted knowledge is low. Toward the other extreme, where scientific knowledge has solidified and become institutionalized, the cost of upsetting accepted knowledge may be quite high. Here, dissent may be resisted much more forcefully. Bruno Latour offers one way to think about this dynamic in his book, *Science in Action* (1987), showing how scientific knowledge becomes embedded within networks that become harder and harder to challenge.

Another perspective suggests that understanding scientific dissent requires a more explicit acknowledgment of the politics within and surrounding science. The analogy to political dissent is helpful. A healthy democracy requires that diverse and competing ideas emerge for debate and consideration, but democracies do not categorically embrace political dissent. In fact, political dissent is frequently dismissed, marginalized, or actively silenced because dissenting ideas can help coalesce and strengthen political opposition. Similarly, science has its own power structures – consider the roles of funding agencies, journal editorships, and disciplinary traditions – and also operates within a society with divergent interests that engage scientific knowledge in political struggles (e.g., regulation of toxic

pollution, ensuring food safety, creating incentives for desired economic behavior). As such, we should not be surprised to see that scientific dissent looks a great deal like political dissent.

A Conceptual Framework of Scientific Dissent

While some understand scientific dissent as a *position*, as in believing in a claim that goes against scientific orthodoxy, it is more useful to understand scientific dissent as a *practice*. This has the advantage of encouraging the analysis of the many ways in which scientists navigate controversies that erupt within and around their technical fields. In particular, the framework below draws attention to the uneven power structures and practices within scientific communities that shape the kind of knowledge that is produced and legitimized (for a more thorough treatment of this framework, see Delborne 2008).

The framework begins with the recognition that scientific fields contain dominant claims that reflect generally accepted epistemologies, methodologies, and motivations for research. For example, epidemiologists generally employ statistical methods to find correlations between patterns of disease and human behaviors or environmental conditions, with the goal of identifying possible intervention points to improve public health. Other scientific disciplines also address human health, but ask very different questions and use very different research methods – consider pharmacologists who seek new medicines to counter drug-resistant bacteria. Disagreements clearly occur in these and other fields, but disagreements rarely challenge foundational ideas. It would be unusual for an epidemiologist to challenge the validity of statistical methods in a general sense or for a pharmacologist to suggest that bacteria are the wrong target for fighting infections. While such extreme examples are rare, *contrarian science* does occur. Contrarian science challenges a dominant set of assumptions, frames, and methodologies. This is not dissent, because at this early stage, it may be unclear to the contrarian scientist whether – and to what degree – the contrarian claims truly upset the dominant way of thinking. In other words, contrarian science challenges something that a majority within a scientific community has come to believe, but there is no a priori reason to assume that new evidence could not alter the community's assumptions, frames, or accepted methodologies. Other scientists may simply be convinced by a contrarian argument, in which case dissent – as understood in this framework – would not have the opportunity to emerge.

When a contrarian claim is neither accepted – changing the dominant way of thinking – nor ignored, the contrarian scientist faces resistance or *impedance*. The value of this terminology is that it highlights that impedance can originate from within or outside of the traditional scientific community and that the contrarian claim may be right or wrong. To be clear, some contrarian claims *deserve* to be impeded – many would agree, for example, that contrarian claims that disavow the utility of condoms to prevent the spread of HIV are a threat to public health initiatives. It is not surprising that mainstream health professionals (scientists and nonscientists) would work to undermine the legitimacy of those contrarian claims. In contrast, early tobacco research that

Table 1 Key elements of a conceptual framework of scientific dissent (Adapted from Delborne 2008)

Mainstream science	Accepted ways of thinking, dominant ideas, and orthodox perspectives on what is true and how a scientific community produces knowledge
Contrarian science	Ideas, evidence, or perspectives that challenge mainstream science
Impedance	Efforts and actions to reduce the legitimacy of contrarian claims or the credibility of contrarian scientists. <i>Suppression</i> is an extreme form of impedance that violates the norms of the scientific community
Scientific dissent	Practices by contrarian scientists to restore their own credibility or the legitimacy of their claims against impedance. <i>Agonistic engagement</i> includes practices that are customary in scientific debates (e.g., providing additional evidence), while <i>dissident science</i> merges the controversy explicitly with political struggles and actors

challenged the safety of cigarette smoking also faced impedance – largely by tobacco-funded researchers (Proctor 1995) – but history has judged that example of impedance as corrupt, misguided, and motivated by special interests (Oreskes and Conway 2011). Thus, neither the appearance of contrarian science nor impedance necessarily means a breach in scientific integrity, but one may have occurred.

Within this framework, scientific dissent becomes possible in the face of impedance. Here, the contrarian scientist can choose whether to drop their initial claim – either because they realize their error or because they choose not to fight the battle – or to attempt to restore their scientific credibility. The latter option represents the wide variety of practices of scientific dissent that range from what we might call *agonistic engagement* (established and accepted behaviors in mainstream science, such as providing additional evidence or debating the criticisms) to *dissident science* (practices that are explicitly political, creating more resources to gain credibility, but also putting one’s scientific identity at risk of “pollution” from political concerns). Like impedance, dissent may be successful or unsuccessful – in restoring scientific credibility, changing dominant epistemologies, or undermining the legitimacy of impedance (Table 1).

From a methodological perspective of studying scientific controversies, this framework has the advantage of allowing analysis without requiring certainty of who is right and who is wrong. In the long and fruitful tradition of symmetry within the field of science and technology studies (Barnes and Bloor 1982), scientific dissent in the fields of AIDS causation and health impacts of tobacco can be considered with the same conceptual framework (rather than one framework for understanding when the dissenters are “right” and a different model for when they are “wrong”). Analysis focuses on distinguishing dominant ideas from contrarian ideas and the mixture of credibility, challenges, and defenses that represent the controversy. Making judgments about the *rightness* of these practices then becomes an explicitly normative task.

Suppression in Science

In light of the discussion above about scientific dissent as a practice in response to impedance, the suppression of science can be understood as a particular form of impedance. To be specific, suppression represents a normative category of impedance that is unfair, unjust, and counter to the standards of scientific behavior. What is difficult, however, is that suppression – from one perspective – looks very much like the justified and necessary policing of the boundaries of legitimate science. For example, a book like *The Deniers: The World-Renowned Scientists Who Stood up against Global Warming Hysteria, Political Persecution, and Fraud* (Solomon 2010) claims that science challenging the orthodoxy of global warming has been suppressed, while other books, such as *Reality Check: How Science Deniers Threaten Our Future* (Prothero 2013), make the argument that those who challenge the notion that climate change is real and anthropogenic are not credible scientists and deserve to be marginalized and discredited. Put simply, Prothero sees the necessary policing of the boundaries of science against irresponsible contrarians who lack integrity, while Solomon sees scientific suppression. Are scholars with a tradition of symmetrical analysis left with only a relativist position – simply to acknowledge the different perspectives of opposing participants and make no particular normative judgments?

Brian Martin recognizes this challenge and offers strategies to navigate such controversies: “Ultimately, there is no way to prove that suppression is involved in any particular case, but...[a] useful tool is the double standard test: is a dissident scientist treated any differently from other scientists with similar records of performance?” (Martin 1999a, p. 110). The authors of the books about global warming deniers mentioned above would no doubt answer this question differently, but the principle of using the double standard test as a marker offers analytic purchase. For example, one could interrogate the evidence of double standards being applied to scientists skeptical of anthropogenic global climate change as one way to sort through the controversy over whether suppression has occurred. What should be kept in mind, however, is that just because a scientist’s work has been suppressed by powerful forces – identified by the application of the double standard test – does not guarantee that the suppressed research was accurate! An early study of the policing of scientific boundaries sheds light on this subtle point. Two science studies researchers conducted an analysis of the field of paranormal psychology, finding that proponents of this field were frequently held to double standards as they were refused publication opportunities, scientific legitimacy, and access to research funds (Collins and Pinch 1979; Pinch 1979). That these behaviors were widespread in the field, and not just from an isolated case, is a secondary criterion to identify suppression (Martin 1999a, p. 111). Yet, even if the double standard exists in the field of paranormal psychology, one need not necessarily accept the diverse claims made by paranormal psychology researchers as true. Indeed, it may be quite rational for the scientific community to hold higher standards of evidence for claims that would disrupt accepted ideas.

That suppression can be viewed differently, however, does not mean that it is an empty category. In fact, recognizing that to identify and name suppression in

science is a normative process opens the conversation to the reality that any reference to suppression necessarily rests upon accepted norms of scientific practice. In other words, for suppression to occur, standards must have been violated. What is up for debate, then, is both the details of the alleged suppression (e.g., did an editor reject a paper despite positive peer reviews?) and the implied norm of scientific behavior (e.g., should an editor have the authority to overrule a peer review process for any reason?).

Brian Martin's research program represents the most comprehensive treatment of suppression in science by any scholar in the world (e.g., Martin 1981, 1991, 1999a, b, 2010, 2014b; Martin et al. 1986). His work has ruffled more than a few feathers, as he himself acknowledges, but the nature of this domain of inquiry guarantees drawing the ire of those engaged in the politics of scientific knowledge. Demonstrating his own reflexivity in his early work on controversies over water fluoridation, he notes that just the act of paying attention to contrarians can be seen as a partisan act, since actors supporting the orthodox position – the safety of fluoridated water, in this case – often seek to silence the debate altogether:

Since proponents generally maintain that there is no credible scientific opposition to fluoridation, my analysis appeared to give the opponents far too much credibility. . . [A]s soon as one begins interacting with partisans in a polarized controversy, there is no neutral position. (Martin 1991, p. 165)

Martin's observation raises the uncomfortable possibility that any effort to understand, analyze, or publicize controversies over scientific dissent or suppression will be interpreted – by some – as a political action. Given the cultural tendencies of academics to prefer the veil of neutrality, it is perhaps not surprising that Martin has few colleagues who have focused on such issues (for some exceptions, see Allen 2004; Delborne 2011; Epstein 1996; Gieryn 1999; Kuehn 2004; Moran 1998; Oreskes and Conway 2011; Simon 2002).

Because suppression is both contested and often uncertain, typologies can aid in analyzing the diverse behaviors and multiple moments in the production of controversial scientific knowledge. For example, Martin (1999a) describes suppression, noting how “agents or supporters of the powerful interest group make attempts to stop the scientist's activity or to undermine or penalize the scientist – for example, by censorship, denial of access to research facilities, withdrawal of funds, complaints to superiors, reprimands, punitive transfer, demotion, dismissal, and blacklisting, or threats of any of these” (p. 107). This list of behaviors does not provide an easy litmus test for identifying suppression, but instead a reminder of the various pathways of impedance in the scientific community.

The typology offered here calls attention to the multiple targets of scientific suppression (see Table 2). While it is not meant to suggest neat and clear lines between the categories – indeed part of the power of suppression is its spillover effects, described in more detail below – it might be useful to consider that suppression targets different entities at different moments in the production of scientific knowledge.

Table 2 Targets of scientific suppression

Target	Description	Examples
Ideas	Making the development of a set of research questions less likely or impossible (perhaps the hardest to measure)	A research funding agency not initiating a new program when it is called for by contrarian interests; an advisor discouraging a student from pursuing a novel and contrarian research project
Data and results	Manipulating, confiscating, or silencing data or results	A research sponsor refusing to allow access to data that questions the safety of their product; a scientist confiscating an employee's results because they undermine a favored hypothesis; an editor rejecting a paper prior to peer review because of its political implications
Scientists	<i>Credibility:</i> Undermining scientists' credibility and reputation to reduce the legitimacy of claims associated with them <i>Position:</i> Attempting to dislodge scientists from institutional positions that make their research possible <i>Practice:</i> Coercing scientists to censor their own present or future work	Accusing a scientist of being motivated by activism rather than the pursuit of truth; exposing embarrassing details of a scientist's personal life Threatening to withdraw foundation support from a university unless they fire a particular researcher Offering a scientist rewards <i>not</i> to publish a finding; threatening a scientist with a public relations attack unless they pursue a different line of research
Scientific field	Undermining the credibility and reputation of a field of inquiry, leading to institutional changes	Calling for the National Science Foundation to eliminate a program of funding because of its supposed political bias

A significant shortcoming of this typology is its failure to adequately address what one might call a “chilling effect.” Namely, when scientists become aware of attempts at scientific suppression – whether successful or unsuccessful – they may change their own scientific practice in response, despite not being a direct target. Martin (1999a) notes: “[I]t is my observation that quite a number of scientists avoid doing research or making statements on sensitive issues because they are aware, at some level, of the danger of being attacked if they do” (p. 108). In fact, Joanna Kempner interviewed thirty National Institutes of Health scientists who became embroiled in a political attack on federally funded research, and she found that half of them subsequently had removed controversial words from their research proposals and that about one-quarter had avoided controversial topics entirely (Kempner 2008). While personality characteristics such as conviction, courage, and confidence might play a mediating role – as would differences in professional security (e.g., tenure status) – it seems clear that witnessing suppression could change a researcher's calculus about whether to pursue a particular question or how to disseminate controversial results.

In contrast to the chilling effect, a counterintuitive outcome of suppression can also be the flourishing and publicizing of dissenting views. As with political oppression, such as that which occurred during the US Civil Rights Movement, suppression may be attempted but result in *greater* attention and sympathy to the dissenting position. Martin (2007) refers to this as “backfire” or the “boomerang effect.” As but one example, a dissenting scientist in the field of agricultural biotechnology, Ignacio Chapela, produced a public event during which he showcased the attempts at suppression that he and some of his colleagues faced as they challenged the safety of genetically engineered crops. Chapela titled the event “The Pulse of Scientific Freedom in the Age of the Biotech Industry,” and it drew over five-hundred attendees on the University of California, Berkeley campus, and was webcast around the world. While one event does not prove “backfire,” it demonstrates a key strategic option for dissident scientists: exposing suppression in a public manner to win support (Delborne 2008, pp. 524–526).

Best Practices

It would be naïve to hope for a state of the world in which scientists policed the boundaries of credible knowledge perfectly – never suppressing “good science” and always responsibly and respectfully discrediting “bad science.” Science is full of diverse actors, uncertainties, and powerful interests that will simply never vanish. Instead, scientists should aim for high standards of conduct – best practices – that avoid suppression, respect dissent, and encourage healthy debates in the production of knowledge:

1. *Engage directly and respectfully.* Given that conflict and disagreement will necessarily occur in the practice of science, scientists should engage directly and respectfully when they hold a contrarian view. For example, contact scientists directly rather than submitting complaints to their superiors, ask for clarifications or additional data before attacking colleagues in a public forum, and focus on the research (data, analysis, interpretation, significance) rather than the researcher in any critique.
2. *Foster free speech and free inquiry.* Scientists should foster free speech and free inquiry as pillars of scientific practice. Just as democracies struggle to discern “political speech” from “hate speech” in highly charged moments, so too will science struggle with the temptation to censor contrarian voices that appear “dangerous.” For example, Martin (2014a) describes efforts by vaccination supporters in Australia to censor groups and individuals who have sought to make arguments about the dangers of vaccination. While experts have an understandable fear of the public being exposed to ideas that do not represent the scientific consensus and could lead to harmful behavior – especially in fields of human and environmental health – Martin deconstructs the ethical and pragmatic justifications for such behavior. He writes, “If it were sufficient to

claim that someone's speech is misleading and potentially dangerous to public health, with the key criterion of being 'misleading' being disagreement with prevailing scientific knowledge, then public debate on all manner of controversial issues would be in jeopardy" (p. 8). In other words, permitting censorship in scientific debates presents too great a risk in terms of undermining democratic governance. Instead, fostering free speech – which includes highly persuasive speech that may, for example, provide devastating critiques of contrarian claims – offers the best chance for ongoing inquiry and decision making.

3. *Maintain awareness of the political economy of science.* As many scholars have demonstrated, the world of science is infused by money and power (Frickel and Moore 2006; Kinchy 2012; Kleinman 2003; Krimsky 2003; Oreskes and Conway 2011), despite common narratives that downplay such characteristics or only admit their influence in cases of corruption or misconduct. By maintaining awareness of the political economy of science – the ways that money and other resources (e.g., reputation, affiliation, political connections) play roles in determining how, what, and whether knowledge is produced and deemed credible – the chances of detecting and opposing scientific suppression are increased. The influence of money and political power does not necessarily undermine the credibility of any particular scientific claim or prove that an instance of impediment is suppression, but it may serve as a reminder to consider carefully the motives and influences at play in a given controversy. Likewise, scientific dissent may take very different forms depending on the degree to which the scientific controversy has political ramifications.
4. *Recognize diverse roles for scientists to play in policymaking.* Scientists face a paradoxical tension. Traditional narratives of good scientific practice emphasize staying out of the fray of politics (e.g., the slander implied in many circles by calling a scientist an "activist"). Simultaneously, the public funding of scientific research continues to demand relevancy and social benefit (e.g., the adoption by the US National Science Foundation of the "broader impacts" criteria in evaluating research proposals beyond their "intellectual merit"). This tension becomes more significant in highly politicized scientific controversies, as scientists may experience strong pressures both to maintain their "neutrality" and to engage as experts in policy processes. Roger Pielke, Jr.'s book, *The Honest Broker: Making Sense of Science in Policy and Politics* (2007), offers a framework for understanding appropriate and diverse roles that scientists may play in such circumstances. Briefly, he suggests that by paying attention to the degree of scientific uncertainty and the level of values consensus around a particular policy issue, scientists can choose appropriate roles that leverage their expertise in ways that assist democratic processes. Particularly relevant for the subject of scientific dissent and suppression, Pielke writes that under conditions of high scientific uncertainty and low values consensus (e.g., genetically modified animals, climate change, nuclear energy), more experts should serve as "honest brokers of policy alternatives," clarifying and expanding the array of policy choices that decision makers face.

5. *Use the boomerang; anticipate backfire.* Recognizing that efforts at scientific suppression will never vanish, those who face this flavor of impedance (and their allies) should remember that exposing suppression activities is one available strategy to dissenting scientists. Doing so effectively creates a boomerang effect (described above) and can complement more traditional strategies of providing more convincing data and analysis. Simultaneously, scientists who find themselves in the position of aggressively impeding contrarians (e.g., climate scientists attacking “climate skeptics”) should remember that their opponents will likely try to use the boomerang effect to their advantage. While there may be no way to eliminate the possibility of backfire, best practices would include avoiding behaviors that, if publicized, would create sympathy for one’s opponents (e.g., ad hominem attacks, backdoor efforts to prevent the funding or publication of research).

Conclusion

Contextualizing scientific suppression as a particular form of impedance illustrates the relationship between academic integrity and scientific controversy. To be clear, the eruption of scientific controversy does not automatically signal a lapse in scientific integrity, even if exchanges appear harsh or dismissive. Instead, this chapter encourages attention to how contrarian science, impedance, and scientific dissent are core practices in a healthy scientific community. At the same time, the suppression of science represents an unhealthy extreme of impedance – one that threatens both knowledge production and the legitimacy of science.

Best practices in light of these complex phenomena include: (1) engaging directly and respectfully with scientific opponents; (2) fostering free speech and free inquiry, even when doing so risks allowing your opponents to make their claims publicly; (3) maintaining awareness of the political economy of science as a means of staying sensitive to the role of power in influencing the dynamics of scientific controversy; (4) recognizing that scientists can play a variety of legitimate and helpful roles in the policymaking process, depending on the degrees of scientific uncertainty and values consensus; and (5) using the boomerang effect as a strategy to counter scientific suppression and anticipating others’ use of the same strategy.

While it may be tempting to believe that scientific and academic integrity will only be found when science is objective, apolitical, and noncontroversial, such a perspective not only denies the reality of scientific practice but also offers a mirage that distracts from pragmatic efforts we can make to pursue integrity even in the midst of uncertain, politicized, and controversial science. Scientific dissent is necessary, and understanding the role that it plays strengthens our ability to detect and oppose efforts of scientific suppression.

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Whistleblowing and Research Integrity: Making a Difference Through Scientific Freedom

65

Tom Devine and Alicia Reaves

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Abstract

Whistle-blowers, who speak out in the public interest, are important players in challenging abuses of power. In science, where trust in processes and outcomes is vital, whistle-blowing is especially important. Case studies of US research whistle-blowers show the challenges they face, the reprisals they suffer, and the significant difference they make through their efforts. Legal protections for whistle-blowers are valuable but not enough on their own. Key potential allies for whistle-blowers are scientific peers, government agencies, legislators, media, and NGOs. These allies can provide corroboration, advocacy, and solidarity.

Introduction

Whistle-blowers are those who try to make a difference by speaking out to challenge abuses of power that betray the public trust. Although whistle-blowing only recently has become a popular label, it is as old as the history of organized society.

T. Devine (✉) • A. Reaves
Government Accountability Project, Washington, DC, USA
e-mail: tomd@whistleblower.org

Science has been no exception, where those who abuse power have long suppressed those who challenge conventional wisdom, research that violates the scientific method, theft of intellectual property, and other misconduct limited only by the imagination.

Scientific whistle-blowers play a uniquely significant role. Science strives to be the objective search for truth through empirical proof to verify hypotheses as the foundation for theories, scientific laws, and ultimately paradigms. It simply is unrealistic, however, to presume that those with power will excuse science from political and commercial pressures that drive the rest of society. Organizations understandably view the scientists they employ or fund as resources for their policies and whistle-blowers as individuals who substitute their own personal agendas or policy preferences for those of the employer whom they are supposed to serve. But whistle-blowers view themselves as first serving the scientific method and the integrity of their research. This clash of loyalties is inevitable and timeless, and so is retaliation.

Their significance extends beyond professional integrity. All scientists make a difference through their contributions to the pool of knowledge. Scientific whistle-blowers, however, challenge threats to the scientific search for truth. In the process they may act as the pioneers for fundamental change and even new paradigms for how society perceives and relates to the world.

Copernicus and Galileo received the whistle-blower treatment for challenging conventional wisdom that the earth is flat and the center of the universe. Indeed, Galileo spent the rest of his life under house arrest. But even when pariahs in their time, whistle-blowers have been the pioneers for new paradigms (Kuhn 1962) and regularly act as guardians of integrity for the scientific method and other academic research (Devine and Maassarani 2011).

While understanding the tactics used to suppress dissenters and dissent is necessary for context, the previous chapter has covered those dimensions of whistle-blowing more fully. Despite those classic patterns of suppression, currently whistle-blowing is increasingly common both within public and private sector contexts, with increasing impact. What once was the rare aberration is taking root (Calland and Dehn 2004; Miceli et al. 2008). This chapter primarily surveys scientific whistle-blowers who have overcome those barriers to make a difference and how they did it. It analyzes the strategies and tactics they have used successfully to challenge the status quo. Finally, it illustrates how the rule of law can help make a difference by combining loyalty to the scientific method with legal campaigns to make a difference. It emphasizes scientific whistle-blowers from the United States, which has pioneered these free speech rights generally and specifically for scientists in the Whistleblower Protection Enhancement Act of 2012.

Tactics to Suppress Dissenters and Dissent

If challenging abuses of power through exercising freedom of speech is timeless, so is retaliation to prevent or suppress it. The methods to retaliate are limited only by the imagination. Examples of common tactics to silence whistle-blowers include:

- Shifting the spotlight from the dissent to the dissenter through retaliatory investigations and personalized attacks – “the smokescreen syndrome” – a process routinely used to publicly discredit or build a damaging record on paper against the whistle-blower;
- Threatening them;
- Isolating them on the job from colleagues and information;
- Putting them on a “pedestal of cards” by setting them up for failure with appointments to solve the problem they expose while making it impossible to succeed and then scapegoating them for failure;
- Paralyzing their careers;
- Eliminating their jobs;
- Engaging in physical violence;
- Suing them for damages on virtually any charge, even when it will be thrown out of court immediately, because the whistle-blower cannot afford to call the legal bluff;
- Criminally prosecuting them for false or pretextual offenses; and
- Blacklisting them.

The pressures to remain silent are severe (Calland and Dehn 2004; Devine and Maassarani 2011).

Silencing tactics are no less unrestrained. Classic tactics include:

- Issuing mandatory nondisclosure agreements or gag orders;
- Initiating studies of the issue that remain incomplete indefinitely;
- Separating expertise from decision-making authority;
- Institutionalizing conflict of interest for investigation and corrective action;
- Restricting internal access to information;
- Abuse of secrecy designations such as overclassification of security-related information;
- Preventing development of a written record;
- Rewriting the issues to circumvent the indefensible; and
- Scapegoating the small fry to divert accountability (Devine and Maassarani 2011).

Making a Difference

Despite these obstacles, whistle-blowers can sometimes overcome them. Although often effectively suppressed, overall their impact has been to change the course of history, to keep it from being rewritten and help prevent recurrence of the same abuses sustained by secrecy, and to serve as catalysts for accountability. The following examples primarily involve United States whistle-blowers who have made a difference. There are no geographical boundaries for scientific whistle-blowers, however. These whistle-blowers were chosen, because through their

experiences they sparked enactment of pioneering legal rights in the United States for scientists who “commit the truth.”

Dr. Aubrey Blumsohn. Dr. Blumsohn was a researcher at Sheffield University in England, which contracted with the multinational US firm Procter and Gamble (P&G) to study therapy responses of its osteoporosis drug Actonel. The object was to prove that Actonel was more effective than its competitors on the market. To pursue the research, Dr. Blumsohn conducted “blind” tests, not knowing whether subjects received Actonel or a placebo. To learn the results, he had to study the company’s “randomization codes” to sort who had received what. But P&G refused to provide them on grounds that they were proprietary information and told him to accept its own summary (GAP 2006). Although he refused, P&G began ghostwriting and publishing under Blumsohn’s name research findings about Actonel that he had not made. When he was finally permitted to do a limited review, he discovered that up to 40 % of data essential for conclusions on different graphs was missing. Under public pressure, on June 2006, P&G released the missing data to Dr. Blumsohn. The results were unfavorable for Actonel, and he was able to publicly correct the record (Blumsohn 2006).

Dr. Janet Chandler. In 1993 Dr. Chandler was a clinical researcher at Cook County (Illinois) Hospital’s Hektoen Institute, specializing in addiction treatment, when the hospital received a National Institutes of Health (NIH) grant to test a new model for treatment of pregnant heroin addicts. The experiment, named “New Start,” was to replace neighborhood clinics that dispensed methadone. Instead, it would provide a “Cadillac” treatment – holistic therapy that included day care, training, and other assistance beyond mere distribution of an alternative drug. Among Dr. Chandler’s duties as project director for the grant was running the accompanying day care center. Unfortunately, she learned that systematic fraud compromised the program. So much money was diverted that the children did not have electricity and hot water, and single cribs had to accommodate multiple infants. She further protested that the institute was sending false progress reports on the study. Instead of careful controls, women were recruited off the streets with enticements of shopping discount certificates. Data was reported for “ghost subjects.” The actual humans did not provide informed consent before participating, and inadequate records supported claimed results. The clinic diluted methadone by up to 80 %, which left the pregnant addicts still working the streets as prostitutes to support their heroin addictions. In short, the deluxe program was far less effective than the traditional clinics and actually made matters worse for many who participated (Chandler 1996). Although Dr. Chandler was terminated in 1995 after speaking out, she persisted and prevailed. With help from her attorney Barack Obama in *Cook County v. United States ex rel. Chandler*, 538 U.S. 119 (2003), she won a precedent-setting Supreme Court decision holding the county liable for treble damages under the US False Claims Act.

Franz Gayl. In 2006, as the Marine Corps Science Advisor, Mr. Gayl was sent to Iraq where he received an urgent assignment from the top field commander. Vehicles carrying troops could not withstand land mines, which had become the primary source of casualties. But adequate Mine Resistant Armored Protective (MRAP)

vehicles had been paid for, inspected, and sent to warehouses, where they had been gathering dust for 19 months without delivery. Mr. Gayl's mission was to free up delivery of the MRAP vehicles. When his Pentagon briefing of General Petraeus was canceled, Gayl began blowing the whistle to Congress and then through congressional referral to the media. After an ensuing public spotlight which included congressional hearings, the MRAP vehicles were delivered (Cantu 2011; Merit Systems Protection Board 2011). The results were dramatic. Land mine casualties before delivery had been 60 %, including 80 % of fatalities. Afterward the casualty rate dropped to 5 %. Subsequent Pentagon research on roadside explosions in Iraq and Afghanistan demonstrated that the MRAP vehicles were 14 times more effective than their predecessor (Vanden Brook 2012; Lamb 2014). Gayl paid a horrible price in retaliation for his disclosures. He was silenced, suspended, ordered to take psychiatric examinations, stripped of his duties, temporarily stripped of his security clearance, placed under repeated criminal investigations, reassigned to his home as a duty station, and fired (Cantu 2011; Soeken 2014). After a 7-year legal battle, the marines settled his case on terms that included a commendation which recognized his whistleblowing and appointment to a new team established to prepare whistle-blowing policy and training for the marines.

Dr. David Graham. Dr. Graham is a US Food and Drug Administration (FDA) scientist whose testimony has prevented recurrence of tens of thousands of unnecessary deaths from improperly approved drugs such as the painkiller Vioxx. In November 18, 2004, Senate Finance Committee testimony, he defied agency threats and exposed that Vioxx was one of a half dozen government-approved drugs that killed the patients who took them for treatment. Vioxx, a potent "Cox-2" painkiller, had caused between 30 and 55,000 fatal heart attacks. His testimony attacked inaccurate research claims for the drug's safety that the FDA improperly had accepted as safety verification (Graham 2004). The manufacturer Merck faced some 27,000 lawsuits for claims that eventually settled at \$4.85 billion in damages and pulled the drug from US markets (Wadman 2007). Although defensive FDA officials intensified efforts to silence Dr. Graham, he persisted against a broad array of highly profitable but dangerous Cox-2 drugs with similar qualities to Vioxx. The agency placed unprecedented safety restrictions on all Cox-2 pain relievers, finding that the drugs were dangerous. Treating Vioxx like cigarettes, it banned product advertisements and required large warning labels (Government Accountability Project 2005).

Dr. Ned Feder and Walter Stewart. Popularized as the "Fraudbusters," these researchers at the National Institutes of Health (NIH) made disclosures that put a national spotlight on scientific fraud. They not only exposed the lack of basis for studies with "too perfect" results, but they examined the causes – flawed peer reviews and fear of liability by professional journals (Stewart 1989). Their controversial disclosures sparked a series of high-profile congressional hearings, in part based on their investigative work. They obtained a temporary reassignment to the House Energy and Commerce Committee, where Chairman John Dingell was leading oversight of scientific research fraud (Knightworth 2014). Ironically, a different kind of whistle-blowing caused their downfall within the NIH – exposures

of intellectual property theft that critics charged had publicly discredited scientific research. In 1993 the NIH closed their laboratory and placed the relevant files into deep storage after a “plagiarism machine” they had created produced too many controversial charges (Grossman 1993). Feder later became staff scientist for the Project on Government Oversight (POGO), a nongovernmental watchdog, where he regularly blows the whistle as part of his job.

Dr. James Hansen. Until his 2013 retirement, Dr. James Hansen was the top climate change scientist at the National Aeronautics and Space Administration (NASA)’s Goddard Institute for Space Studies. He also has been the pioneer scientist warning about potentially apocalyptic effects from global warming. On June 23, 1988, he testified before the Senate Energy and Natural Resources Committee on the causal relationship between human emissions and higher temperatures, warning that “the greenhouse effect is here.” *The New York Times* responded, “Global Warming Has Begun” (Nation Institute 2013). His alarms principally targeted the use of fossil fuels that emit carbon dioxide, predicting that “[b]urning all fossil fuels could result in the planet being not only ice-free but human-free” (Merchant 2013). Hansen warned that without a social overhaul to reduce carbon emissions, earth will reach a tipping point beyond which it is too late to stop glaciers from melting, with temperatures over the next century increasing 4–5 °F. The last time earth was that hot, some 3 million years ago, sea levels were 80 f. higher than today. Florida was largely underwater, and coastlines were up to 50 miles inland, which would exile most of today’s concentrated populations. Katrina disasters would become the rule rather than the exception, with cities forced to continually rebuild above a transient water line (NASA 2006). His research helped spark international conferences and treaties (United Nations 1992), as well as in-depth, ongoing UN studies substantially confirming his concerns (Climate Science Watch 2014).

Applying his research to proposed policy solutions, he was a leading critic of failed “cap and trade” legislation that would have addressed climate change through setting up a carbon trading market. Since his retirement, he has continued to be active, reinforcing environmental opposition to the mountain top removal for coal mining and the proposed US-Canada Keystone Pipeline through his highly publicized arrests for civil disobedience.

Dr. Anthony Morris. As an FDA scientist in the 1970s, Dr. Morris pioneered public scrutiny of vaccines that on occasion have been far more harmful than the maladies they are prescribed to treat. He was chief vaccine officer for the agency’s Bureau of Biological Standards. His unpopular research challenged a growing vaccine industry. He charged that pharmaceutical industry studies purportedly proving their effectiveness could not withstand scrutiny, although the FDA consistently accepted them. Although his disclosures sparked congressional oversight, his whistle-blowing climaxed in 1976 when President Ford announced a \$135 million emergency vaccination plan for 140 million people to prevent a feared outbreak of the swine flu. Dr. Morris spoke out in every available forum from the FDA to the Phil Donahue national television program. He warned that the vaccine would be a net public health hazard. It had been tested against a different virus than the alleged

threat, had not been effective, and was likely to cause severe side effects such as death and paralysis.

In response, the FDA terminated Dr. Morris for insubordination and incompetence. But history proved him right. The vaccine led to deaths or paralysis in hundreds of cases, and the incidence of swine flu was seven times higher for those who received it than those who did not. A wave of lawsuits ensued. The “Swine Flu Affair,” as it became known, helped strengthen a national consumer movement on vaccine dangers (Brown 2009; McBean 2009). Even then Secretary of Health and Human Services Joseph Califano, the primary decision-maker, since has conceded the need for painful “lessons to be learned” from the mistakes in that drug’s approval (Neustadt and Feinberg 1978).

Aldric Saucier. Mr. Saucier was the army’s chief scientist in 1992 when he blew the whistle on “Star Wars,” one of the Pentagon’s most cherished programs during the 1980s. He charged that the \$29 billion anti-ballistic missile defense was based on false scientific claims unsupported by credible research. He further documented that the Department of Defense was paying contractors multiple times for the same studies containing different covers and summaries but identical research, with overcharges up to \$3 billion (Saucier 1992; Page 1993). His most significant disclosures, however, challenged the planned trillion-dollar next generation of Star Wars, known as Brilliant Pebbles. The vision for that strategy was to shoot shotgun-like blasts of “pebbles,” or small interceptors, from satellites to knock out enemy missiles from above. As Mr. Saucier’s research demonstrated, however, the pebbles would burn up in the earth’s atmosphere far above the highest point of any missile invented. The army proposed Mr. Saucier’s termination for unacceptable performance (Evans 1992). But the US Office of Special Counsel found a “substantial likelihood” that he was correct and ordered an investigation of his charges (Cushman 1992). Although the Pentagon did not concede error, his disclosures received broad support from the media, independent scientists, and NGOs. Congress conducted its own investigations, and in 1993 the Brilliant Pebbles program was canceled (Giraffe Heroes Project 2014; Marshall and Claremont Institutes 2014).

Dr. Joseph Settepani. An FDA scientist at its Center for Veterinary Medicine, Dr. Settepani was in charge of quality control for veterinary drugs in the feed of food-producing animals. His mission was to keep illegal animal drugs or those used for unapproved purposes from the feed of food-producing animals. His research supported three primary concerns: (1) Some consumers are allergic to drugs in animal feed, and they are vulnerable to severe adverse reactions; (2) Drugs that cause abnormal increases in body weight or maturity in animals can have the same impact on consumers, such as children becoming fully mature before they are teenagers; and (3) Some consumers unwittingly build up a dangerous resistance to antibiotics from steady usage of those drugs in animal feed, preventing them from working when needed. Dr. Settepani learned that the FDA knowingly allowed and enabled practices that meant routine, unapproved use of drugs in animal feed. He also learned that the FDA had suppressed approval of a reliable, available device to test for illegal drugs in commercial milk.

Dr. Settepani protested steadily within the agency. In response it reassigned him from his position at FDA headquarters to a trailer in a rural setting to conduct long-term research. But he persisted outside established channels. His testimony spearheaded hearings by Representative Ted Weiss and a congressional report that verified his charges (Hiltz 1990). The FDA approved a national testing program for commercial milk supplies. The testing program demonstrated that 80 % of milk at grocery stores was contaminated with illegal animal drugs, and an industry cleanup ensued (Government Accountability Project 2012).

Dr. Jeffrey Wigand. In 1988 Dr. Wigand accepted a position as vice president for Research and Development at Brown and Williamson Tobacco Corporation, one of the nation's four largest. His objective was to follow through on corporate commitments to create safer and more fire-resistant cigarettes. He began to blow the whistle internally, however, when associated research projects were inadequately supported or canceled altogether, as was the entire research program eventually. He became convinced that, contrary to its official position, the company was trying to kill advances in cigarette safety, in part because saving lives could undermine defenses against lawsuits that existing products were unsafe. In 1993 the company fired him. Dr. Wigand, however, worked closely with the media, Food and Drug Administration Chief Donald Kessler, Congress, and prosecutors for his disclosures to make a difference. They did, after being highlighted by the *Wall Street Journal* and eventually the CBS *60 Minutes* program. His disclosures led to a massive wave of government litigation against the tobacco industry. Despite threats of civil and criminal prosecution, his testimony for state attorneys general was a turning point in litigation that resulted in a \$206 billion settlement, one of history's largest. Eventually Hollywood turned his story into an Oscar-nominated movie, *The Insider*. He went on to start a new career as a high school science and Japanese teacher, winning an award as Fannie Mae First Class Teacher of the Year. He became a leader of the global NGO, Tobacco-Free Kids (Wigand 2011; Devine and Maassarani 2011).

Legal Rights: Welcome Reinforcement from the Rule of Law

Since the legal system seeks to preserve stability, and whistle-blowers challenge the status quo, traditionally the law has not been a reliable base of support. In recent years, however, there has been a legal revolution for freedom of speech within the workplace (Vaughn 2012). In the United States on the federal level alone, there now are 58 federal laws alone protecting whistle-blowers in the public and private sector work force, including 12 since 2002 that cover nearly the entire private sector labor force with best practice legal rights (Devine and Maassarani 2011). The phenomenon is hardly limited to one country. Twenty-eight nations now have whistle-blower laws (Blueprint for Free Speech 2013), as do intergovernmental organizations such as the United Nations and World Bank (Devine and Walden 2013). Protection has become a cornerstone of civil society reforms, from anti-corruption conventions to criteria for European Union membership, with an emerging consensus on global best practices (Devine and Walden 2013; OECD 2011).

The US experience highlights this dynamic phenomenon. Before 1959 there were no free speech rights on the job either in the public or private sectors. Corporate employees long had been governed by the traditional “at-will” rule of the master-servant doctrine governing common law since the Magna Carta – an employee can be fired for any reason or none. For all practical purposes, government employees had to obey. There was no option for legally protected dissent. That changed in 1959, when California courts in *Petermann v. International Brotherhood of Teamsters* first established a “public policy exception” to the at-will doctrine, permitting corporate workers to file lawsuits in tort for damages. In 1968 the US constitution became relevant for government workers in the employment context when the Supreme Court recognized rights under the first amendment in *Pickering v. Board of Education*. The current smorgasbord of rights primarily began in 1978, when whistle-blower protection was included as one of the most prominent reforms in a comprehensive post-Watergate overhaul of federal employment, the Civil Service Reform Act of 1978 (Vaughn 2012).

The US Whistleblower Protection Act was separated into its own statute in 1989. Within the vast menu of US laws, it is the only one with dedicated protection for scientific freedom. Its operative rights in 5 USC 2302(b)(8) protect disclosures of information that an employee reasonably believes is ordance of misconduct which is legally protyped to challange, including illegality, gross waste, abuse of authority, gross mismanagement, or a substantial and specific danger to public health or safety. Reflecting its significant impact on government abuses of power, the law has had a phoenix-like history of death and rebirth – endlessly attacked, gutted, and revived to unanimously reaffirm its original mandate. The WPA is fundamental for effective congressional oversight. As a result, Congress unanimously reenacted and strengthened its original mandate three times – the latest through the Whistleblower Protection Enhancement Act of 2012 (WPEA) after a 13-year campaign.

Included due to the experiences of climate change and drug safety whistle-blowers, in Section 110 the WPEA added specific provisions to strengthen scientific freedom of speech. It is now protected to disclose “censorship related to research, analysis or technical research,” if the whistle-blower reasonably believes the suppression is illegal or will cause illegality, gross waste, gross mismanagement, or a substantial and specific danger to public health or safety, the same categories to protect disclosures outright. “Censorship” is defined as “any effort to distort, misrepresent or suppress research, analysis or technical information.” The law shields the impact of research for policy decisions. While the WPEA does not protect policy disagreements, it protects disclosures of *consequences* from a policy that evidence illegality, threats to public health and safety, abuse of authority, or the other listed categories.

The WPA also has a formal channel for whistle-blowers to make a difference. Under 5 USC 1213, the law provides another function for its official whistle-blower protection agency. Besides investigating and prosecuting retaliation cases, the US Office of Special Counsel screens whistle-blowing disclosures and orders investigations of those it finds worthy. Applicants and current or former US government employees can file their evidence with the OSC of illegality, abuse of authority, or

other protected speech categories, and the agency has 15 days to determine if there is a “substantial likelihood” the charges are correct. If so, the Special Counsel must order an investigation by the relevant agency head. The methodology and contents for the report are carefully proscribed. It must be signed by the agency chief and include a summary of evidence received and how the investigation was conducted, reveal new evidence obtained, make findings of fact and conclusions of law, and commit to any relevant corrective action. The report then goes to the whistle-blower for comments, after which it is evaluated by the OSC for completeness and reasonableness. If the Special Counsel finds the report in noncompliance, it either can send the referral back to the agency to redo in whole or in part or close the case with a finding that the agency has not responded lawfully to the disclosure. The Special Counsel then transmits the entire package, including the whistle-blower’s comments and OSC evaluation, to the president and relevant congressional offices and posts it publicly on the OSC website.

Strategies and Tactics for Making a Difference

While legal rights are welcome, and often necessary, as a rule they are inadequate to make a difference in isolation. The Government Accountability Project (GAP), a leading US whistle-blower advocacy group, consistently advises whistle-blowers that if all they have is legal rights, they are in serious trouble. The case studies above benefited from “legal campaigns,” of which legal action is only the base for much broader advocacy. The conventional odds are overwhelmingly uneven when an individual challenges institutional abuse of power. Charging ahead alone, without advance work for quality control and to assure at least confidential corroboration from supporting witnesses, is almost certain to fail, and the alleged abuses will be stronger for having withstood the challenge.

The strategy is to replace isolation with solidarity, the key transformation for turning information into power. The tactic is to act as information matchmaker between the isolated whistle-blower, with all the stakeholders who should be benefiting from his or her knowledge. When that occurs, instead of an employer’s hostile bureaucracy surrounding the whistle-blower, society surrounds the bureaucracy, and the balance of power reverses. Illustrative examples below from the case studies illustrate this theme.

Corroboration from peers. It is possible for an employer to say that one whistle-blower is uninformed, dishonest, incompetent, or pursuing a hidden agenda. Indeed, employers often try to replace the scientific method with a twisted version of the “democratic process” – recruiting a cadre of “yes people” who will endorse the organization’s party line and outvote the whistle-blower’s views, reinforced by individual criticisms in the strongest terms. In that way, mob rule can trump the evidence. This same tactic can be used to subvert peer review from a respected form of professional quality control into a secret process that issues unsupported, sweeping rejections of the whistle-blower’s professional dissent (Devine and Maassarani 2011).

It is unrealistic, however, for an institution denying misconduct to charge that 30–40 witnesses testifying consistently are all dishonest or otherwise unworthy. In the research field, an effective tactic is to organize independent peer review by professionals whose credibility is beyond dispute and stronger than hand-picked bureaucratic experts vulnerable to institutional conflict of interest. Committees of vindicated whistle-blowers also have been effective to help screen new disclosures of alleged misconduct. Peer review by outside experts can discredit institutional attacks by “party line” scientists. To illustrate, the army proposed removal of its chief scientist, Mr. Saucier, because he contended that the Brilliant Pebbles anti-ballistic missile defense system was fatally flawed. But a volunteer, independent peer review committee disagreed. Its members included Nobel Prize winner Hans Bethe, former Assistant Secretary of the Navy Ted Postol, and numerous physics professors. They unanimously concluded that Mr. Saucier’s concerns were well taken. They concluded that the concerns about incompetence applied not to Mr. Saucier but to the army officials who made that charge against him (Devine 1993). Their corroboration proved highly significant with congressional oversight offices and associated NGOs. The attack on Mr. Saucier’s credibility backfired.

Corroboration by government agencies. Corroboration by a government agency changes the dynamic from an isolated critic charging government misconduct to an official body finding that the agency has or may have engaged in the same alleged misconduct. This means there is far less risk for congressional oversight offices, the media, or outside organizations who are considering a spotlight on or support for the whistle-blower’s charges. From this perspective, the US Office of Special Counsel, as an official government watchdog agency, has been particularly significant. Mr. Saucier and Dr. Settepani both had credibility breakthroughs by channeling their disclosures through the OSC’s whistle-blowing channel. An OSC “substantial likelihood” finding has had the effect of a bureaucratic Good House-keeping Seal of Approval for whistle-blowers. It also institutionalizes an investigative process, which can be a magnet for other whistle-blowers waiting to see what happens, as well as further opportunities for scrutiny when the ensuing report is released.

In Dr. Wigand’s case, the support ranged from the chairman of the FDA to state attorneys general prosecuting the tobacco industry. By subpoenaing him, the prosecutors trumped gag orders and threats of litigation from his former employer.

Congressional support. It long has been recognized within the whistle-blower community that support from an effective congressional “angel” can be far more powerful than legal rights. This applies both to making a difference and to surviving professionally. That is particularly the case if the aroused member sits on a committee with relevant budget, legislative, and/or oversight authority. Franz Gayl, for example, did not file a WPA whistle-blowing disclosure. But his briefings for the Chairs of the Senate Armed Services, Foreign Relations, and Intelligence Committees, among others, placed a spotlight on the Marine Corps for failing to timely deliver MRAP vehicles to Iraq and Afghanistan (GAP 2013; POGO 2008). The congressional spotlight led to prominent media coverage. After the Corps’ leaders were unable to defend the delay in Senate hearings, the lifesaving vehicles

were finally freed up and sent to the troops (Soeken 2014; Vanden Brook 2014). Aldric Saucier never convinced the Department of Defense to admit error on Star Wars or Brilliant Pebbles, but he made a difference by helping convince the House Appropriations Committee to cut off funding. Stern warnings from House Judiciary Committee Chairman John Conyers helped Saucier professionally to survive long enough to make a difference (Foerstal 2010: 43–45; Rothstein 1992). Dr. David Graham sparked an immediate national media scandal by releasing his scientific dissent in 2004 Senate Judiciary Committee hearings. When the FDA tried to remove his duties through reassignment, it reconsidered and withdrew the proposal after sharp protests and warnings from 22 members of Congress, including Senator Charles Grassley (California Healthline 2004). Ned Feder and Walter Stewart took this tactic the next step, after the House Commerce Committee possessing relevant oversight authority brought them onto its staff for temporary assignments with a mandate to continue investigative work from an independent perch (Culliton 1990).

Media support. The solidarity strategy inherently requires informing the public how its trust has been betrayed. Whether through conventional or social media contexts, no comparable lifeline exists to turn the truth into power. When relevant stakeholders join forces with a whistle-blower, reinforced by a newly informed and aroused public, the beach head of initial support inevitably expands and intensifies. The media even can be an effective lifeline in a totalitarian society without relevant or credible-free speech legal rights. Due to an international media spotlight, Dr. Jiang Yankong exposed the Chinese cover-up of a deadly SARS virus outbreak and not only survived but received official praise (Calland and Dehn 2004: 53–60).

This front should be opened as soon as internal channels have proved futile or counterproductive, and there is sufficient credibility. If the media spotlight occurs during a government investigation, it both can prevent retaliation and be a magnet for further witnesses and political support. Indeed, the most effective stories may be ones that are never printed or broadcast, because abuses of power are prevented by hostile advance media inquiries. In Dr. Graham's case, he had complementary support from Senator Grassley as well as a media spotlight from front page national news stories and appearances on national television news programs. An agency mistake then sparked a second wave of media, after his supervisor was caught masquerading as a whistle-blower against him (Harris 2004; Leung 2005). Years earlier, Dr. Joseph Settepani had successfully used the same tactic for his advocacy of milk testing. Immediately after helping with the research for a congressional report and testifying at congressional hearings, his views were spread through national print outlets.

Attempts to suppress media coverage can be the opportunity for a broader, more intense spotlight. When the tobacco industry successfully pressured and stopped an initial attempt by *60 Minutes* to schedule a program on Dr. Jeffrey Wigand, the ensuing controversy generated more publicity than the subsequently aired program may have generated if it had run on schedule. When NASA ordered Dr. Hansen not to communicate with the outside world absent prior approval, he defied the gag order on *60 Minutes*, generating extra interest in his dissent due to the government's attempt to silence him.

The same principle can apply for retaliation. Sometimes the bullying strikes a public chord more than the science, which is difficult to understand. But the former can spark interest in the latter, because the natural questions are why was that information so threatening. The spotlight on Mr. Saucier's claims about Star Wars began when, after his internal whistle-blowing, newspapers reported that an army officer had beaten Saucier, leading to his hospitalization.

Sometimes scientists have used civil disobedience to generate or sustain media coverage of their dissent. When the National Institutes of Health closed Water Stewart and Ned Feder's laboratory, they went on a widely publicized hunger strike, claiming that it was in reprisal for exposing too much scientific fraud. To dramatize his concerns that the Canadian-US Keystone Pipeline could be a "tipping point" that makes global warming inevitable, Dr. Hansen was arrested for illegally intruding on government property during an anti-keystone demonstration.

Solidarity from NGOs. Nongovernmental organizations are the institutional "lifelines" often working on and engaging in ongoing oversight of the same issues raised by scientific whistle-blowers. As a result, NGOs can be invaluable from numerous perspectives. They may well have different agendas or even a conflict of interest to some degree with the whistle-blower's objectives. Further, unless communications are covered by the attorney-client privilege, the NGO will be vulnerable to legal bullying to disclosure confidential communications. So the partnership is not risk-free. Whistle-blowers only should take those risks consistent with relationships of earned trust. But if it is earned and the terms are carefully structured, NGOs can be invaluable partners. In early stages, the whistle-blower can channel anonymous disclosures through an organization. The organizations may well know the relevant media outlets working on the issue. They can identify the politicians who have made a difference, compared to those who just have made noise. They can identify other trusted experts for professional corroboration, as well as sympathetic legal counsel. When NGOs are recognized for independent professional expertise, their organizational support can be another credibility seal of approval for media, legislative, or regulatory agencies that respect their conclusions. To the extent that NGOs have a significant number of members, they can provide an immediate base for political support and grassroots communications with key decision-makers. In short, sympathetic NGOs can provide another key base for whistle-blowers to engage in effective legal campaigns.

Dr. Settepani's credibility benefited greatly, because the Center for Science in the Public Interest agreed with his concerns and provided solidarity through an award from 60 food safety NGOs. Dr. Saucier's support by the Federation of American Scientists made it more difficult to dismiss his charges. The Project on Government Oversight helped Mr. Gayl to find legal counsel at GAP, posted online petitions in his support, issued supportive press releases when he was under attack, and spoke out on his behalf in documentary films. Environmental organizations and peers rallied around Dr. Hansen, honoring his impact through awards and providing solidarity for the credibility of his research.

Litigation. The case studies above relied on a legal action at least in part for academic or scientific whistle-blowing to be considered on its merits, consistent with

professional standards and the scientific method. At a minimum, the legal actions may contribute as a research device or organizing base. The Freedom of Information Act or other now commonly available access to information laws globally may be essential to expose latent government support for dissent that has been rejected due to political pressures rather than independent assessment of evidence. Citizen petitions can create a public record of evidence supporting whistle-blowing disclosures, demonstrate grassroots support, and spark legal rights for judicial review.

While a judicial first principle is to preserve the status quo by maintaining precedent, litigation sparked by Dr. Wigand demonstrates that conventional lawsuits can be effective as well. In addition to traditional common law actions, the US False Claims Act has been particularly useful as a litigation resource for academic research and scientific whistle-blowers. That law allows whistle-blower lawsuits to challenge fraud in government contracts or research grants. The decisive development for Dr. Chandler to make a difference was her Supreme Court victory in a False Claims Act lawsuit.

Conclusion

It is unfortunate that political pressure frequently prevails over scientific evidence or professional standards, and even worse when research is compromised by fraud. But whistle-blowers can expose the truth to make a difference and survive by learning and effectively using the tactics that turn information into power. It is equally unfortunate that this may mean “out Machiavelling the Machiavellis.” But the challenge should not be a source of cynicism. Academic research is not immune to accountability. As the case studies in this chapter demonstrate, conventional rules can be used effectively for accountability to successfully challenge abuses of power, not just to shield the status quo. When the legal system is combined with the equivalent of a serious political campaign, even in highly technical professions, the truth can be far more powerful than money or conventional authority.

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Section X

Systems Approach to Going Forward

Tricia Bertram Gallant

Tricia Bertram Gallant

It may be difficult for some readers to imagine positive approaches to academic integrity. Those who experience this challenge may picture a student cheating when they hear the phrase academic integrity, or they may remember a negative experience they had when confronting a student about a cheating incident. The idea of academic integrity as a positive, as the antithesis to cheating, has been slow to gain as much traction as the inaccurate conception of academic integrity as cheating, something to be avoided, confronted, or “dealt with.” This section attempts to remind readers that not only are there positive approaches to academic integrity, but that academic integrity is, itself, a positive. The authors in this section also attempt to remind readers that academic integrity is positively linked to the broader system or cultures in which academic integrity is located – in individual schools, colleges, and universities; in the educational system; and in society.

In 2008, Bertram Gallant published *Academic Integrity in the Twenty-First Century: A Teaching and Learning Imperative*, one of the first treaties that acknowledged not only the embedded cultural context of academic integrity, but the fact that academic integrity could be considered a positive aspect of the core function of our educational institutions – teaching and learning. Since then, other authors have built on this line of thinking, and the shift in the academic integrity movement and literature was recognizable. This section of the handbook reviews and revisits this branch of the movement and literature, a branch that affirms two main ideas: (1) academic integrity is a desired achievable for educational institutions; and (2) in order to achieve the desired end of academic integrity, the approach must be systemic and robust.

Bertram Gallant, in “Leveraging Integrity for the Betterment of Education”, sets the context for the section by discussing the linkages between academic and

T. Bertram Gallant (✉)

Academic Integrity Office, University of California, San Diego, CA, USA

e-mail: dr.tbhg@cheatinginschool.org

institutional integrity. She posits that attention to academic integrity must be predicated on attention to institutional integrity. If institutions, institutional leaders, and authority figures fail to model and uphold integrity, then it will always be difficult to ask students to do so. Leveraging institutional integrity is the key to not only the betterment of education, but to the betterment of students who will, as a result, be more likely to develop as ethical citizens and professionals.

Jason Stephens, in creating “Creating Cultures of Integrity”, follows this broad, overarching framework with suggestions for preferred practices to creating cultures where academic integrity among students will be encouraged and supported. He informs us that in order to create a culture of academic integrity, there must be a three-level model of intervention that addresses school-wide education (in order to provide a foundation for academic integrity), context-specific prevention (in order to promote integrity in specific classes or programs), and individual remediation (in order to leverage the teachable moment of cheating). It is the implementation of remedies in each of these three levels that a culture of academic integrity can be created, which will help to ensure that cheating is the exception and integrity the norm.

Sonia Sadiqqi in her chapter entitled ▶ [Chap. 69, “Engaging Students and Faculty: Examining and Overcoming the Barriers”](#), provides some concrete strategies for involving students and faculty in this culture creation process. To set the stage, she reviews the literature to elucidate the importance of student and faculty engagement, discusses the barriers that keep them from engaging, and then offers some possible remedies for overcoming these barriers. The research is clear – if institutional leaders attempt to inculcate academic integrity into the institution without faculty and student involvement, they will be unsuccessful. Faculty and students are at the heart of educational institutions – teaching and learning. Thus, academic integrity cannot exist without their buy-in and engagement in the process.

While Sadiqqi focuses on student and faculty involvement in creating integrity cultures, the chapter by Erica J. Morris (▶ [Chap. 70, “Academic Integrity: A Teaching and Learning Approach”](#)) delves more deeply into the heart of where faculty and students meet about academic integrity – in the teaching and learning process. Morris reviews the literature and forwards the argument that academic integrity is not primarily a conduct issue but a teaching and learning issue, and she does this by examining the ways in which academic integrity can be embedded into any type of educational institution and within any discipline. The three methods of designing enhancements to academic integrity education, improving the teaching of writing with integrity (as a practice), and planning more authentic assessments are all positive, systemic approaches to supporting academic integrity.

In ▶ [Chap. 71, “Infusing Ethics and Ethical Decision Making into the Curriculum”](#), Christensen-Hughes and Bertram Gallant take the idea of academic integrity as a teaching and learning issue one step further by positioning academic integrity as an outcome of good ethical decision-making, a skill that can (and should) be taught within the educational system. In their chapter, the authors explore the infusion of ethics into teaching and learning – how it can help instill academic integrity, as well as develop ethical citizens and professionals who will make better

decisions in school, work, and life. The most important contribution of their chapter is that it reminds us that academic integrity need not exist in a silo, but will be stronger and more salient if it is connected to the larger and more established ethics across the curriculum movement.

Finally, this section ends in the “Getting Political” chapter with a rather controversial idea – in order to make positive movement on academic integrity, we must label systemic academic misconduct or cheating as what it is (i.e., corruption) and then leverage the care about corruption to activate political allies. This argument is built on the literature of political corruption, institutionalization, and academic integrity to posit that the institutionalization of academic integrity (which means that academic integrity is infused into the fabric of the educational system) and the politicization of academic integrity (which means that academic integrity receives attention from the political elite) are necessary. Drinan argues that in order to get political and make movement at a national and international level, academic integrity must be measured and assessed as other important issues in education (e.g., sustainability).

Together, the chapters in this section serve to reinvigorate the international academic integrity movement by positioning it as a positive movement similar to the diversity and sustainability movements, rather than as a necessary evil. Using the suggestions and research provided in these chapters, students, faculty, and institutional leaders can make a difference in the educational system by leveraging academic integrity champions who will infuse integrity and ethics into the teaching and learning mission of educational institutions and leverage institutional integrity for the betterment of education for generations to come.

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Abstract

In both research and practice, the topic of academic integrity is often approached negatively, as if it were synonymous (rather than antithetical) to academic fraud. This chapter, the first in a section dedicated to positive approaches to academic integrity, posits that academic integrity should be conceived of as integral to every goal in education from improving assessments and student performance to increasing retention, conducting research, diversifying, raising funds, becoming accredited, and competing in national and international rankings. Adopting this perspective, however, is only possible when integrity is positioned as central to the international system of education. This chapter articulates this position, with support from the literature on institutional integrity and human behavior, and then describes how educational institutions must address cheating and plagiarism as a systemic rather than individual conduct challenge if they truly wish to leverage institutional integrity for the betterment of education.

T. Bertram Gallant (✉)

Academic Integrity Office, University of California, San Diego, CA, USA

e-mail: dr.tbg@cheatinginschool.org

Introduction

Institutional reactions and approaches to combating academic fraud have not changed significantly over the history of education (Bertram Gallant 2008). Although it is estimated that the majority of tertiary education institutions have academic or research integrity policies, many do not follow those policies and thus much fraud is left unaddressed (Bertram Gallant and Drinan 2006; McCabe 2005). It is often not until academic fraud becomes too public or causes widespread harm do institutions choose to act (see Grasgreen 2012, e.g., of Harvard's response to their "cheating scandal") or are forced to act (see, e.g., the Independent Commission Against Corruption's report on the University of Newcastle plagiarism scandal in New South Wales, Australia). However, even when institutions do act, they do so instinctively, adopting a "stop, drop, and roll" approach to put out the proverbial fire, usually by punishing the cheater(s) who can then be scapegoated as the arsonist(s) who caused the fire (Bertram Gallant 2008; Bertram Gallant and Goodchild 2011; Tenbrunsel and Messick 2004; Verhezen 2008). In other words, when it comes to academic fraud, colleges and universities tend to act like most other organizations – they will deal with it when and if they have to, but otherwise, they would prefer not to think or talk about it (Kayes et al. 2007). And when they do think about it, they do so in a way that ensures the individual shoulders the blame.

The problem with this approach should be self-evident – people do not make decisions or act within a vacuum; they are shaped by the context and the interactions in which they are embedded (Bazerman and Banaji 2004; Bertram Gallant and Kalichman 2011; Paine 1994; Palmer 2012; Selznick 1992; Tenbrunsel and Messick 2004; Trevino 1996). In other words, institutional integrity shapes individual integrity. As Paine (1994) has noted, those who work within institutions tend to avoid thinking about institutional integrity because to do so acknowledges that institutional structures, procedures, and cultures contribute to the problem and, therefore, must also contribute to the solution. In addition, Paine (1994) argues that people fear that they will be "diluting people's sense of personal moral responsibility" (p. 109) if they acknowledge institutional influence in the shaping of individual decisions and actions. It is this contrived tension between institutional and personal integrity that paralyzes any strategic and significant action. So, in order to leverage institutional integrity for the betterment of education, it must first be acknowledged that people, institutions, and systems can, and should, be held to account simultaneously (also argued by Paine (1994), Selznick (1992), and others).

Yet, historically, the two dominant approaches to addressing academic integrity – rule compliance and integrity – have tended to focus on fixing the individual or, at best, fixing the individual's immediate surroundings in order to reduce cheating temptations and opportunities (Bertram Gallant 2008). The rule-compliance approach is quite straightforward – the institution publishes rules and consequences and then implements structures and procedures to enforce these rules and distribute the consequences. Individual educational institutions adopt this approach for good reasons; they are usually responding to external (typically governmental) regulations intended to enhance public trust, meet legal mandates, and manage the risks

associated with misconduct (Bertram Gallant et al. 2009). Given the motivations behind the rule-compliance approach, an alternative descriptor for it might be the “we told you so” approach; in other words, by defining and conveying messages of unacceptable conduct, institutions can plead no fault when bad behaviors happen.

The integrity approach is much more aspirational than the rule-compliance approach. In the integrity approach, the organization articulates expected or desired values and their associated behaviors and then asks its members to act accordingly. In the arena of academic integrity, the integrity approach was popularized in the 1990s by the International Center for Academic Integrity (ICAI) with its publication of the *Fundamental Values of Academic Integrity* (see the 2014 edition listed in the references) and by the Josephson Institute’s publication of the six pillars of character as well as their Character Counts! movement (see www.charactercounts.org). Although both ICAI and the Josephson Institute intended to encourage a broader focus on institutional integrity (as Paine 1994, intended), institutional implementation of the integrity approach has remained narrowly focused on fixing individuals and responding to integrity violations.

Bertram Gallant (2008) argued that both of these dominant approaches are problematic, but more recent research validates that argument. Specifically, social science research has found that the confluence of certain systemic forces can shape misconduct in otherwise ethical people (Palmer 2012) and that conduct policies can actually inspire, rather than eradicate, unethical behaviors (Bazerman and Tenbrunsel 2011; Tenbrunsel and Messick 2004). A positive systems approach for moving forward encompasses structural, procedural, and cultural changes to ensure institutional integrity (i.e., where individual acts of cheating are the exception and integrity is the norm). But even then, a systems approach acknowledges that individual acts of misconduct will still occur. Thus, a positive systems approach to institutional integrity, especially within the educational context, will include effective and educational responses to integrity violations.

A Review of What Is Known About Institutional Integrity

Institutional integrity can be defined as institutional “moral coherence”; in other words, the institution’s structures, procedures, and practices are soundly connected to and flow from institutional mission, purpose, or intent (Selznick 1992). Institutional integrity is not dissimilar to individual integrity, but it takes on new meaning for it is within relationships to others that integrity is the most complicated and has the most impact (Verhezen 2008). At the institutional level, one’s individual integrity (or personal moral coherence) is necessary but insufficient. What if, for example, one’s individual integrity is at odds with the integrity of the institution or the individual integrity of other members of that institution? Consider the case of the American and British pharmacists who refused to fill contraceptive prescriptions because doing so, they said, would violate their individual integrity (Stone 2008). The pharmaceutical and healthcare institutions are still reeling from this unresolved chasm between individual and professional or institutional integrity.

Because individual integrity is by its very definition personal, creating and sustaining “moral coherence” among diverse people within an institution can be extremely difficult, yet not impossible.

According to the literature on institutional integrity (e.g., Selznick 1992; Verhezen 2008), there are three steps toward creating and sustaining institutional integrity. First, the institution must determine and articulate its appropriate ends, that is, for what purpose does the institution exist. Once the ends are determined and articulated, the institution must determine and commit to the appropriate means for achieving those ends. And then third, the institution must make decisions and take actions that are “morally appropriate” or in congruence with these means and ends. It is in this sense, then, that institutional integrity is not simply achieved by coherency, such as between words and actions, for example. Rather, institutional integrity is achieved through moral coherency, that is, institutional practices, structures, procedures, and language, as well as individual behaviors, adhere to “reasonably accepted principles” (Verhezen 2008, p. 137), all of which guide the means toward the ends. To return to the earlier example, pharmacists who refuse to fill contraceptive prescriptions may thus be acting morally consistent with their individual beliefs, but they are not acting consistently with their profession nor adhering to “reasonably accepted principles” for pharmacists (American Pharmacists’ Association 1994). On the first point, pharmacists who have refused to fill prescriptions have been found to have “departed from the standard of care expected of a pharmacist” (ACLU 2007, p. 2), and on the latter point, the majority of the public is opposed to allowing pharmacists’ right of refusal on filling prescriptions based on personal, moral, or religious beliefs (NWLC 2012).

Pharmacies are different than educational institutions, with different ends and principles. Thus, the measure of institutional integrity differs between these two institutions. In fact, the measure of institutional integrity can differ even within the field of education because different types of educational institutions have divergent ends or purposes. For example, while the purpose of the American community college is to ensure that all Americans receive a postsecondary education, the primary purpose of the American research university is to construct new knowledge. Despite these notable differences, all postsecondary institutions do share at least one purpose in common – to “educate and certify the next generation of professionals” (Bertram Gallant and Kalichman 2011, p. 30).

Now that it has been determined that the relevant end of educational institutions is to educate citizens and train future generations, the appropriate means for achieving that end can also be determined. In this case, it is rather simple because the means to achieve the education of citizens and the training of future generations has long been established – educational institutions teach needed skills and knowledge and then assess and certify the extent to which the skills and knowledge have been attained. In fact, this primary end and the means for achieving it are so central to the integrity of the educational institution that it is codified with a symbolic ritual and artifact – the awarding of a diploma or degree in a certain discipline (e.g., English, history, chemistry, psychology, business, engineering) at a certain level (e.g., secondary, associate, bachelor, masters, or doctoral).

This is all well and good, but institutional integrity is not simply achieved with an articulation of the desired end and enactment of the articulated means. As mentioned earlier, institutional integrity is dependent on the articulation and enactment of key values that guide the “appropriateness” of those ends and means (Selznick 1992). This point leads back to the earlier pharmacy example. It seems that this clash between individual and institutional values may have surfaced because there lacked agreement about the most appropriate end and the appropriate means for achieving that end. The pharmacy example illustrates that institutional integrity can be corrupted by divergence from agreed upon ends or means, a lack of articulation and follow-through on articulated values, or conflicting ideas on the appropriateness of an end or a means.

The corruption of institutional integrity is also happening within the contemporary educational institution. While, as argued earlier, educating the next generation of professionals has historically been the intrinsic (i.e., worthy for its own sake) value of educational institutions, more recent instrumental values (i.e., worthy for the outcomes they produce) such as access, retention, affordability, and diversity have been mistaken as the ends themselves, rather than as the means to achieve the intrinsic value of education. As Dirks (2014) notes in his piece on the “True Value of Higher Ed,” when instrumental values are mistaken as intrinsic values, we can lose our way. While instrumental and intrinsic values do not have to be at odds with one another, the contemporary rhetoric certainly favors the instrumental even to the sacrifice of the intrinsic.

As an illustration, consider one of the most talked about corruption scandals in the American higher education system – the “shadow curriculum” at the University of North Carolina, Chapel Hill (Stripling 2014). In this case, athletes were referred to a class that existed in name only – nothing was taught, there were no class meetings, and there were no books or discussions. Rather, the extent of class activity was the submission of a paper (that the student may or may not have written) in return for a grade remitted by a staff member. The independent report written by Kenneth L. Wainstein left no question that athletic staff and university faculty knew about this scheme and it was implicitly (and actively) supported as a way to ensure that underprepared athletes remained eligible to play in UNC’s athletic competitions (Stripling 2014). Although there were many dimensions to this case, few would fail to argue that perversion of the appropriate end as well as the appropriate means for achieving that end, and the sacrifice of fundamentally agreed upon principles, shaped this saga. Educating future citizens and professionals was substituted for giving students degrees, and teaching and assessment were substituted with, well, nothing. Some may have argued that the actions of administrators and faculty were necessary to keep star athletes playing and teams winning. Others (especially those embroiled in the saga) may have argued that they did it to serve these underrepresented, overworked, and underprepared students (who, notably, were improperly admitted by the university). Regardless of the argument, this scandal (which persisted for nearly 20 years) was not simply a case of individuals behaving badly – this scandal was the result of a loss of institutional integrity.

As Selznick (1992) argued that if people cannot agree and act on core values, institutional integrity will be difficult to achieve. This is because decisions, actions, and behaviors may then diverge from the core end of education. The substitution of the educational end with other ends (e.g., affordability and access) has resulted in larger classes, fewer faculties, and fewer liberal arts options for students. As a particularly poignant example, in 2014, the University of California declared “reducing time to degree” as an important end for the university, resulting in many teaching and learning cuts including, in some cases, the elimination of ethics education. Such an emphasis on the attainment of the degree as the end relegates the quality of education as tangential. It should not be surprising, then, if students (or faculty and staff) act in ways to achieve ends like affordability and access, even if those actions would undermine academic integrity. Schein (1992) notes that because institutional members will follow the lead of those in positions of leadership and authority, the integrity of an institution is, in part, shaped by the actions of leaders, especially on what they spend their time, attention, and resources. It is also then possible that divergent and often conflicting claims on the appropriate ends and means for educational institutions will shape individual misconduct.

What Is Known About the Influence of Institutions on Individual Conduct

As argued earlier, individuals do not operate in a vacuum – their decisions and actions are shaped by context. Consider, for example, the act of crossing a street against the light or not at a crosswalk, otherwise known as jaywalking. In many countries, this is an illegal activity. Despite knowing this and despite most people being rather law-abiding citizens, people tend to base their jaywalking decisions on context, particularly the actions of those around them, but also the likelihood of legal enforcement and repercussions. So, for example, in San Francisco, California (USA), most people jaywalk because they might otherwise be pushed through the intersection by those trying to get past. However, in Singapore, most people do not jaywalk because others do not, and it is impressed upon the public that legal enforcement of the rule will be consistent and severe.

According to the research on misconduct within institutions, this type of situational behavior is not abnormal; human beings naturally engage in self-deception in order to fade from consciousness the ethical dimensions of an issue, thereby allowing them to act as they wish (Bazerman and Tenbrunsel 2011; Tavris and Aronson 2007; Tenbrunsel and Messick 2004). In the jaywalking illustration, people who jaywalk despite the illegality of it are likely exhibiting a form of “outcome bias,” that is, they judge the rightness or wrongness of an action based on the outcome of that action (Bazerman and Tenbrunsel 2011). Now, most might argue that jaywalking is not unethical anyway, but outcome bias would predict that they would alter their judgment if jaywalking caused an accident in which there were fatalities. Bazerman and Tenbrunsel (2011), and many others, argue that there are many other rationalizations in which people engage in order to allow the ethical

dimensions of an issue to fade from awareness, allowing that issue to become nonethical. People often, for example, experience “motivated blindness” in that they fail to see the ethical dimensions of an issue if in doing so, they would be harmed. “Indirect blindness” enables people to ignore the ethical dimensions of an issue if someone else is doing the unethical bidding for them. And “change blindness” prohibits people from seeing an ethical issue as long as it began by some small actions that progressively worsened.

The explanations provided by Bazerman and Tenbrunsel (2011) as well as other social scientists could very well explain how the UNC “shadow curriculum” came to be so entrenched into the ordinary routine of many formerly well-respected people. One possible mercy act by a well-meaning staff member (i.e., helping out one struggling, unprepared, underrepresented athlete) became an accepted means for achieving a desired end because the athletic department was motivated to be blind to the corruption, institutional and athletic leadership were indirectly blind, and many others likely experienced change blindness. In other words, UNC community members could not see the corrupted forest because they were blinded by the plight of the individual athlete trees.

It is not difficult to continue this line of reasoning to explain how environmental cues or situational constraints can bias people’s views of a situation as nonethical (e.g., as personal, etiquette, or business) rather than ethical. And when this bias occurs, people can make decisions and take actions that protect their self-interests while still allowing them to “hold the conviction that [they] are ethical persons” (Tenbrunsel and Messick 2004, p. 225). Let’s look at one last illustration – the student who wants to go out with her friends even though she has not started a paper which is due in the morning. Such a student may cast the situation as a matter of efficiency not ethics and thus decide to purchase a paper from an essay mill which she could then submit as her own. When confronted about her behavior, she might say that she “had no choice.” Note that not every student would cast the situation in the same way. Because the extent and nature of self-deception differs from person to person, so too do the ways in which the environment and context shape decisions and behaviors (Tenbrunsel and Messick 2004). For example, another student in the same predicament, but who had already been caught and reported for cheating, might instantly recognize the ethical dimensions of the situation, thereby choosing to stay home and write the paper.

Since this chapter focuses on individual and institutional integrity, it is important to acknowledge that it is not just the individual who works to disguise unethical behaviors as ethical or benign acts. Institutions also work to do this through language by using euphemisms to facilitate “ethical fading” (Tenbrunsel and Messick 2004). For example, when institutions increase the size of classes, it is not said that they are reducing faculty-student interaction, but it is said that they are enhancing access. When parents complete their child’s homework, it is not called cheating, but it is called “getting involved.” And, when institutions remove ethical decision-making as a requirement, it is not because they are failing to teach but it is so they can reduce time to degree. Such euphemisms help to fade from awareness the ethical dimensions of the decisions made on a daily basis.

This process of “ethical fading” is not dissimilar to “ethical numbing” or the diminishing ability for people to see an act as unethical because unethical acts occur without reproach or consequence (Tenbrunsel and Messick 2004). People become ethically numb when unaddressed unethical behavior creates a new benchmark or norm against which they measure other behaviors, resulting in an ethical “slippery slope” or “change blindness” within the institution (Bazerman and Tenbrunsel 2011; Palmer 2012; Tenbrunsel and Messick 2004). For example, although 42 % of North American college students admit to “working with others on an independent assignment” at least once per year (McCabe 2005), fewer than 3 % of students are annually reported for cheating at any one institution (estimated from academic integrity reports made publicly available by many American universities). This could be why 68 % of students who work “with others on an independent assignment” think that behavior is not at all or only trivial cheating (McCabe 2005); students are becoming ethically numb to the ethical dimensions of academic fraud because there is an impotent institutional message about the ethicality of their actions.

In other words, before they act, students look around to see what other students and the faculty are doing. And, if they see in these informal cultures that a behavior seems welcome and accepted, they will act accordingly even if the formal system or culture articulates a prohibition of that same behavior (Selznick 1992; Tenbrunsel and Messick 2004). This is why faculty inaction in the face of student cheating will cause “ethical numbing” even when there is an institutional policy that says cheating is wrong and must be reported. Also, peer reinforcement of the belief that something is not cheating will trump formal definitions to the contrary. And, the informal system that says students should not report cheating by their peers is so prevalent that despite institutional requirements to the contrary, fewer than a third of students indicate that they would report a classmate and less than 4 % say that they would report a friend (McCabe 1992). While there do not seem to be more recent studies on this phenomenon, there is no reason to suspect that anything has changed over the last 20 years. As an illustration, when this question was asked in 2011 of over 200 students at the University of California, San Diego, only 3 % of students admitted that they would report a friend for cheating (unpublished, internal, study).

The impact of informal systems or cultures on decisions and behaviors may be particularly powerful when the formal systems are weak. Researchers have found that weak ethical cultures (National Business Ethics Survey 2013) or weak formal structures (i.e., unenforced codes of ethics, compliance systems, or surveillance systems) actually produce unethical behavior because they cause “ethical fading,” specifically the phenomenon that people will see situations as one of compliance or not, rather than ethical or unethical (Bazerman and Tenbrunsel 2011; Tenbrunsel and Messick 2004). Tenbrunsel and Messick (2004) suggest that when there is no sanctioning system, people are more likely to behave ethically because they are intrinsically motivated to do so. On the other hand, when there is a sanctioning system, people forget about ethics and tend “to behave in accordance with the payoff structure” (p. 299). Thus, if the payoff for cheating is high (because it is

unreported or unpunished) in an institution dominated by the rule-compliance approach, students, faculty, and staff will be more likely to neglect the ethical dimensions of an issue. This could be one explanation for why the higher education system has a substantial problem with fabrication and falsification in admission packages – most institutions tell students that only 1 % of packages will be verified (Bertram Gallant 2011).

In addition to the problem of self-deception, which can lead to ethical fading, human beings are only “boundedly” aware or rational; in other words, one’s ability to be aware or rational is limited to an inability to see every piece of information or evidence that is in play in a particular situation (Bazerman and Tenbrunsel 2011; Palmer 2012). This means that people commonly act mindlessly in reaction to social context or environmental cues, even if acting in those ways would otherwise violate their sense of their own individual integrity (Palmer 2012). This tendency is exacerbated in organizations in which people are often working under pressure and time constraints, as well as when the “context is fraught with complexity, uncertainty, and information impactedness” (Palmer 2012, p. 98). Such bounded awareness or rationality leads to “bounded ethicality” or the tendency to “favor our own self-interest at the expense of the interest of others” (Bazerman and Tenbrunsel 2011, p. 8).

“Bounded ethicality” could explain why students, despite knowing that a particular behavior is cheating, engage in that behavior anyway; sometimes their act is purely reactionary and irrational. This phenomenon can be called the “3 am syndrome,” so named after students who say they cheated because they “lost their minds” due to exhaustion, stress, and pressure. These students claimed to have “no choice” but to simply react to a situation which called for them to get an assignment done, done right and submitted on time (Bertram Gallant et al. 2014). This illustration emphasizes the power of institutions over individual actions; because educational institutions have focused on getting students to produce things (e.g., assignments, test answers) for extrinsic motivations (i.e., points toward the grade), students will often respond with very practical production methods (e.g., copying an answer or plagiarizing a paper). The ethical dimensions of the situation do not even enter into the students’ field of consciousness because they are so focused on the institutional reward system. And this reward system “can promote a ‘whatever it takes’ attitude that can be a powerful catalyst for unethical behavior” (Bazerman and Tenbrunsel 2011, p. 106).

Students are not the only ones impacted by bounded ethicality. Woo Suk Hwang, an infamous researcher from Seoul National University, was perhaps motivated to fabricate data and engage in other forms of deceit by the “context of national praise and high expectations” as well as excessive monetary awards (Anderson 2011). And, Flanner House Elementary Charter School in Illinois (USA), which allowed teacher cheating on standardized tests for 2 years, was perhaps motivated by base funding and external rewards, both of which are tied to high test scores (Mackin 2014). In other words, contemporary educational institutions, which have organized themselves around extrinsic goals and measurements (e.g., the grade, the credit, the degree, the rankings, the publications, the funding), have created a situation in

which bounded ethicality is more likely to take hold and cause individuals, who often “underestimate the degree to which our behavior is affected by incentives and other situational factors” (Bazerman and Tenbrunsel 2011, p. 37), to act reactively and blindly.

The information conveyed thus far is not to excuse individual bad decisions or behaviors but to offer a more comprehensive picture of individual integrity as a part of institutional integrity. Ultimately, individuals are still responsible for their own decisions and behaviors (Bertram Gallant and Kalichman 2011; Palmer 2012), but institutions should recognize that simply complying people (through the rule-compliance approach) or inspiring people (through the integrity approach) will be insufficient for leveraging integrity and bettering education. The information conveyed thus far argues that institutional leaders have a responsibility for ensuring institutional integrity first and then creating a “healthy ethical environment” (Haydon 2004) in which individual integrity is supported and possible. The next section will explore how that can be facilitated.

Addressing Integrity as a Systems Issue

When ethics is placed strategically within the core of the institution, as central to everything that the institution does, academic integrity can be addressed positively as a systems issue rather than simply as a characteristic that students (or faculty or researchers or administrators) must have or display. How can this be done?

First, and foremost, ethics and ethical decision-making must be central to every decision made within the educational institution. As Samuelson and Gentile (2005) as well as Bazerman and Tenbrunsel (2011) have noted, ethics is typically not considered part of the “real work” that professionals do, and so professionals do not practice ethical decision-making, let alone factor ethics into everyday decisions. Rather, people tend to engage in ethical fading and cast most decisions as just business, just economic, or just some other benign act (Bazerman and Tenbrunsel 2011; Gentile 2010; Kayes et al. 2007; Tenbrunsel and Messick 2004; Verhezen 2008). As mentioned earlier, this is partly because institutional systems promote or highlight compliance rather than ethics. By highlighting ethics in all systems frameworks throughout the institution, it is more likely that students, faculty, and staff will be more “cognizant of the ethical dimensions of any decision” (Bazerman and Tenbrunsel 2011, p. 113). So, yes, that means implementing strong ethical infrastructures that will “reinforce ethical principles” (Tenbrunsel et al. 2003, p. 286) and support ethical decision-making and acting (Bertram Gallant et al. 2009; Haydon 2004; Kayes et al. 2007; Pallazo 2007; Silverman 2000). But it also means enacting more simple behavioral exemplars like encouraging all institutional members when facing a decision to ask “what ethical implications might arise from this decision?” (Bazerman and Tenbrunsel 2011, p. 113).

Kidder (2009), Pallazo (2007), and others agree that ethical decision-making should be central to any institution, but to make it so, educational institutions must educate and train people in ethical decision-making. Because students are trained to

exercise “economic, legal and scientific logic,” it is to that logic that students, faculty, and staff typically turn in order to understand or explain a situation, and thus ethical issues are often viewed “through one of these filters” (Pallazo 2007, p. 116). A lack of ethical decision-making education and training means that most people rely too heavily on their intuition or feelings to detect when they are facing an ethical issue, and such mechanisms, as has already been shown, are prone to bias from self-deception and bounded ethicality. Thus, educational institutions need to train people to think about ethics much the same way they think about other issues – slowly, deliberately, consciously, and logically (Bazerman and Tenbrunsel 2011). To be sure, most people were taught not to lie, cheat, or steal or, in other words, to adopt fundamental values like honesty, trustworthiness, responsibility, respect, and fairness (International Center for Academic Integrity 2014). However, as noted earlier in the chapter, when values are in conflict or contexts are ambivalent, or the leadership or culture of the organization supports “whatever means necessary” to achieve determined ends, an individual’s ability to stay true to, or enact, deeply held values may wane (Kidder 2009; Paine 1994). Also, members of the institution may not have developed sufficient ethical sensitivity, moral imagination, or ethical consciousness to even recognize the ethical dimensions of an issue, so they may not even know to invoke ethical decision-making skills (Kidder 2009; Pallazo 2007).

As is now known, implementing formal ethical systems and teaching ethical decision-making are insufficient by themselves. In addition, the underlying culture or climate (informal systems) must also be strong and ethical (characterized by honesty, responsibility, respect, trustworthiness, and fairness); if it is, then people will act accordingly because they desire to be a part of and accepted by their peer group (Ethics Resource Center 2013; International Center for Academic Integrity 2014; Kayes et al. 2007; Pallazo 2007; Silverman 2000; Tenbrunsel and Messick 2004). In order to address integrity as a systemic issue, institutional leaders need to understand the “processes that motivate individual...decisions” by listening to what people talk about and how they talk about their decisions and actions (Bazerman and Tenbrunsel 2011, pp. 160–161). If, for example, students repeatedly utter the refrain “getting an A is all that matters” or faculty say over and over again “it’s not your teaching but your publications that matter,” this may indicate that institutional members are not focused on the agreed upon desired end. If students talk about how the institution has let them down or is not fair, this may imply that they will reciprocate with acts of unfairness (Pallazo 2007; Tenbrunsel and Messick 2004). In other words, institutional leaders must identify the cultural factors that can perpetuate unethical behavior despite the implementation of formal ethical systems. To build informal ethical cultures, “strong, consistent messages about ethical principles at all levels of the organization” are needed (Tenbrunsel and Messick 2004, p. 234), as is the calling out of “unethical behavior by its name” (Bazerman and Tenbrunsel 2011, p. 163).

To address integrity as a systemic issue, educational institutions must also honestly evaluate their reward systems. Learning (for everyone) has to be valued and the core end for everything that educational institutions do (Kayes et al. 2007).

This means that faculty must be rewarded for teaching and for working to protect the integrity of assessment – even in research universities. This means that pedagogical methods, curriculum, and assessments must be designed to facilitate and measure learning, not to stop cheating, make teaching more efficient, or increase student enrollment. This means that faculty must be rewarded and given time to improve their teaching skills, students must be supported in improving their learning skills, and everyone must be encouraged and rewarded for improving their knowledge and abilities, especially in ethical decision-making. This also means that when students violate integrity standards (despite best efforts to support ethical acting), educational institutions should respond not with the primary goal of punishing but with the primary goal of learning, in other words, leveraging the ethical failure as a teachable moment. Primarily, the moment should be leveraged to help students learn how to “identify the ethical implications” of their actions, one of the most fundamental and difficult skills to develop (Bazerman and Banaji 2004). If educational institutions do not help facilitate this learning, students will instead utilize techniques for reducing the cognitive dissonance between their perceptions of selves as “good people” and their unethical actions, thus not only inhibiting growth from the failure but actually reinforcing a distorted view that will lead to future misconduct (Tavris and Aronson 2007). Take, for example, one of the author’s students who violated academic integrity standards twice. After the first violation, he was able to reduce his cognitive dissonance by telling himself that he was a good person who just had not read the rules. So, he vowed to more closely read the rules in the future. It was not until his second violation that he was able to admit that he was lying to protect himself from admitting that he was making bad choices. Educational institutions can help students break out of that cycle by leveraging the ethical failure as a teachable moment. And, when students are helped, so too is the system.

Summary

Individuals do not operate (i.e., make decisions, take action) in a vacuum. Rather, individual integrity is shaped by institutional integrity. If there lacks an institutional commitment to appropriate ends, the appropriate means for achieving those ends, and the principles that guide institutional decisions and actions, then individual commitment to integrity will also be challenged. This is not to say that individuals cannot act with integrity within institutions without integrity, but it would not be easy, and so stress (which can lead to unethical conduct) and attrition in institutions without integrity will be higher (Mulki et al. 2008; Shacklock et al. 2011; Trevino et al. 1998).

In order to leverage integrity for the betterment of education, it must first be acknowledged that student integrity is tied to institutional integrity and the decisions and choices made by the institution will impact student decisions and choices. To truly move forward, educational institutions must reexamine agreed upon appropriate ends, the appropriate means for achieving them, and the principles

that guide behaviors. In other words, integrity or ethics cannot exist in name alone – they must be seen, felt, and heard by all institutional members (at least in the norm; there will always be exceptions with which one must deal). What are the appropriate means for ensuring that those who enter educational institutions receive an education and that assessments of their knowledge and skills are honest and trustworthy? Does increasing access to higher education without increasing the instructional staff to educate those students serve that end? Does offering online education to save money achieve that end? Can that end be achieved by admitting under-prepared students who then, for institutional profit, labor for 30 h per week as football or basketball players? Can that end be achieved by eliminating requirements for ethics or other classes in which students have to engage in critical thinking, critical reading, writing, and presenting? Answering these questions is beyond the scope of this chapter; it is simply sufficient to raise them to a level of consciousness.

Several suggestions for moving forward were presented in this chapter, however. Most importantly, ethics and ethical decision-making must be made central to every decision made within the educational institution. This could be as simple as asking “what are the possible ethical implications of this decision?” (Bazerman and Tenbrunsel 2011) although encouraging people to ask that question would be made easier if ethical infrastructures and resources are established and highly visible.

In the end, addressing integrity as a systemic issue, rather than one in which only the individual’s integrity matters, will help leverage integrity for the betterment of education. And “although [institutional] integrity does not ensure that an organization will make better ethical choices, it implies a systematic and comprehensive approach to assessing values, weighing choices, and considering the multiple demands involved in decision-making” (Kaye et al. 2007, p. 65). This means that educational institutions will recommit to their appropriate ends and the means for achieving them, but also that they will acknowledge structural, procedural, cultural, and individual contributions to unethical behaviors and commit to leveraging ethical failures as teachable moments. And together, this will indubitably make cheating the exception and integrity the norm, thus leveraging institutional and individual integrity for the betterment of education.

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Creating Cultures of Integrity: A Multilevel Intervention Model for Promoting Academic Honesty

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Jason M. Stephens

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Abstract

Educational settings should be contexts for individual and collective human thriving. One important way in which educational settings affect such thriving is through embedding students in a culture of integrity and involving them in its continuance. Unfortunately, such settings are rare, and the problem of academic dishonesty is long since “epidemic” (Haines et al., 1986). With this in mind, the purpose of the present chapter is to describe a multilevel model of intervention aimed at promoting academic honesty and creating a culture of integrity. Rooted in Cohen and Swift’s (1999) “spectrum of prevention” or other tiered approaches (Lane et al., 2009; Sugai and Horner, 2002), the intervention model presented here consists of three levels: school-wide education, context-specific prevention, and, where needed, individual remediation. Each level is described in detail and concrete examples are provided.

J.M. Stephens (✉)
The University of Auckland, Auckland, New Zealand
e-mail: jm.stephens@auckland.ac.nz

Introduction

Educational settings – at all levels, of all sizes, in all places – should be contexts for individual and collective human thriving; where students and all community members have the opportunity to grow and flourish, intellectually or professionally as well as socially and morally (e.g., Colby et al. 2003). One important way in which educational settings affect such thriving is through embedding students in a culture of integrity and involving them in its continuance. Unfortunately, such settings or “cultures of integrity” are rare, and the problem of academic dishonesty is long since “epidemic” (Haines et al. 1986, p. 342). Although long-standing and seemingly intractable, the problem of cheating is neither inevitable nor incurable. Nor, however, is it easily remedied. With this in mind, the purpose of the present chapter is to describe a multilevel model of intervention aimed at promoting academic honesty and creating a culture of integrity. Inspired by Cohen and Swift’s (1999) “spectrum of prevention” or other tiered approaches (Lane et al. 2009; Sugai and Horner 2002), the intervention model presented here consists of three levels: school-wide education, context-specific prevention, and, where needed, individual remediation.

Creating Cultures of Integrity

As John Dewey (1922) noted nearly a century ago, morality is not “something mysteriously cooped up within personality. . . . all conduct is an *interaction* between elements of human nature and the environment, natural and social” (p. 10). Academic conduct (honest and dishonest) is no exception to Dewey’s conjecture; it is a product of person and environment; individual psychology and social ecology. In other words, academic dishonesty involves a complex interaction between individual/biological/psychological and situational/ecological/cultural factors. Accordingly, an equally complex (though not complicated) approach is needed to promote academic honesty and create a culture of integrity. Rooted in Cohen and Swift’s (1999) “spectrum of prevention” or other tiered approaches to behavioral and cultural change (Lane et al. 2009; Sugai and Horner 2002), the intervention model presented in this chapter consists of three levels: school-wide education (SWE), context-specific prevention (CSP), and, where needed, individual remediation (IR). In the remainder of this section, each of these levels and their objectives are described in greater detail, and, where possible, concrete examples of their educational applications are provided. Before doing so, it is helpful to say a few words about the structure and substance of the model as a whole.

Depicted in Fig. 1 are the three levels from a pyramid-shaped structure. This shape is symbolic in at least two important ways: (1) the temporal dimension (i.e., the chronological ordering of the levels); and (2) the spatial dimension (i.e., the scope or size of intended audience at each level). Specifically, the base of the pyramid comes first and it is the largest, which symbolizes the fact that SWE is (1) the primary level of intervention (it is education and socialization that begins on day one, if not sooner) and (2) the broadest in scope (including all students and

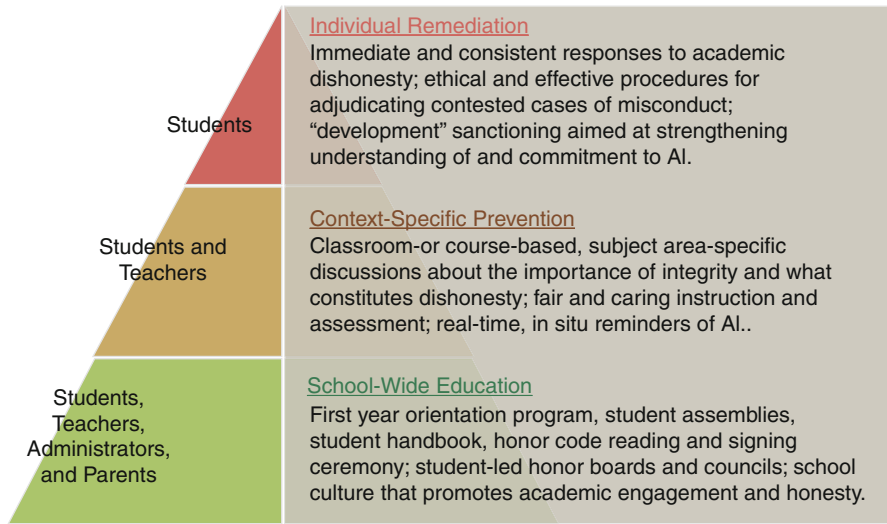


Fig. 1 Creating cultures of integrity: a three-level model of intervention

community members, no exceptions). The middle level of the pyramid comes second and it is the second largest, which symbolizes the fact that CSP is (1) the secondary level of intervention (comprising context-specific details and in situ reminders designed to extend and reinforce the primary education) and (2) slightly more modest in scope (involving students and faculty in specific schools, programs, or courses). Finally, the top level of the pyramid comes last and is smallest in size, which symbolizes the fact that IR is (1) a tertiary level of intervention (consisting of fair and efficient procedures for processing suspected cases of academic misconduct as well as “developmental” sanctioning aimed at building knowledge, values, and skills related to academic integrity) and (2) intended for very few students (involving only those who have been “found responsible” for engaging in some form of academic dishonesty).

School-Wide Education

As described above, SWE is the primary level of intervention: it comes first and is intended for all students and community members. It is education and socialization that is aimed at enculturation – the acquisition of the knowledge, attitudes, and skills necessary for acting appropriately in a given culture. In this case, “acting appropriately” refers to acting in accord with the values or principles of academic integrity. According to the International Center for Academic Integrity (2014), academic integrity is defined “as a commitment, even in the face of adversity, to six fundamental values: honesty, trust, fairness, respect, responsibility, and courage.” If the commitment to these six values offers one (very good) option for

answering the *what is* question concerning academic integrity, the question left to be addressed is *how to* create a culture that embraces and embodies that commitment: *How do we create a culture of integrity?*

Since the renaissance of the honor codes (described elsewhere in this volume) in the 1990s (McCabe and Pavela 2000; Pavela and McCabe 1993), numerous books, articles, and online resources related to creating cultures of integrity have been produced (e.g., Bertram Gallant 2011; Gould and Roberts 2007; International Center for Academic Integrity 2001; Wangaard and Stephens 2011). While the focus here is on SWE (i.e., the ways in which schools create opportunities for their students to learn about academic integrity), all of these resources highlight the importance of organizational factors. As summarized by Bertram Gallant and Kalichman (2011) in their systems approach, these “organizational level” factors include “clearly articulated norms and rules, transparent procedures, distributed power, fair and strong incentive systems, ethical infrastructures, and strong leadership within the organization” (p. 39). Working together, these factors help create a context and set of support systems conducive to helping student understand and embrace academic integrity.

Similarly, in *Creating a Culture of Academic Integrity: A Toolkit for Secondary Schools*, Wangaard and Stephens (2011) use systems theory as a basis for their recommendations. Their four-component conceptual model for “achieving with integrity” includes the same kind of organizational factors listed by Bertram Gallant (2011). For example, the first component of the model, Core Values, provides a clear articulation of the norms and rules that are to serve as the “foundation and guideposts” of all social and academic behavior (Wangaard and Stephens 2011, p. 9). The next component, Committees and Commitments, calls for the creation of an Academic Integrity Committee (AIC) to provide the ethical infrastructures needed (such as an honor council or board and the transparent procedures to govern it). Moreover, because these AICs are to be comprised not only of teachers (at least one from each department) but mostly students (at least two from each year or grade level), power is shared. More importantly, students are given a large role in creating and governing the culture of integrity at their school.

Finally, in terms of resources available for those interested in the development, implementation, and evaluation of school-wide approaches to creating a culture of integrity, arguably the most renowned is the International Center for Academic Integrity (ICAI) and their *Assessment Guide: Promoting Academic Integrity, Transforming Institutional Culture*. Although the membership of the ICAI consists mostly of tertiary institutions, the processes described in their guide are readily applicable at all educational levels. In addition to the *Assessment Guide*, the ICAI offers numerous other resources on their website as well as their own four-stage model of institutional change:

Stage One: “Primitive”

This stage describes a school with no policy or procedures (or minimalist ones) and where there is great variation in faculty and administrative handling of cheating.

Stage Two: “Radar Screen”

This stage describes a school where cheating issues have risen to public debate because of the perceived weakness of academic integrity policies and fundamental concerns with the consistency and fairness of existing practices. Stage two is characterized by early efforts, usually led by administration, to put a policy and procedures into effect, often for fear of litigation.

Stage Three: “Mature”

This stage characterizes a school where academic integrity policies and procedures are known and widely, but not universally, supported. Continuing efforts occur to socialize new faculty and students to the academic integrity policy, and it is used frequently by faculty, in particular.

Stage Four: “Honor Code”

This stage describes an institution where students take a major responsibility in implementing the integrity policy, and there is wide recognition that the code distinguishes the school while leading to lower cheating and plagiarism rates than most non-code schools.

As the ICAI emphasizes, Stage Four is “not necessarily the best” and that Stage Three is a “realistic and desirable stage for most institutions.” One of the key features of the “mature” stage is the presence of ongoing efforts to enculturate all new members to the community, helping them to understand and respect the values, policies, and procedures related to academic integrity.

Ideally, this school-wide education begins before students step foot on campus or walk through the front doors of the school building. For example, as part of their enrollment package (or acceptance letter), students should be sent materials that highlight the importance of academic integrity and clearly communicate the relevant values, policies, and procedures. Then, upon arrival on campus, all new students (as well as new faculty and staff) should participate in an orientation program that does the same. In their “Discover Stanford” program, for example, Stanford University has returning students introduce and explain their honor system to new students. Some institutions also conduct a public signing ceremony. For example, Vanderbilt University, which has had an honor system since its founding in 1873, recently instituted their Honor Code Signing Ceremony (see <http://www.vanderbilt.edu/roadtovanderbilt/road-3.html>). Specifically, since 2002, before classes begin each year, all incoming students meet together for the first time to pledge their honor and sign the code. Done well, such ceremonies possess not only great symbolic power but also serve as a powerful means to educate students about academic integrity and initiate their enculturation.

Finally, many institutions are now providing SWE on academic integrity in the form of mandatory online tutorials or courses. Some universities have developed their own online programs to promote academic integrity. For example, the University of Auckland recently added a requirement that all students complete an online course by the end of their first semester. The course consists of five modules that help students not only understand the meaning of academic integrity at the university but also skills related to avoid academic dishonesty and use copyrighted

material ethically. Those institutions not creating their own courses on academic integrity are increasingly asking their students complete this online education elsewhere. FutureLearn, for example, has developed a MOOC (Massive Open Online Course) called *Academic Integrity: Values, Skills, Action* (see www.futurelearn.com/courses/academic-integrity). The course is 4-week long (requiring one hour per week) and is presently being offered several times a year. All of these are examples of ways in which all institutions can provide their students with SWE related to academic integrity.

In short, the foundation or cornerstone of any culture is a shared value system, such as that offered by the Fundamental Values Project described in the introduction of this section. This value system must not only be understood and shared by current members, it must be also communicated to and adopted by new members of the community. In accord with the three models of intervention depicted in Fig. 1, this enculturation process should begin with school-wide education. In its most robust form, the primary level of intervention should provide every student with opportunities to develop the knowledge, skills, and dispositions associated with academic integrity.

Context-Specific Prevention

For all its importance and power, however, the primary level of intervention is “only” a foundation – a first layer upon which to be built. To do so, we now turn our attention to the second level of the intervention model, Context-Specific Prevention, and describe how it can contribute the foundation laid by School-Wide Education and strengthen an emerging or existing culture of integrity. To begin, “context-specific prevention” (CSP) is defined as any intervention aimed at promoting integrity or reducing misconduct in a specific classroom, course, or program of study. In accordance with its middle position in the pyramid of the three-level model (see Fig. 1), CSP does not necessarily include everyone. Although most (and ideally all) students participate in some form of CSP during their enrollment, they do so in smaller groups nested in the context of their particular class or course of study. Finally, by way of introduction, though the P in CSP is for Prevention, the usage here includes positive developmental interventions (aimed at increasing students’ knowledge, skills, and dispositions related to academic integrity) as well as behavioral control techniques (aimed at reducing cheating by manipulating the opportunity and incentive structures of the environment).

With that in mind, we begin our exploration with the behavioral approach, before taking the developmental turn and describing in positive terms what else could be possible. Very simply, behavioral control or management techniques include any manipulation of the classroom environment or assessment setting intended to modify student behavior. In the case of academic integrity, this includes changes in the environment that are designed to reduce cheating behavior. For example, an instructor may create multiple forms of exam (randomizing the order questions and response choices) to reduce the opportunity for students to readily

exchange answers. This is a very common and effective practice. It is also typical that these exams are to be administered under the watchful eyes of a team of invigilators and for students to be seated to maximize the space between them, their desks and persons free of any unpermitted notes or devices, all mindful that cheating would be met with serious negative consequences.

While multiple versions of exams and the proctoring of them represent some of the longest-standing and “low-tech” techniques of behavior control, the Internet has given rise to the age of digital plagiarism as well as the “high-tech” tools to detect it. Though such plagiarism-detection programs are often used for behavioral control (whereby students are informed that their papers will be scanned for plagiarism, and this change in the environment reduces the amount of plagiarized material submitted in student papers) and effectively function as such (e.g., Braumoeller and Gaines 2001; Heckler et al. 2013), they can also be used as a developmental tool (whereby students submit their own work in advance and, with instructor guidance, use the feedback to learn about plagiarism) (e.g., Davis and Carroll 2009). With their potential for this dual use – as a “threat” and a “teachable moment” – these tools serve as a good departure point in shifting our focus from behavior control to developmental approaches.

Philosophically, the shift from a behavioral to developmental perspective and approach is a significant one: where the former takes a dim view of human nature and aims only to control behavior through manipulation of the environment, the latter focuses on the developmental capacities of human beings and seeks to foster individual growth through education. When one thinks about these differences and reflects on the techniques described above (e.g., using multiple forms of exams, proctoring, spacing seating, etc.), it’s readily apparent that while behavioral control can be an effective approach to reducing academic dishonesty, it is not characteristic of – or necessarily helpful in creating – a culture of integrity. In such a culture, as exemplified at traditional honor code institutions, the community operates on fundamental values such as trust, respect, and responsibility, which would preclude the use of techniques that inherently contradict or undermine the fruition of those values. That said, for most teachers (not teaching at traditional honor code institutions or in “cultures of integrity”), these techniques are important and necessary ones to upholding two other fundamental values: honesty and fairness. Nor, more importantly for our purposes here, is their use at odds with developmental approaches (they can be used together), to which we now turn our attention.

Context-specific prevention from a developmental perspective includes creating opportunities for students to learn and strengthen positive “developmental assets” (Benson et al. 2006). These “assets” include a solid understanding of academic integrity (what it is and why it’s important), a commitment to integrity in one’s pursuits, and the knowledge, skills, and will needed to enact one’s commitments. There is, in short, a lot for students to learn, and schools and teachers at all levels have a responsibility to provide the education needed to help students build these developmental assets. In fact, this kind of education likely happens at every school or university in the world – at least in the modest form of individual teachers mentioning academic integrity in their course syllabi and/or introductory lectures.

Some teachers go a step further and talk about the importance of academic integrity and provide explicit instruction on what kind of actions would constitute academic misconduct in the context of their course assessments. Additionally, many English or language teachers provide students in introductory level writing or literature courses with instruction on the meaning of intellectual property and plagiarism as well as the skills needed to properly cite and reference external sources.

These informal means of building students' development assets related to academic integrity can be very good. However, this kind of informal education is often sporadic and rarely comprehensive. It's certainly insufficient if we are trying to create a culture of integrity and take seriously our responsibility to help students learn and develop (and not just control their behavior). To achieve those ends, a more deliberate and systematic approach is needed. Perhaps the most obvious place to start is with the educator and the myriad ways she affects students' perceptions, beliefs, and behaviors related to academic integrity. Meizlish (2005) offers a four-category typology of "instructional best practices" related to academic integrity that includes a blend of both behavioral and development approaches (see pp. 3–6). Examples of the latter type of approaches include the following:

1. Be clear about your expectations – both orally and in writing (e.g., What type of assistance can students seek on class-related work? And from whom? Is group work allowed?).
2. Demonstrate for them your concern with issues of academic integrity and responsible research by discussing what is challenging about doing work in your particular field (e.g., What is an original argument? What is the boundary between collaboration and individual work? What is "common knowledge" in your field? What is your own practice for doing research and documenting sources?).
3. Teach/reinforce research and citation skills (e.g., identify common errors students make in note-taking and research preparation or assign a plagiarism exercise or conduct one in class).
4. Remind them of your school's academic integrity policy. Clarify with them: What steps you will take if you suspect cheating or plagiarism has taken place, and what steps you expect your students to take if they suspect cheating or plagiarism is taking place in your class?
5. Sequence or stage major assignments (e.g., require detailed paper or project proposals from each group work).

In a similar vein, Stephens (2005) describes five suggestions for promoting not only academic integrity but learning as well. Perhaps most important among them are the three listed below. The first provides a way teachers can do something positive related to assessments such as tests, and the latter two highlight the importance of providing students with models of integrity (including oneself):

1. Connect assessment integrally with learning. Create assessments that are fair and meaningful representations of what students should have learned. Make sure

assessments provide informative feedback and thus contribute to improved performance. When possible, individualize evaluations of students' progress and offer them privately. Avoid practices that invite social comparisons of performance.

2. Give students images of people who don't cut corners: scientists who discover things they don't expect because they approach their work with an impeccable respect for truth and a genuinely open mind and businesspeople who exemplify integrity even when it seems like it might cost them something. But don't preach. Take seriously the fact that, in some contexts, being consistently honest can be hard.
3. Finally, as educators, we must do our best to exemplify intellectual integrity ourselves – in everything from how we treat students and each other to how we approach the subject matter, to how we approach mandatory high stakes testing, to how we think and talk about politics.

In addition to promoting academic integrity through *how* they teach and the values they model, educators can also affect students' academic integrity through *what* they teach: providing students with content or courses that stimulate their ethical development. Toward this end, many universities (but very few primary or secondary schools) require students to take an ethics or philosophy course. Though these courses do not always focus on academic integrity specifically, they can still affect students' ethical functioning related to it. For example, a recent study by Seider et al. (2013) found that students at a high school with educational philosophy program (involving weekly discussions of various philosophers) exhibited a greater commitment to academic integrity over the course of the academic year compared to their peers at a nearby comparison school without such a program. Though the effect was modest, it does provide evidence that these types of courses can make a difference, even when a reduction in cheating is not the aim.

Other recent course-based efforts have been focused more squarely on academic integrity. Stephens and Wangaard (in press), for example, offer a seminar approach to integrating discussions of academic integrity into the curriculum. Although initially developed for secondary teachers, the *Achieving with Integrity* (AwI) Seminar was designed to be flexible enough to work at secondary and tertiary levels as well as across subject areas. Theoretically, the AwI Seminar is rooted in the four-component model of ethical functioning (Rest 1986). That is, it uses the four components as the basis for engaging students in series of discussions and activities designed to stimulate growth in their ethical sensitivity, judgment, motivation, and character related to academic integrity. More specifically, the AwI Seminar consists of five 30–45-min discussions (one for each component plus a summary discussion), with each discussion having a set of “key concepts” and a “primary activity protocol” that students use to address a “core question.” For example, in the second discussion on ethical judgment, students consider the core question, “What's right?” in the context of a “case” (real or hypothetical) involving academic misconduct. Guiding by the activity protocol, students are prompted to engage in individual reflection and small group discussion about the case. The goal of the discussion is to increase students' ethical

reasoning, particularly their capacity for morally principled or “postconventional” reasoning (Rest, Narvaez et al. 1999).

Individual Remediation

Despite even the best school-wide education and context-specific prevention, some students are going to cheat. The question is how do we respond to these violations in a way consistent with our goal of creating a culture of integrity? Here again the distinction between behavioral and developmental approaches is helpful. Some traditional honor code institutions, such as the University of Virginia and some of the US military academies, embrace a “single sanction system” in responding to academic dishonesty. As the name betrays, there is only one sanction, and it is expulsion. While these institutions have the right to impose such a system, the solely punitive response seems somewhat unbecoming of an educational institution. If you subscribe to the notion that schools are charged with not only students’ intellectual development but also their social and moral growth, expelling students (particularly for minor breaches) seems like a missed opportunity to potentiate the latter (if not a dereliction of duty on behalf of the institution). There are times when expulsion is necessary for major or repeated offences, but short of these extraordinary situations, developmental approaches that offer opportunities for individual remediation are more appropriate and consistent with the mission of education.

Unfortunately, although developmental approaches are more appropriate and consonant with the purposes of schooling, their use in response to student academic misconduct is rare. While the vast majority of institutions do not use a single sanction system, the systems they mostly use are behaviorist in orientation – employing punishment as the only response. That is, students who are caught cheating are punished for their misbehavior (e.g., an F for the assignment or course in question, in-school detention, or temporary suspension). There is often no effort to offer educational remediation (e.g., Pecorari 2001), for example, a course or program that teaches students about the meaning of intellectual property and plagiarism, as well as the knowledge and skills needed to properly cite and reference a source. Or, perhaps the students’ problems are centered on time management, organizational, and study skills, and a workshop or tutorial sessions related to these skills are needed.

Although rare, there are several institutions that have moved away from strictly behavioral sanctioning and started including developmental sanctions for those students found responsible for cheating. Among the most striking examples of this shift occurred at the United States Air Force Academy (USAFA). Once a strong adherent to the single sanction system, the USAFA adopted a developmental approach in the 1980s. While expulsion was still used for serious cases or those involving older cadets, younger cadets committing minor cases could be eligible for a 6-month probation and offered a number of developmental activities. Included among the latter were “working with a mentor, writing a regular journal, undertaking special projects, and working to make other students aware of the importance of the honor code” (as summarized in Colby et al. 2003, p. 234).

Similarly, the University of California at San Diego created their Academic Integrity Seminar in 2008 “to provide students who had violated the Policy on Integrity of Scholarship an opportunity to learn about and develop skills in professional integrity and ethical decision making” (Bertram Gallant and McCreary 2013, p. 2). The learning objectives of the Seminar are very much in line with the FCM of ethical functioning mentioned earlier. For example, the first learning objective (Identify) involves raising students’ awareness of the “underlying ethical principles of academic integrity” (p. 2), which is related to the first component of the FCM (ethical sensitivity); the second learning objective (Explore) includes strengthening students’ ethical decision-making and capacity to resolve dilemmas, skills at the heart of the second component of the FCM (ethical judgment); and the third learning objective (Develop) includes creating a “a personal goal statement/vision for engaging in academic work with integrity” (p. 2), which is related to the third component of the FCM (ethical motivation). As reported by Bertram Gallant and McCreary (2013), the Seminar has demonstrated effectiveness not only in increasing students’ perceptions concerning seriousness of cheating but also their knowledge of the values related to and importance of academic integrity (see pp. 5–6).

Summary

The problem of cheating is endemic to the human species: part of a broader stratagem of deception (and self-deception) that proved adaptive to our survival in the ancestral environment (e.g., Trivers 2011; Wright 1994). In this light, cheating is not surprising or unexpected behavior but a strategy to be deployed (consciously or unconsciously) in certain situations. This fact, however, does not make cheating right, and evolution has also endowed our species with a “moral sense” (Wilson 1993) or set of “intuitive ethics” (Haidt and Joseph 2004). We understand that cheating is wrong – an act or tactic that (unfairly) advances our position or interests over that of (honest) others – even if we do it anyway. This chapter has focused on a particular type of cheating behavior – academic dishonesty – and has described a multilevel model of intervention aimed at promoting academic honesty and creating a culture of integrity. Specifically, this chapter has sought to provide a useful blueprint for undertaking cultural change – at all levels – that involves the integrated use of school-wide education, context-specific prevention, and, where needed, individual remediation. Although such change is neither quick nor easy, it is both possible and necessary.

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Engaging Students and Faculty: Examining and Overcoming the Barriers

69

Sonia Saddiqui

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S. Saddiqui (✉)
Macquarie University, Sydney, NSW, Australia
e-mail: sonia.saddiqui@mq.edu.au

Abstract

Academic integrity breaches are a multifaceted and complex problem. Much of the literature on academic integrity in higher education has focused on students and their behaviors, with a view to understanding why and how often students commit transgressions. As more is learned about the prevalence of breaches and the associated contributing factors, educators have turned their concerns to other elements within academic integrity systems such as policies, processes, learning and teaching, and the roles and responsibilities of other members in the university academic integrity community. This chapter argues that stand-alone, ad hoc academic integrity interventions in higher education are unlikely to engender lasting and meaningful change at institutions. Structural and behavioral barriers to engagement in academic integrity faced by both students and faculty are addressed. A community-consultative model is presented, as a means of overcoming these barriers.

Introduction**Definitions and Examples**

Academic integrity breaches among university students are an issue that concerns all stakeholders of higher education, including institutions, faculty, university administration, students, alumni, employers, and the wider public. Academic integrity can be viewed as a value system as well as the attendant behaviors and actions that occur in congruence with academic integrity's commonly associated values. The International Center for Academic Integrity defines academic integrity as encompassing six fundamental values of honesty, trust, fairness, respect, responsibility, and courage (Fishman 2014). *Breaches* of academic integrity committed by students encompass both intentional and unintentional actions across a range of transgression types. Some of the more common breach types include plagiarism, collusion, cheating in an exam, and falsely claiming credit in group assignments. Examples of less common varieties of academic integrity breaches include bribing a teacher or exam invigilator, falsification of data or documents, enlisting a proxy to sit a test, and sabotage (Devlin 2002).

Prevalence

Some commentators describe academic integrity breach phenomena as corrosive and occurring in epidemic proportions (Alschuler and Blimling 1995; Briggs 2003; Dorff 2004), with breach rates at institutions around the world ranging from 40 % to 92 % across a variety of studies, methodologies, and instruments (see Bjorklund and Wenestam 2000; Brimble and Stevenson-Clarke 2005; Bowers 1964; Franklyn-Stokes and Newstead 1995; Graham et al. 1994; Marsden et al. 2005; McCabe and Trevino 1996; Roberts et al. 1997; Sheard et al. 2002; Whitley 1998). Other writers

such as Clegg and Flint (2006) question whether the “moral panic” (p. 373) of student plagiarism is warranted and instead argue for a more measured, phenomenological assessment of plagiarism.

Despite the methodological heterogeneity of the studies cited above, the reported rates of breaches are nevertheless indicative of a problem that is “persistent and pervasive” (Nayak et al. [forthcoming](#)). Within such an environment, the potential damage of breach phenomena includes barriers to effective learning and teaching; the disruption of program delivery and assessment efficacy (Turner and Beemsterboer 2003); a sense of disillusionment, disaffection, and distrust among students and faculty who lose faith in their institutions’ ability to foster fairness and consistency; and damage to the reputation of institutions that are embroiled in academic integrity scandals (Dill and Soo 2005).

In attempting to uncover the reasons behind academic integrity breach phenomena, earlier studies have logically focused on academic integrity breach rates, largely consisting of students’ self-reports of their academic integrity transgressions and their perceptions of their peers’ transgressive activities. Such data has provided empirical evidence of rates and attitudes that can be compared and assessed according to demographic and situational variables.

In his review of the literature, Park (2003) collated the contributing factors most often associated with (in this instance) plagiarism among students. These factors included poor time management, normalization of breach behavior, unintentional actions due to lack of skill and/or ignorance, feelings of dissatisfaction and dissent towards assessments and/or instructors, neutralization of transgressive behaviors, increased opportunities and increased inclination to plagiarize due to prevalence of information and communication technologies, and the lack of punitive deterrents. Other associated factors include time pressures, financial pressures, and the pressures students face to succeed in their studies (Barnett and Dalton 1981; Davis and Ludvigson 1995; Franklyn-Stokes and Newstead 1995; Lipson and McGavern 1993; Nayak et al. [forthcoming](#); Newstead et al. 1996).

While all of these factors have been explored in relation to students’ propensity to commit breaches, the findings have been mixed. As East (2009) states, “no photo kit is available and no descriptions of likely suspects are available for vigilant teachers on the lookout” (p. A-40).

Given the complexities involved in identifying “likely suspects,” academic integrity research has progressed from mainly student-focused studies (e.g., Franklyn-Stokes and Newstead 1995; Marsden 2008; Marsden et al. 2005; McCabe and Trevino 1996) to studies that encompass institutions as units of analysis in their own right. Variables under analysis extend beyond the prevalence of breach phenomena, to also include academic integrity policies, procedures, and rhetoric (see Australian Council of Distance Education 2005; Bretag et al. 2011; Grigg 2009; Kaktins 2013; Sutherland-Smith 2010).

Less research has investigated the experience of faculty, especially in relation to their roles and responsibilities at the forefront of managing academic integrity. These investigations are made even more germane when we consider that student self-report studies by Sims (1993) and Nonis and Swift (2001) found a high

correlation between students' self-reported academic breach activity at university and unethical behaviors in the workplace. Within a similar theme of inquiry, Lawson (2004), in a study of business school student attitudes, found that students who committed academic integrity breaches demonstrated a more accepting attitude towards unethical behaviors in the workplace.

The complex and multifaceted nature of student academic integrity breaches has also given rise to an abundance of research literature that articulates the benefits of an institutional-wide, holistic approach to tackling the problem (Devlin 2002, 2003; Bertram Gallant and Drinan 2008; MacDonald and Carroll 2006). Alschuler and Blimling suggest that any approach would be a "long-term, multilevel undertaking" (p. 124). The challenge and scope of this task are further echoed by Bertram Gallant and Drinan (2006): "Institutionalization [of academic integrity] requires significant and intentional change in the beliefs, values, attitudes, and underlying assumptions of students and faculty, an extremely difficult task in the complex and diverse higher education setting" (p. 75).

A holistic approach to managing academic integrity initially involves assessing how the different processes and participants at an institution influence academic integrity and then creating interventions at each step, for each participating group, that can improve the operations of the whole. In facilitating such an undertaking, the crucial questions that researchers currently seek to answer are: What interventions are likely to help? Whom should these interventions target? Who will be responsible for carrying them out?

As key stakeholders and participants in institutional academic integrity, *students* and *faculty* are central to the creation and maintenance of positive academic integrity cultures. Obstacles to engaging students and faculty in academic integrity are well documented in the literature and are discussed in more detail in the preceding sections.

This chapter suggests that stand-alone, ad hoc interventions are unlikely to engender lasting and meaningful change. Merely appealing to students to raise their awareness and skills and to address their ethical values is insufficient. Similarly insufficient is requiring faculty to increase their vigilance and to be more consistent in their application of rules and policies. These measures are helpful, but are not a panacea. Rather, this chapter addresses structural and behavioral barriers to engagement in academic integrity faced by both students and faculty and, based on the literature, will suggest means of overcoming these barriers within a holistic, community-consultative model.

Approaches to Managing Academic Integrity

The aspect that most (if not all) academic integrity policies at higher education institutions have in common is sanctions for proven academic integrity breaches. The punitive approach, in this instance, reflects the deficit model of education, which perceives students as central to the problem. Accordingly, little attention is paid to extrinsic contributing factors such as learning environment, students' peer

culture, or their prior pedagogical experience (Teh and Paull 2013). Deterrence is the main goal of the punitive approach. It involves providing warnings to students regarding penalties, monitoring and policing, and applying penalties for proven cases.

When appropriately applied, researchers like Zobel and Hamilton (2002) articulate the merits of a punitive approach in reducing the likelihood that students will engage in breach activities. Power (2009) provided supportive findings, where almost every student interviewed in her study indicated that their fear of getting caught was the strongest deterrent against committing plagiarism. Findings from international studies lend further credence to the potential efficacy of a punitive approach. A study of Malaysian student attitudes to academic integrity breaches by Ahmad et al. (2008) found that students perceived academic dishonesty in terms of the punishments related to being caught, rather than in terms of the ethics of committing transgressive behaviors. Japanese and American students surveyed by Diekhoff et al. (1999) perceived social stigma as the least effective obstacle to engaging in academic integrity breaches. Rather, punitive measures were ranked as the strongest deterrent.

Critics of the punitive approach (e.g., Devlin 2002; Freeman et al. 2007) caution against overemphasis on sanctions. While a punitive element in academic integrity policy can serve as a deterrent, this approach fails to address the variety of reasons why students engage in academic integrity breaches in the first place. In their study, Bertram Gallant and Drinan (2006) assert that the dominant management approach to academic integrity practiced by institutions seemingly involves reactive procedures that emphasize policing and punishment, as opposed to proactive measures that promote academic integrity as an ingrained community value. In this sense, it is perhaps not surprising that students respond more readily to the threat of sanctions, rather than the positive aspects of academic integrity, given that these aspects are poorly articulated by institutions. Additionally, undue emphasis on the punitive approach seems limiting, considering that students' lack of understanding, lack of familiarity, and lack of skill concerning academic integrity conventions are so often identified as the main reasons for why breaches occur (Carroll 2004; Turner and Beemsterboer 2003).

The *educative* approach, on the other hand, addresses knowledge and skill deficiencies, encourages apprenticeship into scholarship (McGowan 2005), and provides support and resources that enable pedagogical interventions in academic integrity to take place (Devlin 2003). It aims to equip students with knowledge about conventions and expectations, thereby providing them with less impetus to commit an academic integrity breach as a result of ignorance regarding the rules or a lack of skill.

Correspondingly, the language surrounding academic integrity discourse has shifted away from legalese, moralistic, and adversarial terminology (as highlighted by Grigg 2009; Kaktins 2013; Sutherland-Smith 2010) to a reframing of academic integrity as an institutional-community issue, reliant on institutional culture and norms (Bretag et al. 2013; Dufresne 2004; Bertram Gallant and Drinan 2008; Ianna et al. 2013; McCabe and Pavela 2005).

Emphasizing the Academic Integrity Community

Underscoring the concept of community in academic integrity has meant that suggested interventions invariably present a more diffused notion of responsibility among academic integrity stakeholders. Indeed, while there seems to be a tacit understanding of whom academic integrity stakeholders are in the literature, the shifting view away from mainly students, and to institutions as a whole, has required the explicit identification of stakeholders and their roles within academic integrity systems.

For example, the Australian Catholic University's recent *Framework for Academic Integrity* (Ianna et al. 2013) makes explicit the roles and responsibilities of the university's academic integrity stakeholders by specifying four distinct stakeholder groups: faculties, schools, academic staff, and students. A meta-analysis of 125 published Australasian papers on academic integrity by Fielden and Joyce (2008) also provides a comprehensive list of stakeholders that extend beyond the institution: "...institutional managers; academic staff (who, in general carry out multiple duties including research, teaching and service); administrative staff; students; legal advisers; industries supporting academic integrity (for instance, Turnitin); and academic funding agencies, both public and private" (p. 6).

Identifying the groups within academic integrity stakeholder communities serves to emphasize the interconnected nature of academic integrity management. In his study on the viability of an academic honor code system at a US university through an action learning perspective, Dufresne (2004) demonstrated the importance of understanding organizational culture and context *prior* to such an intervention. In the case study provided, the implementation of an institutional-wide academic conduct code was unsuccessful because it did not have sufficient "buy-in" from the academic integrity stakeholders within the university community. Dufresne (2004) referred to Ignelzi's (1990) concept of *participatory* rather than representative democracy as a more effective and inclusive way of implementing the interventions mentioned in the study. In terms of academic integrity interventions, the participatory democracy approach requires more of students than their identification as constituents of the institution's academic integrity community. Rather, it would seek to actively involve them in discussions about academic integrity policies, procedures, and problems, solicit their ideas and input regarding possible interventions, and involve students as facilitators of interventions.

Other authors who have attempted to approach the problem of implementing participatory academic integrity interventions have also recognized the merits of identifying *where* and *how* stakeholders contribute as both drivers and resources of academic integrity. Nayak et al. (forthcoming) employ a theory of change (Fulbright-Anderson et al. 1998; Weiss 1995) as the guiding framework for their study, which sought to create an academic integrity student organization at an Australian university. The theory of change methodology involves articulating desired outcomes of an intervention and then working backwards to identify pre-conditions, enabling factors and resources required to achieve desired outcomes (Weiss 1995).

In the context of a university, the conditions required for the implementation of the academic integrity intervention undertaken by Nayak et al. ([forthcoming](#)) encompassed obtaining stakeholder viewpoints through student focus groups and interviews with faculty, administration staff, and student leaders. Change enablers who would drive the intervention were identified from among students and university staff. The end result was a student organization, led and run by students, that works to promote academic integrity in collaboration with other university departments such as the Learning and Teaching Centre.

An example of a consultative and collaborative effort among different stakeholder groups in an academic integrity intervention is also demonstrated by Ianna et al. (2013), in the development of supporting material for an online academic integrity module. The cited intervention not only involved faculty but other departments that contribute to academic integrity (e.g., learning support and the library) and clearly articulated the role and responsibilities of students and faculty in this academic integrity environment.

The Notion of Responsibility

In devising targeted interventions, it is prudent to also examine existing attitudes and assumptions held by members of the institutional community regarding their academic integrity roles and responsibilities. Without investment in responsibility from key stakeholders, the most well-intentioned interventions are doomed to failure. McCabe et al. (2003) reported that in institutions where there was no academic honor code (i.e., in institutions where academic integrity responsibility and ownership is not shared with students), it is faculty who “play a greater relative role in their institution’s academic integrity policies. Indeed, they are more likely to perceive themselves as being ‘on the front lines’ and the ones who must ‘shoulder the load’ when it comes to maintaining academic integrity” (p. 370).

In their survey of academic affairs administrators’ perceptions of academic integrity, Bertram Gallant and Drinan (2006) found that over half of the respondents perceived faculty as potential catalysts for academic integrity change. These findings are suggestive of a certain administrative and instrumental responsibility that faculty members perceive for themselves. It is worthwhile elucidating how these attitudes influence the way faculty members perform their academic integrity roles.

The stakeholder group that is most directly and visibly affected by the policies, procedures, and outcomes of academic integrity processes is students. Nayak et al. ([forthcoming](#)) reported that academic integrity values were communicated to students through policies, through instructors, and via teaching materials, effectively placing the responsibility for communicating these concepts with faculty and the institution. When asked about their perceptions regarding responsibility for academic integrity at their enrolled institution, of the 5,538 Australian university students who participated in the study, 84 % agreed that academic integrity was the responsibility of the *entire* university community. Interestingly, however, students also perceived

that they were *more* responsible for academic integrity than academic and administrative staff. The authors concluded that students could be enlisted as a (currently underutilized) resource in the promotion of academic integrity.

When considering the concept of responsibility, there appear to be two coexisting concepts at work – the responsibility of providing the guiding framework, rules, conventions, and policing of academic integrity (i.e., the responsibility of the institution and its staff), and the responsibility of abiding by those rules and conventions (i.e., the responsibility of students). Parsing academic integrity responsibility in this manner places a potentially distracting emphasis on students as potential perpetrators and on faculty as enforcers. Fielden and Joyce's (2008) meta-analysis reported that the majority of the papers they examined concerned faculty's views about students. Almost half were written by academic teaching staff reporting on student plagiarism, with recommendations concerning how policy and practice could be altered to mitigate students' breach behaviors. The usual approach to plagiarism has seemingly been to hold students accountable (Macdonald and Carroll 2006). A shared notion of academic integrity responsibility is required if we are to create investment in responsibility (as opposed to monitoring and culpability) from students *and* faculty.

Barriers to Faculty Engagement

Faculty often feel that they are at the front lines for maintaining academic integrity, charged with the responsibility of transforming institutional policy and rhetoric into practice, through their teaching, management of breach cases, and modeling of ethical behavior (Coren 2011; McCabe et al. 2003). Extant studies into faculty attitudes concerning their experience of managing academic integrity indicate a lack of investment in institutional processes. This section will discuss the barriers to engaging faculty and the possible interventions to promote stronger investment.

Inconsistent Knowledge, Skill, and Perceptions

A study by Zivcakova et al. (2012), which examined faculty perceptions of their students' knowledge of academic integrity through viewing students' discussions in an academic integrity workshop, reported that faculty were surprised by some of the views expressed by their students. Students and faculty expressed differing views about what constituted academic integrity breaches. Given the increasingly diverse cohorts of students attending higher education from different backgrounds, it is prudent to undertake basic assessment of student competencies in academic integrity conventions (as similarly proposed by Bretag et al. 2013) so that aligned learning and teaching strategies for academic integrity may be devised.

Along a similar vein, East (2009) contends that some faculty may be insufficiently prepared, in terms of skill level and procedural familiarity, to manage student academic integrity in the classroom. Research has shown that faculty

have been known to react differently to incidences of academic integrity breaches (McCabe et al. 2003) and do not always agree on what constitutes transgressions (Flint et al. 2006; Robinson-Zanartu et al. 2005; Roig 2001).

These inconsistencies are also apparent among different faculty members. A study by Hudd et al. (2009) found that full-time and part-time faculty (sometimes referred to as sessional or casual faculty) respond to academic integrity breach cases differently. For example, part-time faculty expressed more lenient attitudes towards academic integrity breaches than their full-time counterparts. They viewed transgressions such as the use of unauthorized notes in an exam, and colluding on a take-home test with another student, as more minor violations than full-time faculty.

Ultimately, while there may be overarching institutional ethos regarding academic integrity, inconsistencies in the teaching of academic integrity conventions and in the application of rules by instructors may cause this overarching message to become diluted and fragmented. What passes for acceptable in one class may be deemed a breach in another, creating uncertainty for students.

Ignoring Breach Cases

Exacerbating these inconsistencies is the apparent prevalence of faculty ignoring suspected breach cases and possibly avoiding investigating cases due to obstacles such as the heavy time and effort commitment and the prospect of student resentment (Coren 2011). According to McCabe and Pavela (2004), 44 % of faculty claimed that they did not report a case of suspected academic integrity breach. A survey the following year by Barrett and Cox (2005) found that 51 % of faculty reported behaving similarly. Brimble and Stevenson-Clarke (2006) found that 25 % of faculty failed to report suspected breach cases because they felt the cases were unintentional, while 53 % of faculty indicated they would be hesitant to report a case at all unless they deemed it to be serious.

In Coren's more recent 2011 study, 48 % of faculty admitted that they had not referred a suspected breach case. It is not surprising, then, that Zivcakova et al. (2014) found that faculty perceived their colleagues' failure to report breaches as a concerning issue. Bennett (2005) reported that 25 % of students felt that faculty were not serious about plagiarism. Faculty who perceive a lack of clear direction from their institution may be disinclined to initiate formal processes when they suspect a breach has occurred (Kolanko et al. 2006; Simon et al. 2003). When teachers ignore breaches, this can create ambiguity about whether academic integrity is taken seriously by the institution. If faculty are not incentivized to take appropriate action, it is unlikely that students will take the initiative.

Lack of Institutional Support

Even when there is an articulated institutional commitment or a reinvigoration of interest in student academic integrity, a lack of aligned support and guidance

provided to faculty *by* their institution works against effective academic integrity management. East (2009) provides an apt example in her case study of an Australian university's academic integrity management system, reporting on the lack of alignment between policy, institutional rhetoric, and practice. In the example discussed, training for academic staff in the use of plagiarism detection software was listed in the institution's policy, but there had been no move to provide this training, rendering the initiative unsuccessful. Such misalignment provided faculty with little motivation to take up policy directives that they may perceive to be ineffective or superficial, and instead deal with breaches on their own (East 2009).

Respondents in the study by Zivcakova et al. (2012) readily identified procedural deficiencies in how academic integrity was administrated (in terms of the application of rules) and a lack of support provided to faculty for dealing with breaches. The survey of faculty attitudes to academic integrity processes by McCabe et al. (2003) found that faculty preferred to deal with cases personally, rather than report the matter to the appropriate authority. East (2009) suggests that some faculty may not feel that their supervisors deliver sound decisions regarding academic integrity breach cases and that this lack of faith is a resulting deterrent to reporting.

Workload and Stress

Compounding the problem of a perceived lack of satisfaction with administrative support is the fact that faculty view academic integrity management as a time-consuming process in general, particularly when the burden of proof and responsibility for progressing a case resides solely with the reporting faculty member (Keith-Spiegel et al. 1998; Larkham and Manns 2002; McCabe 1993).

Nearly all the faculty surveyed in Coren's 2011 study of faculty attitudes and actions relating to students' academic integrity breaches stated that they ignored suspected breach cases due to insufficient evidence. In their study of the attitudes of psychology professors to student breach activity, Keith-Spiegel et al. (1998) reported that faculty perceived the work required to seek out sources of suspected plagiarism to be onerous and, as such, presented a disincentive to reporting. Additionally, being responsible for students' academic integrity breach citations can be a daunting prospect and a highly unpleasant task considering the high fees paid by students and the pressures students face to succeed (Franklyn et al. 1995; Sheard et al. 2003). Further adding to this anxiety is the emotional stress of having to police cases and confront students personally, and the fear of litigation and professional repercussions (Coren 2011; Keith-Spiegel et al. 1998).

Coren (2011) further contends that faculty who have had negative experiences in dealing with academic integrity breaches were more likely to find academic integrity management to be an unpleasant aspect of their work and to place less importance on the perceived opinions of their colleagues regarding how such cases ought to be handled. McCabe (1993) found that among faculty who did report academic integrity breaches, between 20 % and 30 % of them were unsatisfied with

how the cases were handled. Faculty who did report breach cases in Coren's 2011 study, and who were unsatisfied with their handling, were subsequently *less* confident that they would receive adequate support from their institution if they reported further cases. These findings underscore the notion that some faculty may experience a lack of professional self-efficacy concerning their ability to manage academic integrity.

Towards Better Engagement of Faculty

Possible solutions for improving faculty engagement are presented in the following sections, encompassing procedural support, resourcing and preparation, learning and teaching support, and professional development.

Procedural Support

The concept of a dedicated academic integrity officer is one method of providing day-to-day procedural and, possibly, moral support for faculty (Carroll and Appleton 2005; Devlin 2003; Park 2004). Variations on this approach have been implemented in the form of academic integrity advisors (Zivcakova et al. 2012), academic integrity officers (McGowan 2013), academic honesty coordinators (Devlin 2003), and student academic conduct officers (East 2009). This role involves any combination of the following duties: the provision of discipline-specific support to faculty, management and referral of cases, determination of outcomes, maintenance of case databases, and advising faculty (Park 2004).

The role has further potential for development. There is scope for academic integrity advisors to become involved in discussions with university administration relating to policies and to be utilized as consultants regarding the professional development needs of faculty, and learning and teaching interventions relating to academic integrity. Such advisors are also in an excellent position to serve as the faculty voice relating to academic integrity issues due to their exposure, awareness, and knowledge of colleagues' experiences in dealing with breach cases, their experience in the application of academic integrity policies and procedure, and their ability to comment on the effectiveness of procedures based on their knowledge of case outcomes. Faculty in Zivcakova et al. (2012) noted the benefits of having a colleague in an academic integrity advisory role, in terms of the administrative support they received in dealing with breach cases, and as a source of expert knowledge. As McGowan (2013) states, "in other words to guarantee some consistency" in how breach cases are handled (p. 230).

Hamilton and Richardson (2008), writing in relation to a plagiarism detection software intervention at an institution, cite a similar concept – that of *staff champions*, whose role is to inform students about referencing techniques, student responsibilities, and the technical aspects of using the plagiarism detection software, Turnitin. Though the term academic integrity "champion" is also used by

Bertram Gallant and Drinan (2008), “staff champion” as cited by Hamilton and Richardson (2008) is a different concept. The role described by Bertram Gallant and Drinan (2008) does not predominantly involve assisting students (though the authors do not preclude this). Rather, Bertram Gallant and Drinan’s (2008) academic integrity champion, through their enthusiasm and commitment to the cause, serves as potential catalyst for bringing about positive academic integrity change. Similar to the potential of the academic integrity advisor (typically a member of faculty), such individuals may take on the role of interlocutors in consultation with the institution and with other academic integrity stakeholders.

Resourcing and Preparation

Supporting faculty can extend beyond providing advice and improving administration by also providing resources for use or adaptation in classrooms. This enables faculty to feel less like they have to “reinvent the wheel” when it comes to instruction in academic integrity rules and expectations, and allows them to save time and effort by utilizing existing material. The practice of sharing (and, in some cases, collaborating on) resources also serves to contribute to the scholarly practice of teaching academic integrity. The *Building Academic Integrity Project*, an Australian Government Office for Learning and Teaching study led by Victoria University, examined the specific role of unit/course coordinators in the management of academic integrity ([Building Academic Integrity Project \(n.d.\)](#)).

Initial results from a survey of 438 faculty revealed that faculty were uncertain about the different forms of academic integrity breaches and how academic integrity ought to be taught to students. The project specifically identifies unit coordinators who are at the center of managing academic integrity and, as such, are tasked with the role of translating policy into teaching and learning outcomes. Rather than faculty producing resources on their own, the project website serves as a useful aggregator of academic integrity teaching resources that can be downloaded and, in some cases, adapted. Resources are listed by name, purpose, and the recommended term or semester for when the material is best disseminated. The resources include links to videos, quizzes, online modules, tutorials, and other teaching documents, the sharing of which promotes an academic integrity community of practice ([Building Academic Integrity Project \(n.d.\)](#)).

A different example of an online resource is the online academic integrity module. Such modules are a recent learning and teaching tool and mainly for student use. The module developed by Macquarie University, however, can also be utilized by faculty as a diagnostic and learning and teaching tool to counter academic integrity issues in their classrooms. It covers academic integrity definitions, student responsibilities, competency assessment in academic integrity, and provides links to resources.

Faculty workshops are another method of providing skills and support to faculty, to promote consistency in academic integrity learning and teaching. The faculty training workshops described by Hamilton and Richardson (2008), for example,

cover the discussion of policy, process, case studies, academic responsibilities, and discipline-based methods for faculty to disseminate academic integrity information to their students. Such workshops may work well to counter faculty perception of a lack of support and guidance in managing student academic integrity.

Devlin's (2003) recommendations for how faculty can improve academic integrity management included ensuring that all sessional faculty (sometimes referred to as nontenured, casually employed, or part-time academic staff) are provided with induction into academic integrity management approaches. Faculty are also encouraged to collaborate with learning support services in creating academic integrity information or interventions for students. Another related recommendation was for the creation of a central register of academic integrity breach incidents, which would allow faculty to keep track of cases and improve transparency of case management. Devlin (2003) also recommended the creation of a new role within the faculty – that of the academic honesty coordinator, who would oversee these abovementioned measures. Adoption and adaptation of these suggestions may assist in underscoring an institution's commitment to academic integrity, providing an initial support base for new faculty and promoting consistency in the application of academic integrity rules and procedures.

Learning and Teaching

An additional way to facilitate stronger faculty engagement in academic integrity is to treat academic integrity not purely as a behavioral phenomenon, but also as a learning and teaching issue. Much of the scholarly research into embedding academic integrity into curriculum is centered on professional disciplines such as business, law, health, and accounting. In these instances, it is not precisely academic integrity that is being taught, but ethics as it applies to real-life, discipline-specific scenarios.

As Langenderfer and Rockness (2006) state, "If students are not aware of the many ethical dilemmas they will face while on the job, they are more likely to make a bad, or at least, a poorer decision than if they had prior discussions relating to how to deal with such situation. Forewarned is forearmed! Students need to think of ethical issues and how they as individuals will face the issues before they are confronted with real-world dilemmas" (p. 349).

There is much to be gained from a similar integrative approach for academic integrity into all courses, and into individual course elements, via a constructive alignment approach (Biggs 2003). This approach will be discussed in more detail later in the chapter.

Embedding of academic integrity into curriculum can occur via two methods to ensure maximum reach across a diverse student body. First, as an initial introductory course taken alongside other courses for new students and, second, as students progress through their programs, academic integrity components may be integrated *into* their subjects providing plenty of contextualized examples that build on students' existing knowledge (Alsop 2006; East 2009). It is further recommended

that assessments be used as teaching tools for academic integrity, by providing diagnostic feedback (East 2009; Henderson 2007; Macdonald and Carroll 2006). This stance necessitates viewing certain levels of transgressions *not* as breaches, but as indicators of skill deficiencies to be addressed.

Other studies have demonstrated how novel approaches to academic integrity information dissemination for students can have positive effects for both learners and their instructors. The study by Zivcakova et al. (2012) involved faculty observing academic integrity seminars given to their students by an academic integrity advisor. This intervention was designed to provide an opportunity for students to engage in dialogue and interaction on the topic of academic integrity, to ask questions and move beyond passive reception of academic integrity information.

While the presentations were informative for students, faculty reported being surprised by their students' thoughts and views regarding academic integrity and by how engaged and open the students were in their discussions with the presenter. This active engagement with the topic of academic integrity was later reflected in the faculty's subsequent classes with their students. Faculty reported having insightful, constructive discussions about academic integrity, as students pondered on the issues that had been covered in the presentation. The format of the intervention (highly interactive, discussion-based) was also in-line with the preferred methods for how students wish to learn about academic integrity (Bretag et al. 2013; Nayak et al. [forthcoming](#)). The intervention not only informed faculty about *what* their students thought about, when it came to academic integrity, but also stimulated instructors' ideas for *how* they could improve teaching of academic integrity in the classroom.

Professional Development

In addition to making academic integrity part of scholarly learning and teaching, providing professional development opportunities for faculty has the potential to raise the profile of academic integrity engagement as a desirable professional undertaking (Henderson and Whitelaw 2013). This could be achieved by providing training in the form of stand-alone faculty workshops or workshops that are a part of faculty induction, including academic integrity topics as assessable components in postgraduate degree programs in higher education, and other forms of certification for faculty who progress through levels of professional development.

While there is a paucity of research examining faculty professional development initiatives in academic integrity, the concept is recognized as being a critical component of the support systems that underpin exemplary academic integrity policy. In their identification of core academic integrity policy elements, Bretag et al. (2011) listed the following elements: access, approach, responsibility, support, and detail. Based on their review of academic integrity policies at all Australian universities, the authors locate faculty professional development under the domain of "support," underscoring that exemplary academic integrity policy involves the provision of adequate training and professional development of faculty within this domain.

Barriers to Student Engagement

The bulk of early research into academic integrity in higher education focused on students' self-reported breach rates and associated breach behaviors (e.g., Bowers 1964; Brimble et al. 2005; Franklyn-Stokes and Newstead 1995; McCabe and Trevino 1993). Later studies examined student attitudes towards aspects of their learning and social environments, institutional policies and processes, and other contextual factors that influence student academic integrity (e.g., Bretag et al. 2013; Larkham and Manns 2002; Marshall and Gary 2005; McCabe and Trevino 1993, 1997; Sutherland-Smith 2010; Park 2003). From these and other studies, a synthesis of the barriers for student engagement with academic integrity is presented below, followed by examples of interventions that may assist in raising the profile of academic integrity among students and boost their engagement with the concept.

Policy Language

One particular barrier to student engagement with academic integrity may concern how the concept is disseminated to students to begin with. Findings from past studies into language and discourse in academic integrity policy and definitions (see Briggs 2003; Kaktins 2013) have highlighted terminology that presents academic integrity management as an adversarial system.

Students occupy the role of potential offenders (regardless of whether breaches are deemed intentional or not), and the university occupies the role of the enforcer of academic integrity rules (Sutherland-Smith 2010). The presence of this type of language hampers efforts to promote a *shared* responsibility and a positive conception of academic integrity. Students surveyed in Nayak et al. (forthcoming) agreed that academic integrity was about rules, policies, and penalties *more so* than it was about values. Findings like these are indicative of students' conception of academic integrity as more of an administrative requirement, rather than an aspect of their learning or of their campus culture.

Knowledge and Awareness

Consistent with a focus on educative approaches to managing academic integrity, a lack of skill and awareness regarding academic integrity rules and conventions (Briggs 2003; Devlin 2003; Marshall and Garry 2005) and faculty's mistaken assumptions that students are sufficiently knowledgeable in this area are some of most salient contributing factors for why students commit breaches. This problem relates to inconsistent ideas of what constitutes academic integrity and scholarship in general (Gullifer and Tyson 2010) exacerbated by the inconsistent dissemination of academic integrity information by faculty (Carroll 2004; Flint et al. 2006).

Also compounding the problem is students' overconfidence regarding their knowledge. A survey of 15,304 Australian university students by Bretag et al. (2013) revealed that 94.2 % of students reported feeling confident they could avoid committing an academic integrity breach, despite only two-thirds indicating that they were aware of academic integrity rules and knew where to locate their institution's academic integrity policies. This perceived high confidence in avoiding breaches seems incongruent alongside other studies that report students' unwillingness to report breach cases they may have witnessed (Brimble and Stevenson-Clarke 2006) and students' agreement that academic integrity breaches at their enrolled institution were a serious problem (Nayak et al. [forthcoming](#)).

Dissemination Barriers

Skills and awareness of academic integrity conventions constitute the basic academic integrity knowledge building blocks. Once sufficiently equipped, students are able to make more informed choices regarding their academic work and their actions. Attempts to address a lack of engagement by students should first examine *how* academic integrity information is currently relayed to students and then determine their preferences regarding this.

Studies examining student perceptions of their exposure and access to this information have highlighted problems of inconsistent and ineffective delivery. As Cook et al. (2013) state,

"A student wishing to be fully informed of their obligations would have to access, read, and synthesise information from several sources. Furthermore, the information tends to be text-heavy and may not be easy for students to understand and apply in practice. The risk here is that without appropriate contextualization and support, a student may not fully understand university policies and expectations" (p. 140).

Although the vast majority of the 5,538 students surveyed in Nayak et al. ([forthcoming](#)) indicated that their main source of academic integrity information was their unit/course outlines and their instructors, students and faculty who were asked the same question felt that the information was not provided in a consistent manner and was not thorough enough for students to gain an in-depth, contextualized understanding of academic integrity. When asked about their preferences for how they wished to engage with the information, Nayak et al. ([forthcoming](#)) reported different preferences even among students from different year levels (e.g., new students preferred learning about academic integrity in smaller, tutorial groups, while seniors cited a preference for lectures).

Students entering higher education quite often possess different learning orientations, influenced by factors such as their pedagogical background. As such, it would be advantageous to consider a variety of dissemination options for academic integrity beyond unit/program outlines, policies, and written instructions. This view is supported by Bretag et al. (2013) who state that a range of engaging activities across different mediums should be employed, for maximum reach and effect.

Towards Better Engagement of Students

Possible solutions for improving student engagement are divided below into two categories – learning and teaching interventions that aim to mitigate the problem of inconsistent knowledge and lack of awareness and socio-behavioral interventions that aim to improve stakeholder inclusiveness in academic integrity, reduce apathy, provide incentives for students to engage with the concept, and promote shared academic integrity community values.

Learning and Teaching Interventions

The constructive alignment approach put forth by Biggs (2003) can be utilized as a useful guide for integrating academic integrity *into* learning and teaching. This approach refers to all elements of teaching – including materials, assessment, and activities – being mutually supportive of learning aims that are articulated at the outset. Applied to academic integrity, the adoption of constructive alignment would involve incorporating academic integrity concepts as learning aims in their own right, with specific learning outcomes to be achieved, and then determining how other aspects of the course could contribute to achieving these aims.

At the beginning of their course, students would benefit from the provision of a clear statement of what they are expected to learn and demonstrate (Ramsden 2003) in relation to academic integrity. Students and their instructors may then compare the knowledge that students accumulate against these learning aims, to gauge their progress. In determining learning aims for academic integrity, obtaining a baseline assessment of student competencies is an advisable starting point (Bretag et al. 2013; East 2009). This would enable instructors to approach the teaching of academic integrity in a less ad hoc manner. Additionally, making the results available to students could prove to be a useful tool for learning.

Most of the recommendations developed by Devlin's 2003 case study promote a holistic approach to improving academic integrity management via learning and teaching approaches. The recommendations include: ensuring that English language competency requirements are adhered to, so that students are not placed in a disadvantaged position in coping with their academic work; making academic preparation programs compulsory rather than voluntary; reducing the number of assessments; and using subject guides (sometimes referred to as unit guides or unit outlines) as the main dissemination medium for communicating about academic integrity information to students.

Engaging students in learning and caring about academic integrity can also occur through the use of case studies and practical examples. Prescott et al. (2014) describe the novel approach of utilizing an “accidental activity” in generating discussions and collegially developed sanctions for an actual academic integrity breach committed by one of the (anonymous) students in a class. The exercise promoted increased understanding about academic integrity and empathy among the students, who were asked to view the case through the perspective of their instructor.

Dissemination Mediums

One method of obtaining baseline indications of students' academic integrity skills and knowledge is through an online academic integrity module. Many institutions have recently incorporated these centralized, institutional-wide platforms as a learning and teaching tool and a way of promoting a consistent institutional message about academic integrity (e.g., Cook et al. 2013; Lee and Webb 2013; Zdravkovic et al. 2013). Though these modules fit within the scope of learning and teaching interventions, they also serve to promulgate and make explicit institutions' policies and ethos on academic integrity, as well as students' rights and responsibilities (Zdravkovic et al. 2013). Modules involve a combination of text-based information and interactivity (e.g., in the form of videos and quizzes). These methods constitute a fitting response to students' request for more interactive mediums to learn about academic integrity (Bretag et al. 2013; Nayak et al. *forthcoming*). Some modules include an entry and exit quiz to gauge prior and posttest knowledge, providing students and their instructors with useful diagnostic feedback.

Improving dissemination techniques via the utilization of a variety of delivery mediums to inform students about academic integrity has the potential to boost engagement (Carroll and Appleton 2001). Gynnild and Gotschalk (2008) point to a strong preference among students for in-class discussions and workshops. Overall, knowledge-building exercises, interactivity, and activities that encourage reflection, as opposed to passive reception, are encouraged for improved learning outcomes (Oblinger and Oblinger 2005). The benefit of providing a range of dissemination methods is that it maximizes the potential for the information to reach a wider number of students across a variety of learning inclinations.

An example of a stand-alone intervention is described by Zivcakova et al. (2014), whereby senior students were recruited to provide uniform academic integrity presentations to their junior peers. The benefits derived from this manner of dissemination are twofold – the “instructors” increased their knowledge and confidence regarding academic integrity, while the students they presented to benefited from improving their engagement with academic integrity in a novel, peer-led approach.

In terms of peripheral support to academic integrity learning, students in Nayak et al. (*forthcoming*) also wanted more reminders regarding the expectations from their faculty, more opportunities to consult with their instructors, and for academic integrity to have a tangible, visible presence on campus. Indeed, improving visibility and providing reminders have proven to be helpful in deterring breach behavior (Kerkvliet and Sigmund 1999).

Socio-behavioral Interventions

Rather than being passive stakeholders of a system within which they play a critical role, there are potential engagement benefits to be garnered from meaningfully involving students in the management of academic integrity. Research into the

influence of peer culture on breach activity (McCabe and Trevino 1993, 1997; Rettinger and Kramer 2009; Smith et al. 2007) provides strong rationale for student-led academic integrity initiatives, given it has been shown that students are more likely to engage in breach behaviors if they perceive such actions to be normalized by their peer group.

With the exception of institutions that utilize academic honor codes, students largely experience academic integrity as policies, procedures, instructor expectations, and sanctions stipulated by their institution. Within such a “top-down” system, apart from the threat of penalties for breaking rules, there is no strong, intrinsic incentive for students to promote positive academic integrity values among their peers if they do not feel as though they have a stake in the system.

As Nayak et al. (forthcoming) state, in their study on the potential of student-driven academic integrity societies,

“Meaningful student participation would involve listening to student experiences regarding what they know about academic integrity, how they feel about and deal with it, and then discussing with students the ways by which institutions can facilitate students’ collaboration and partnership in academic integrity. Such initiatives would support a holistic approach to managing academic integrity” (p. vi).

The concept of students as collaborators, disseminators and institutional partners in academic integrity already exists, though predominantly in US institutions, in the form of academic honor code systems. The underlying rationale of honor codes is that academic integrity is the responsibility of the entire university community and that as part of that community, students are tasked with the promotion and management of academic integrity (McCabe et al. 2003). These codes may require students to recite a pledge or oath affirming code tenets. In exchange for responsibilities pledged to the university community, students are given privileges such as unproctored exams and may sit on disciplinary committees, sometimes comprised only of students. Students may also be required to report suspected breaches, and in some instances, failure to report a breach of the honor code is itself a violation of the code (McCabe and Trevino 1993).

In their survey of 6,000 students across 31 colleges in the USA, McCabe and Trevino (1993) reported lower rates of breaches at code institutions when compared to non-code institutions. Research into the potential of the honor code model outside of the USA has been rare, with the notable exceptions of Yakovchuk et al. (2011), who conducted a UK study examining the perceptions of faculty and students regarding the viability of a similar, student-led system in the UK. Participants felt the US honor code system would be culturally incompatible at UK universities, but were nevertheless supportive of greater student involvement in academic integrity management.

O’Neill and Pfeiffer (2012) examined the impact of honor codes and perceptions of academic integrity breaches among students, finding that honor codes by themselves did not deter academic integrity breaches. Rather, it was student perceptions regarding the seriousness of the breach type that determined the likelihood of students engaging in the breach activity. The authors suggested that increasing

the awareness of the different types of academic integrity breaches (and the seriousness and impact of such transgressions) would lead to more knowledgeable students who are potentially less likely to commit an academic integrity breach.

More recently, the study by Nayak et al. (2013) examined student attitudes to an honor code system (or similar, student-led model) at Australian universities. Respondents were skeptical about the idea, but of 5,509 students 27 % (or 1,488 students) were willing to participate in such a system, providing positive indication of students' interest to engage with the concept and a more than sufficient pool of interested students from which to recruit for the student-led organization.

Honor code systems are not the only means of involving students in the dissemination and promotion of academic integrity, although they can be utilized as an analogue. Nayak et al. (forthcoming) in collaboration with Dr. Tricia Bertram Gallant, Director of the Academic Integrity Office at the University of California, San Diego (UCSD), facilitated the creation of the first, student-led academic integrity organization in Australia, at Macquarie University.

This student organization, called the Academic Integrity Matters Ambassadors (AIMA), is the third chapter of the International Academic Integrity Matters Student Organisation (IAIMSO), founded by Dr. Bertram Gallant at UCSD in 2009. The Academic Integrity Matters (AIM) student organizations are nonprofit student groups whose goal is to promote a culture of academic integrity on campus and in the community at large (AIM n.d.). Activities undertaken by AIM chapters include presentations, competitions, awards nights, the production of information videos, and collaboration in learning and teaching projects promoting academic integrity. Such organizations provide a flexible and adaptable student-led model for promoting engagement in academic integrity in campus environments where honor codes may not be culturally compatible.

Model for Faculty and Student Engagement in Academic Integrity

The previous sections of this chapter have examined the barriers to student and faculty engagement in academic integrity management and discussed the types of interventions that may improve engagement from these two academic integrity stakeholder groups. A summary of the intervention categories is presented in Fig. 1.

In concordance with recommendations for a holistic approach to improving academic integrity management, and the call for meaningful, reflexive consultation with stakeholders within the academic integrity community, the central component of the model comprises the *community-consultative process*. This process can take the form of a consultative committee, advisory group, or working group made up of representatives from university administration and other departments within the institution who influence academic integrity (e.g., learning support advisors, library staff, student advisors, student advocates, university ombudspersons, and officers from the student union, association, or guild).

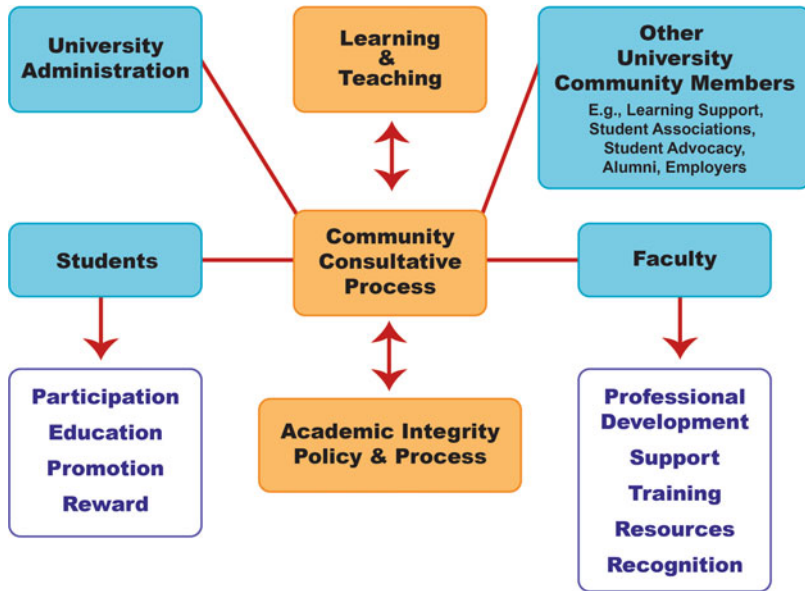


Fig. 1 Model for faculty and student engagement in academic integrity

Before interventions are formulated, the community-consultative process should first conduct a “health check” of the academic integrity policies, processes, and procedures to assess if there is alignment between these elements. Examples of tools to assist with this process include the *Academic Integrity Policy Toolkit*, produced by the Exemplary Academic Integrity Project; a checklist of practices supporting an aligned approach to implementing academic integrity, created by East (2009); the *Academic Integrity Assessment Guide*, produced by the International Center for Academic Integrity; the *Plagiarism Advisory Service Roadmap* (JISC 2005); and *Plagiarism: A Good Practice Guide*, by Carroll and Appleton (2001).

Feedback obtained from the consultative process can be used to design interventions that work to improve faculty and student engagement in academic integrity. From the literature, recommended interventions for faculty include providing support and training in how to deal with cases in order to minimize faculty’s perceived burdens and creating greater personal and professional investment in academic integrity through professional development initiatives.

For students, educative interventions are de rigeur in academic integrity management and are an essential component to improving student engagement. However, meaningful student participation in the promotion and dissemination of academic integrity is still glaringly absent from most academic integrity systems outside of those that utilize academic honor codes. Accordingly, student participation is included in the model. The type of vehicle or label for this student participation in academic integrity is less important than whether or not it provides

genuine opportunities for students to be consulted and involved in the promotion of academic integrity and thus, discourages apathy.

Finally, given the strong research-derived focus on learning and teaching interventions to improve academic integrity outcomes for students and faculty, this category stands alone in the model but is inherently informed by the outcome of the community-consultative process and the review of institutional policy and procedural alignment. Learning and teaching interventions include resourcing faculty with training and instruction materials, embedding academic integrity concepts into curriculum and assessment, the provision of workshops and seminars (whether faculty-led or student-led), and providing centralized support and diagnostic tools such as online academic integrity modules.

Summary

Academic integrity breaches are a multifaceted and complex problem. Much of the literature on academic integrity in higher education has focused on students and their behaviors, with a view to understanding why and how often students commit transgressions. As more is learned about the prevalence of breaches and the contributing factors associated with breach behaviors, educators have turned their concerns to other elements within academic integrity systems, such as policies, processes, learning and teaching, and the roles and responsibilities of other members in the university academic integrity community.

While alignment of academic integrity policy and procedures is not a central focus of this chapter, for some institutions, it remains a necessary first step if they seek to address engagement barriers among faculty and students. Consultation with other members of the campus community is also essential to ensure that the viewpoints of those who both effect and are affected by academic integrity management are included in the assessment.

This chapter has discussed the barriers to engaging two major stakeholders in the university academic integrity community – students and faculty. The variety of issues that prevent both groups from becoming more invested in academic integrity has highlighted that there is no “quick fix” to be applied. Rather, proposed solutions need to take into account the wider academic integrity environment within which faculty teach and students learn. Raising the profile of academic integrity, in general, would be a good place to start. Too often it is a hidden issue, discussed not in terms of the positive outcomes for the university community, but as what *not* to do.

Institutions would benefit from enabling dialogue with their community members about why academic integrity is valuable to the university community, as a whole. Academic integrity must be reconceptualized as more than a student issue that is traditionally managed by faculty. Once viewed as a community issue, faculty and students are more likely to perceive that they have a stake in academic integrity and are not merely passively affected by their institutions’ rules and policies.

Based on findings from research examining student and faculty experience and case studies of interventions designed to promote engagement in academic integrity among these two stakeholder groups, the *model for faculty and student engagement in academic integrity* (Fig. 1) illustrates how students and faculty can be involved in a consultative process to derive appropriate interventions.

There is a great deal of scope for more detailed study. For faculty, case studies of administrative support, professional development, and the application of learning, teaching, and training in academic integrity would provide rich, contextual accounts of how such interventions can be applied. For students, the viability and sustainability of peer-led academic integrity interventions (in non-honor code institutions) is still uncharted. Assessing ways for students to become active players in academic integrity management has only begun to be explored, and further research can be undertaken to examine appropriate strategies for students to become drivers of academic integrity in their own right.

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Erica J. Morris

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Abstract

In this chapter, the key aspects of a teaching and learning approach for academic integrity in higher educational settings are considered. With such an approach, the focus is on enhancing pedagogy and educational support within a university or college, as well as developing academic integrity policy for staff and students that align with this educational emphasis. The development of a teaching and learning approach has implications for institutional initiatives that will entail promoting academic integrity education, supporting students' academic writing development, and employing assessment practices that are integral to student learning. This chapter draws on educational and research studies to explore good practice and example interventions in these three areas. It is highlighted how educational resources for academic integrity should be engaging to students and designed so that they can be effectively embedded in curriculum. Approaches to support academic writing development should involve formative opportunities for students to practice, with feedback and guidance from tutors, advisers, and peers. Educational strategies, which can be used by faculty in devising assessments that may minimize opportunities for student academic misconduct, are

E.J. Morris (✉)

Anglia Learning and Teaching, Anglia Ruskin University, Cambridge, Cambridgeshire, UK
e-mail: erica.morris@anglia.ac.uk

also considered; these are aligned with assessment for learning principles, in which the use of authentic assessments is significant in developing students' attributes that will be of value to them beyond formal education. Conclusions point to further work that would advance the field of academic integrity, including investigating students' study practices (particularly with regard to digital technologies) and evaluating the impact of changing assessment strategies on students' understanding of good academic practice.

Introduction

In the field of academic integrity, there is an established understanding that the issue of student academic misconduct is complex and that universities and colleges should address the issue through an institutional strategy that strongly reflects a teaching and learning approach (Macdonald and Carroll 2006; Bertram Gallant 2008; Sutherland-Smith 2008; Morris et al. 2010). This chapter looks at the rationale and key elements of a teaching and learning approach and draws on good practice sources and empirical studies to highlight three presenting areas for such an approach: academic integrity education, academic writing development, and assessment practices that are integral to learning. These three presenting areas primarily relate to undergraduate teaching and learning; Section 8 covers Integrity in Research and Research Training. Although the focus of research and educational literature is often on the student (i.e., Why might students copy material? How might we engage students in learning about evaluating and presenting sources), commentators emphasize how a teaching and learning approach looks to all stakeholders, including senior managers, teaching staff, advisers, administrators, and students who have a part to play in realizing an institutional strategy (see Macdonald and Carroll 2006; Bertram Gallant 2008).

Student academic misconduct, particularly plagiarism, has been described as "complex," so an institutional strategy must be cultivated to reflect the variety of interrelated reasons for the issue, necessitating a range of connected institutional developments for the overall strategy or approach to be enacted (Macdonald and Carroll 2006). But what is really meant by "complex"? Bertram Gallant (2008) has emphasized how student academic misconduct should be viewed as "multidimensional," with four aspects "internal, organizational, institutional, and societal – that shape the academic misconduct problem in postsecondary education" (p. 47). This multidimensional "viewing" underlines the need to consider and realize an institutional strategy in which the educational environment, pedagogical and assessment approaches, and developmental support for students take prime position (Bertram Gallant 2008). Based on an analysis of perspectives and academic integrity research, Bertram Gallant (2008) uncovers how two primary strategies, "rule compliance" and "integrity," are essentially insufficient as institutional responses to student academic misconduct, as they do not recognize the multifaceted nature of this issue; these responses must be augmented to give:

a . . . strategy that addresses academic misconduct by focusing on ensuring that students are learning rather than stopping them from cheating. This strategy includes the disciplining of misconduct . . . and the development of students' ethical reasoning but expands organizational responses to include the improvement of instruction . . . and the enhancement of institutional support (Bertram Gallant 2008, p. 101).

Although the focus here is *developing* teaching and learning, the enhancement of institutional policy for academic integrity is also crucial, as it should detail responsibilities and expected practices for both staff and students (Bertram Gallant 2008).

From a UK perspective, there has also been a call for institutions to adopt “a holistic approach” with initiatives both nationally and within higher education institutions to develop this approach (Macdonald and Carroll 2006; Morris et al. 2010), the scope of which involves ensuring that institutions:

- Use policy and procedures for student academic misconduct that are not necessarily “punitive,” but are specified with regard to seeing students as learners (of academic conventions) with “educational” penalties for cases in which there is a need for further skills development;
- Provide a range of opportunities for students to acquire academic and study skills relevant to seeking and critically evaluating sources, reading and note making, and writing and citation; and
- Enhance teaching and assessment approaches so that curriculum is designed in ways that facilitate student learning, with an emphasis on formative activities and assignments that are engaging, meaningful, and valid.

An institutional approach that “embodies” a teaching and learning strategy is focused on student education, but such an approach also recognizes the importance of defining the responsibilities of different staff roles, as well as that of the institution, units, faculties, and departments with regard to academic integrity (Macdonald and Carroll 2006; Bertram Gallant 2008). This in turn highlights the need for educational and development opportunities for staff, including teachers, academic integrity specialists (e.g., academic conduct or integrity officers), learning technologists, educational support advisers, and faculty administrators. Depending on the remit of these roles, staff development opportunities through forums or meetings might concern the implementation of policy and, for teachers and educational advisors, reviewing and enhancing teaching and assessment practices in light of academic integrity issues. Bertram Gallant (2008) has pointed to the necessary implications of a teaching and learning strategy in terms of “organizational actions,” including workshops for teaching staff, and significantly that “Changes are made to the tenure and promotion practices to ensure faculty work and teaching and learning integrity is appropriately rewarded” (p. 103).

Teaching and learning units or centers for educational development at universities or colleges can have a major part to play in staff development relating to academic integrity: such units may coordinate mentoring and coaching schemes,

create guidance and run workshops for staff to enhance their teaching practice, and plan changes to curriculum and assessment design. In the UK, universities and colleges offer professional development schemes or qualifications for academic and teaching staff (e.g., a Postgraduate Certificate in Academic Practice) that are aligned to the Professional Standards Framework (PSF) managed and accredited by the Higher Education Academy (HEA 2014). The PSF recognizes teaching excellence and the skills, experiences, and practices in teaching and supporting learning in higher education. Through engaging in a continuing professional development (CPD) scheme or gaining a teaching qualification for the higher education context, which may be led by a central teaching support unit, staff may benefit from undertaking their own pedagogic research, through coaching opportunities with more experienced staff, or by participating in seminars to reflect on, and make changes to their own practice.

Academic Integrity Education

Over the last 10 years or so, there have been initiatives within universities and colleges to raise awareness in students of academic integrity issues and enhance understanding of these issues, along with making sure that students gain the range of skills for good academic practice. Many higher education institutions have created online academic integrity modules or tutorials, with information, advice, and guidance often “brought to life” with self-assessment tools, exercises, or quizzes for students to check their learning and video or audio assets to engage and illustrate issues. Typically, these resources might include topics on what constitutes the different forms of academic misconduct, digital and information literacy, academic writing skills and practices, and learning and study skills, such as critical reading strategies or time management (e.g., see Morris et al. 2010). For example, in the UK, the Open University’s *Developing good academic practices* online resource specifically designed for distance learning students covers the concept of academic integrity and inappropriate practices (e.g., plagiarism); provides advice on academic writing, including referencing in assignments; and considers the acceptable practices for collaborative work and the issue of collusion (The Open University 2012).

From a teaching and learning perspective, there are resulting issues in considering the use of such resources or modules. First, the emphasis and associated terminology of a module may not always appear to align with a teaching and learning strategy: student dishonesty (rather than honesty and integrity) may be highlighted; there might be an unbalanced coverage of certain forms of academic misconduct (e.g., major forms of plagiarism); advice and guidance are focused on the techniques and tactics for producing assignments (and avoiding plagiarism) rather than on writing as an *academic practice*; and attention may not be given to topics that reflect contemporary approaches to assessment (e.g., working in a team to produce a poster or a wiki). Second, the context for embedding these resources would need to be fully explored – if a module is designed to be used as part of

student orientation and induction sessions, what other linked opportunities are planned for students to continue to develop their understanding and skills? Third, an academic integrity module may be seen as supplementary or complementary to the learning of the main subject or discipline (e.g., biology, history, or law), and if so, it is important to look at how generic advice and guidance relates to the studying, thinking, learning, writing, and “doing” in a subject or professional area – what are the accepted conventions that relate to academic integrity, to common knowledge, and to drawing on, analyzing, and synthesizing forms of evidence? The issue here concerns whether the “learning about academic integrity” and the practicing of associated skills are embedded in the subject or discipline area of interest (for the student): that they are learning to think like a biologist or historian, for instance. Findings from a survey relating to the impact of academic integrity policies in the UK suggested that although respondents indicated that there should be more opportunities for academic integrity education through resources and workshops, there was no clear emerging view of how (e.g., integrated within course curriculum) and when such opportunities might be designed and delivered to engage students (Glendinning 2013).

Educational studies have looked at the potential effect of employing specific modules or tutorials on students’ learning about aspects of academic integrity (e.g., Belter and du Pré 2009; Dee and Jacob 2011; Setter 2013). In these studies there can be, however, an emphasis on “reducing plagiarism” (Belter and du Pré 2009; Dee and Jacob 2011) rather than on enhancing students’ understanding of academic integrity by engaging students in a process of learning through educational resources, in-class discussion with tutors and peers, and formative opportunities to practice their skills. It is as if these tutorials are offered as a ready and reliable “quick fix”:

Our results demonstrate that a short educational tutorial can sharply reduce the prevalence of plagiarism . . . It involves very little instructor involvement, requires only 15 min on the part of the students and the tutorial itself is freely available (Dee and Jacob 2011, p. 427).

The design of such studies has involved treatment and control groups to investigate the effect of the intervention and the use of *Turnitin* to help determine instances of plagiarism in student assignments (Belter and du Pré 2009; Dee and Jacob 2011). Dee and Jacob (2011) conducted a follow-up survey around a month after the semester in which the students used the tutorial, which included questions on their views about their understanding of what constitutes plagiarism, whether they knew how to avoid plagiarism, and questions with examples of unacceptable practices requiring true or false answers; findings suggested “that the intervention reduced plagiarism by increasing student knowledge” (p. 497). However, one wonders about the educational benefits for students in the longer term with regard to their understanding.

It is difficult to determine approaches for best practice in using such interventions, as there is variation in the focus and coverage of resources. Belter and du Pré (2009) reported on an educational intervention which entailed assessing the

effectiveness of an academic integrity module that comprised of sections on defining plagiarism and cheating and “strategies to avoid” these forms of academic misconduct, including citation practices, and “the values of academic integrity,” as well as a section on penalties. Setter’s (2013) work with students taking undergraduate courses in education takes a different tack, as this study evaluated an online module used with an instructor, compared with a straightforward online presentation of the module. The module covered the topics of plagiarism and appropriate paraphrasing, supported with multiple-choice questions to illustrate acceptable paraphrasing. The blended method entailed instructor-led discussion at key points while students worked through the module (whereas those students involved in the online-only presentation simply worked through the module without the instructor). One of the aims of this study was to look at students’ experience of using the module with or without such in-class discussion. Although it was found that a majority of the students indicated that the module helped them with their understanding of plagiarism, the findings relating to the possible value-added benefits of the blended method were not particularly clear-cut. However, across both groups the findings indicated that students would need further sessions on the topic to fully develop their understanding and paraphrasing skills (Setter 2013). With the relatively low take-up of the online module, Setter (2013) also highlights the need to encourage or motivate students to use (optional) modules that might be offered in universities.

It is clear that resources for academic integrity education should not just focus on skills acquisition, but be designed to support students’ learning of the principles of academic integrity and the attributes and capabilities related to critical thinking and writing. Henderson and Whitelaw (2013) highlight the limitations of educational resources that focus on the technical skills needed for paraphrasing and citation in academic work, arguing for the need to look at the issue of academic misconduct from an academic literacies perspective, in which poor practice can arise from students not having developed “facets of academic integrity, such as critical thinking, critical reading . . . and expertise in academic writing” (Henderson and Whitelaw 2013, p. 14). These authors also emphasize the importance of educational resources that engender developing understanding of values and principles relating to academic integrity and associated literacies (Henderson and Whitelaw 2013). With student diversity a key consideration in developing such understanding, Henderson and Whitelaw (2013) describe development work at an Australian university involving the creation of media-rich resources that draw on culturally relevant examples, which could be used as part of in-class discussions about academic literacy. With feedback from both staff and students indicating the value of such resources, it is reported how they would be “embedded” in teaching units.

From a broader perspective, a recent academic integrity survey in Australia was undertaken to provide a picture of students’ understanding of academic integrity, their awareness of university policy, and their views on how they are informed about academic integrity matters (Bretag et al. 2013). Of particular relevance here is student perspectives on the information, support, and training they receive: 83 %

of students indicated that the information they receive about how to avoid academic integrity breaches is sufficient, with 68 % indicating that the support and training they receive in this area are sufficient; further, qualitative comments suggested that students would like academic integrity education to continue across their years of study (and not just at the early stages). Student comments also suggested that more innovative educational measures should be used:

universities need to ensure that they have a range of hands-on, engaging activities that are repeated and reconfigured in a range of media and forums throughout the student's programme of study (Bretag et al. 2013, p. 16).

It is worth considering staff conceptions and perspectives relating to academic integrity, as these are likely to influence how staff might frame the concept of academic integrity and underpinning principles for students and whether they see pedagogical approaches as having a pivotal role to play in developing students' understanding and skills. Sutherland-Smith's (2008) conceptual model of plagiarism, derived from theory and studies of teachers' practices, characterizes "transmissive" and "transformative" teaching approaches on a continuum in relation to perceptions of plagiarism (i.e., differing notions of whether student plagiarism is primarily "intentional" or "unintentional"). In a transmissive approach, there is a tendency for educators to see that it is mainly a learner's responsibility to grasp the institution's policy on plagiarism and that an educator will essentially view misconduct as "intentional," directing students to read policy and taking an instrumental approach to teaching:

there appears to be little opportunity for students to engage in dynamic questioning and interrogation of ideas. This teaching approach encourages students not only to copy down teacher-formulated ideas . . . but often rewards the memorisation and regurgitation of such principles in tutorial and assessment work (Sutherland-Smith 2008, p. 138).

In contrast, educators embracing a "transformative approach" appreciate the varying notions about plagiarism that students might hold, see that the responsibility for the issue does not just lie with the student but also with educators and the wider organization, and understand that a developmental perspective is required to enable students to acquire skills in academic writing. Accordingly, their teaching practice will promote critical engagement with theory, concepts, and principles through questioning and discussion, enabling students to develop as effective learners (Sutherland-Smith 2008).

It is therefore recommended that a teaching and learning approach should progress academic integrity education by:

- Involving teachers and other key staff roles to look at and develop their own understanding of academic integrity issues and how educational methods can be significant in enhancing students' understanding and skills for good academic practice;

- Ensuring that students can learn about academic integrity, academic misconduct, and academic and study skills through a variety of interactive opportunities, including guides, digital resources, tutorials, and workshops that are offered throughout a students' program of study; and
- Giving careful consideration to how these resources and opportunities can be used as part of a coherent blended approach, in which parts might be tailored according to students' understanding and experience (e.g., different levels or years of study) and made relevant to students studying different subjects or disciplines (e.g., with case studies or examples).

Academic Writing Development

A core part of a teaching and learning approach relates to supporting students' academic writing development, including fostering the practices of evaluating, and using and presenting information sources. The focus in the educational and research literature has tended to be on text-based assignments, such as essays and reports, but many of the writing skills that students acquire are relevant to additional forms of assessments, such as posters or presentations.

There has been a call to recognize that it is not sufficient for teachers to employ "plagiarism-proof" assessments, instruct students in citation and referencing skills, and emphasize that they as teachers will have a keen eye for potential instances of plagiarism in assignments (Howard and Davies 2009). Rather, there is a need to understand writing as a practice that evolves through practice and which is underpinned by skills in effectively finding, assessing, understanding, and synthesizing material from a range of sources, including the Internet: "good writing from sources involves more than competent citation . . . It is a complicated activity" (ibid., p. 65). Howard and Davies (2009) therefore outline a strategy that involves *talking with* students about the notion of intellectual property and the criteria they can use in evaluating different sources (including digital sources) and supporting students in the challenging (but rewarding) task they take to come to *understand* the sources they read.

This perspective has particular resonance when research findings on students' use of electronic sources in assignments are considered. A study involving first year university students included analysis of student essays to identify instances of plagiarism and, led by the tutor (and investigator), follow-up individual discussions with those students whose essays included plagiarized material, to uncover their views about their essay writing and the differences in information sources (Ellery 2008). Interestingly, Ellery (2008) reported that the students often viewed electronic sources as different to printed material, with half of the student interviewees only referencing printed sources in their assignments. These findings lend support for ensuring that students have learning opportunities and exercises so that they come to "wrestle with" the varied forms of evidence and information sources and how they can be questioned and appraised.

Staff conceptions relating to academic writing could have implications for how staff might approach supporting students in their writing. Gourlay and Deane (2012) explored staff views about academic writing and the reasons for student plagiarism in a university in the UK and, through a questionnaire and focus groups, identified differing perspectives in teaching staff compared to support staff (librarians and study advisors). Through this work, Gourlay and Deane (2012) highlight two primary models of academic writing: one which emphasizes writing as a “study skills issue,” in which support for the development of writing tends to be generic and offered as an extracurricular opportunity, and a second, “academic literacies perspective,” in which the students’ writing development is seen as integral to learning in the subject or discipline. Although the sample size of this study was relatively small, in general, teaching staff tended to refer to students’ “poor writing” skills, which were viewed as primarily a result of poor practices in using the Internet perceived to be encouraged in schools (prior to university of college), with faculty views indicating a leaning toward “a study skills model.” Support staff, however, tended to take an academic literacies perspective, in which they “advocated development within the subject curriculum . . . they appeared to regard writing as bound up with the development of disciplinary knowledge” (ibid., p. 25).

Educational approaches designed to enhance students’ skills and expertise in academic writing have offered novel and specific interventions (McGowan and Lightbody 2008; Vardi 2012), focused on developing students’ authorial identity (Pittam 2009; Elander et al. 2010) or employed text-matching applications as formative learning tools (Davis and Carroll 2009; Gannon-Leary et al. 2009; Ledwith and Risquez 2008). Vardi (2012) has questioned how the conventions of academic writing may be taught from a “plagiarism perspective” that emphasizes the technicalities of writing and proposed that academic writing can be taught through a critical writing approach:

Critical thinking and writing involves evaluating, analysing, interpreting and arguing – the types of higher order thinking skills that universities expect of their students. This requires a different approach with a focus on intellectual engagement rather than academic integrity (Vardi 2012, p. 924).

It could of course be argued that academic integrity is a facet of intellectual engagement and the apparent dichotomy created by Vardi (2012) may not be necessary – however, the critical writing approach described as employed in a Communications unit was clearly valuable in terms of students’ development. In such an approach, there were no specific sessions devoted to academic integrity and associated skills (e.g., paraphrasing, citation); rather, the unit and assignments were designed so that students engaged with and analyzed materials, supported through discussion in the context of the discipline, and with tutorials on referencing that focused on critical writing (i.e., to develop argument). Although positive findings from this approach were reported in terms of students’ writing development (and with a relatively small proportion of instances of academic misconduct in the unit assignments), further work would be needed to fully investigate the educational

benefits of such an approach as compared to an alternative approach (or with regard to a control group). There is also the need to more clearly distil the distinguishing features of this critical writing approach, as it is not evident how such an approach specifically differs from approaches to academic integrity education that emphasize critical engagement with sources, practice in academic writing, and discussion with peers and tutors to enhance understanding of academic integrity principles.

Within a particular subject or discipline, innovative approaches can be used to engage students in learning about relevant academic writing practices. McGowan and Lightbody (2008) describe an intervention designed to enhance students' understanding of plagiarism and referencing in academic writing on an accounting course. This intervention concerned the use of a particular assessment within the course, and these educators considered how the relevance of plagiarism issues (illustrated through this assessment) might be pertinent to students as they are introduced within the context of their subject. The assignment entailed students completing an online resource on plagiarism and referencing and two tasks: students read a tutor-prepared "plagiarized" essay and associated sources and, through finding the plagiarized parts of the text, corrected the essay with appropriate referencing and authored a conclusion to the essay. Based on the grades assigned to the submitted assignments, findings indicated that a majority of the students had a very good understanding of referencing, with a majority (74 %) responding that they thought the assignment was a useful tool for improving their understanding of how to reference and use information in an assignment. In addition, student comments pointed to the value of practice through an activity (rather than just being given information on referencing) (McGowan and Lightbody 2008).

Interventions have been designed to facilitate students' "authorial identity" in the recognition that there are aspects of developing as a writer that are not just about the technical "know-how" of using sources through paraphrasing, quotation, and citation (Pittam et al. 2009; Elander et al. 2010):

Authorial identity is the sense a writer has of themselves as an author and the textual identity they construct in their writing (Elander et al. 2010, p. 35).

Through exploring the issue of unintentional plagiarism and students' notions relating to academic authorship, these researchers evaluated an educational intervention designed to help students to develop as writers (Elander et al. 2010). Interestingly, the intervention was used in different ways, such as with varied class sizes or embedded in course units: the materials, which were designed to be used through discussion with students, focused on the meanings of "author and authorship" and "authorial decisions" (for different forms of writing), with examples of students' work and media cases of authors suspected of plagiarism. Through using the Student Authorship Questionnaire for "pre- and posttest" measures, findings from the study indicated that this type of intervention enables students to develop authorial identity, as there were significant increases across all key factors of the questionnaire (e.g., "confidence in writing," "understanding authorship," "knowledge to avoid plagiarism") (Elander et al. 2010). Through the evaluation

work, Elander et al. (2010) found, however, that there were students who suggested that they would have preferred practical exercises or coverage of related areas, such as the concept of authorship in relation to group work. There may also be links between students' developing sense of authorial identity and the kinds of assessments they engage with: the findings that emerged from focus groups with students highlighted that authorial identity was felt to be stronger for project-based assignments (rather than essays) in which students tend to look into an area based on their own interest, following this through as an inquiry or investigation (Pittam et al. 2009).

It can be valuable to explore how technological tools might be used to support students' developing skills and experience in writing for academic purposes. Indeed, there has been increasing interest in how text-matching tools, particularly *Turnitin*, can be used as an educative tool for students, rather than primarily as what is often termed a "deterrent" (to plagiarize or "cheat"), or as a device for institutions to determine possible cases of academic misconduct as if there is a need to monitor students (Ledwith and Risquez 2008; Sutherland-Smith 2008; Graham-Matheson and Starr 2013). Accordingly, educators might set things up so that students have opportunities to learn about *Turnitin*, view originality reports of draft assignments, and discuss with their tutor or adviser how they can improve their academic writing, particularly if a report indicates that they may have referenced inappropriately, for example (Davis and Carroll 2009; Gannon-Leary et al. 2009). Davis and Carroll (2009) have described the use of *Turnitin* with students taking an academic writing module as part of an English for Academic Purposes program. The teaching strategy involved students submitting draft assignments, with tutors using originality reports in a tutorial session as an opportunity to provide feedback to a learner on their draft, focusing discussion on the writing process and their use of sources. Positive outcomes from this kind of intervention are reported, with improvements in the later drafts submitted by students (indicated by a number of measures including decreases in levels of citation errors and insufficient paraphrasing) (Davis and Carroll 2009).

Good practice suggestions in using text-matching tools have included informing students about why and how a tool is used, providing training and support to students in accessing the tool, and enabling students to submit and resubmit their assignments as part of the learning process (Ledwith and Risquez 2008). There are, however, important considerations for institutional policy if tools, such as *Turnitin*, are to be used as part of a teaching and learning approach (and by educators – and the institution as a whole – as a tool to identify possible instances of plagiarism in text-based assignments). Institutional policy needs to entail guidelines relating to students' access to *Turnitin* (e.g., whether the tool is available to all students on all modules or courses); the teaching scenarios in which the tool is used for formative, developmental purposes (e.g., in group tutorials or as a basis for discussion with a tutor); and how *Turnitin* might be used in the process of drafting an assignment (i.e., how many times a student can (re)submit) (see Graham-Matheson and Starr 2013).

From an educational stance, it is important to consider the value-added nature of text-matching tools, as their use is of course primarily limited to text-based

assignments (i.e., essays and reports). This consideration is pertinent as there has been a growing recognition that educational approaches, which involve engaging, meaningful and realistic forms of assessment, have positive implications for student learning and the development of good academic practice in students.

Assessment Practices

It is well established in the field of academic integrity that educational approaches, which promote student engagement and foster the acquisition and application of subject knowledge (i.e., principles, concepts, theory), as well as the development of students' skills and attributes (e.g., in critical thinking, information literacy, academic writing), are core to a teaching and learning strategy. Leading commentators have stressed the need for reforming pedagogy (Howard 2001), "improving instruction" (Bertram Gallant 2008, p. 89), and assessment for learning approaches, with an increased emphasis on formative "low-stakes" assessments (Macdonald and Carroll 2006). It has been widely recommended that educators make use of assessment strategies which tend to minimize possibilities for student academic misconduct, particularly student plagiarism (Butcher et al. 2006; Carroll 2007; Bloxham and Boyd 2007). Accordingly, there is practical guidance on the design of assessment tasks that are likely to "reduce plagiarism" (Bloxham and Boyd 2007, p. 63), including applying straightforward techniques, such as changing essays questions on an annual basis, and on the use of the following strategies:

- Original assessment tasks that are interesting and meaningful to the learner and which are realistic in terms of the kinds of activities that students will undertake beyond formal education, such as in the workplace (e.g., creating information leaflets, producing a review of a scientific or news article, giving an oral presentation).
- Individualized assignments, in which students have choice in determining an engaging topic or unique question to pursue and are required to draw on relevant personal experience through reflection.
- Assignments that involve assessing the process of learning, as well as the end product. Here, key stages might be used, with drafts or plans for project work submitted early in the process or where learning journals or research logs are kept by students (Butcher et al. 2006; Bloxham and Boyd 2007; Morris et al. 2010).

In relation to these strategies, digital tools can be used in innovative and varied ways by staff and students to enhance assessment. This might involve employing tools to support the assessment process (e.g., forums, blogging) and/or tools, such as wikis, to create assessment "products" (e.g., for group projects) (Waycott et al. 2010; Gray 2013). Section 7 covers Academic Integrity in the Digital Age.

It is valuable to look at educators' use of the above strategies as part of their teaching practice. Hrasky and Kronenberg (2011) distilled strategies from the

literature on assessment in relation to minimizing plagiarism, to explore staff views about their effectiveness and the kinds of issues that tend to prevent them from employing such strategies. Findings from this questionnaire study revealed that the majority of the teaching staff reported that they were commonly using these strategies: “essay/assignment topics that integrate theory and examples or use personal experience” (81 %); “avoid assignments that ask students simply to collect, describe, and present information” (79 %); and “change assessment tasks from year to year” (78 %). Staff also typically assessed work completed in class and presentations. However, only around a quarter of staff reported that they made use of staged assignments (e.g., with early drafts to be handed in by students), and only 10 % of staff indicated that they used assignments which required that an annotated bibliography was completed prior to completing an assignment (Hrasky and Kronenberg 2011). The primary barriers for assessment redesign were perceived by staff to be related to not enough time, resources, or support, as well as “inadequate training.”

Clearly, guidance and professional development opportunities for teaching staff are important elements in an institutional strategy, with appropriate resources directed to ensure that staff can make changes to assessment practices. In the UK, university teaching, learning and assessment strategies often include principles on assessment for learning and advice for preventing the likelihood of plagiarism or other forms of academic misconduct (e.g., London Metropolitan University 2012). Macdonald and Carroll (2006) recognized the significance of developing staff to employ assessment for learning approaches in their teaching, rather than focusing on assessment of learning. Over the last decade, a number of models or frameworks have been proposed with recommendations or principles to enhance assessment practices in universities (Baughan and Morris 2014). In particular, an assessment for learning model has been detailed with reference to case studies across a range of disciplines, providing guiding interlinked principles for the practitioner, in which assessment should:

- Involve authentic tasks;
- Support students to evaluate their progress and learning;
- Entail informal feedback (e.g., through peer discussion) and formal feedback (from tutors and experts);
- Provide time for practice and developing students’ confidence; and
- Include a balance of formative and summative tasks (Adapted from Sambell et al. 2013, pp. 6–7).

It is emphasized that such a model “should contribute to helping students to learn and to succeed” (Sambell et al. 2013, p. 3), a perspective that is also central to a teaching and learning approach for academic integrity.

In line with the recommended use of authentic tasks for assessment purposes, there has been an increasing emphasis on the use of group work in curriculum, such as group-based live projects or presentations, so that students can develop the capabilities and skills needed in teamwork, a key consideration in developing graduate employability (Morris 2011). Indeed, these kinds of assessments can be

adopted to involve activities in self- and peer assessment (e.g., using a proforma for a student to reflect on their learning or student groups providing feedback on others' group presentations), which are understood to be highly beneficial in terms of student learning:

The value of self- and peer assessment is that students internalise academic standards and are subsequently able to supervise themselves as they study and write and solve problems, in relation to these standards (Gibbs 2006, p. 27).

Although there can be complexities for educators in assessing group work (e.g., in determining group marks), there are evidence-informed suggestions on the effective use of group assessment, such as how individual contributions might be assessed and how student groups could be formed and composed (e.g., whether students have a say in whom they work with, the size, or the group) (Gibbs n.d.). However, there has been a tendency for institutional policy or guidelines to not provide explicit explanations or examples of collaborative working practices (and collusion), and students may not always be clear about acceptable practices in relation to teamworking and unacceptable practices, particularly collusion (Sutton and Taylor 2011). Based on focus group discussions with students, Sutton and Taylor (2011) have emphasized that in general, students would prefer guidance on acceptable practices (rather than on "what was wrong") (ibid., p. 838). In designing curriculum, educators can look at how to prepare students for group work assessments by using assessment criteria, assignment briefs, and exemplar assignments through guidance and regular class-based discussion with students (Bloxham and Boyd 2007). This issue relating to student guidelines for collaborative working highlights the necessary linkages that must be made between institutional policy and practice, as part of a teaching and learning approach for academic integrity; Section 4 covers Academic Integrity Policy and Practice.

Summary

A teaching and learning approach for academic integrity is focused on enhancing pedagogy and educational support within a university or college, as well as developing policy and guidelines for staff and students that align with this educational emphasis. This emphasis is on *student learning* and developing understanding about the issue of student academic misconduct by all those involved: senior managers, teaching staff, advisers, administrators, and students (Bertram Gallant 2008). The emphasis has implications for institutional initiatives, which necessarily entail promoting academic integrity education, supporting students' academic writing development, and employing assessment practices that are integral to student learning. This chapter has drawn on educational and research studies to explore good practice suggestions and example interventions in these areas.

A variety of resources for students, which provide an effective basis for academic integrity education, have been used and evaluated in the field. There is,

however, variation in the aims and coverage of these resources, particularly in how academic integrity issues are presented to students (i.e., is it about “avoiding plagiarism” or about principles relating to academic integrity and developing academic literacies?) There is a need to ensure that educational resources are not only engaging and relevant to student concerns (and to a diverse student body) but that they are effectively embedded in different ways: modules can be used as a basis for tutorial discussions about academic integrity issues or adapted with subject or discipline-specific examples. Approaches to support students’ academic writing development should be designed to not just be about the technical skills of paraphrasing, citation, and referencing, but in ways that recognize that learning to write for academic purposes is complex, and in which students have regular opportunities to practice, with feedback and guidance from tutors, advisers, and peers.

Assessment strategies have a major role to play in ensuring that students learn through engaging in assignments that have meaning and relevance, fostering attributes and skills, such as adaptability, or those required for problem-solving, which will be valuable for the paths individuals choose to pursue following formal education (e.g., in employment or community projects). Institutions should put in place staff development plans for educators and those supporting learning, to enable staff to explore academic integrity issues and enhance their pedagogical practice, particularly in designing assessment for learning.

There are particular areas of work that could be explored further either through institutional initiatives or educational research, including:

- Looking at how educators in working with learners can model academic integrity practices, particularly through approaches in which students are partners in the process of curriculum design or research (see Healey et al. 2014);
- Investigating students’ conceptions of learning in relation to contemporary (and changing) student study practices (e.g., electronic note making from digital sources) and the implications of these for academic integrity issues;
- Devising and implementing guidelines for students on group projects and assessments, with a focus on acceptable collaborative practices; and
- Evaluating the impact of changing assessments designed to support students’ understanding of academic practice and address the issue of student academic misconduct.

Finally, it is crucial that institutions continue to develop teaching and learning approaches in which strategies, policies, guidelines, and practice all reflect an educational emphasis.

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Infusing Ethics and Ethical Decision Making into the Curriculum

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Julia Christensen Hughes and Tricia Bertram Gallant

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Abstract

This chapter argues that education in ethics, in particular ethical decision-making, is urgently needed as a positive approach to academic and professional integrity. Stand-alone courses on ethics should be offered, and content dealing with universal standards and discipline-specific ethical dilemmas should be appropriately embedded within multiple courses, across the curriculum. In this way, students can be better prepared for the types of ethical situations they will undoubtedly encounter and hopefully be inspired to lead lives characterized by integrity. Fortunately, opportunities for ethics education are growing with individual courses, full programs, and even ethics-focused centers, now available on

J. Christensen Hughes (✉)
College of Business and Economics, University of Guelph, Guelph, ON, Canada
e-mail: jchriste@uoguelph.ca

T. Bertram Gallant
Academic Integrity Office, University of California, San Diego, CA, USA

many university campuses. Such programs may be particularly important in professional programs (such as business), where unethical behavior can have particularly serious social consequences. In order to be fully effective, it is important that such opportunities employ active learning pedagogies, so that students are not only exposed to ethical philosophies and frameworks, but additionally have the opportunity to debate, apply, and internalize context-specific lessons, in order to develop essential skills and attitudes. Universities should also work to ensure that such courses are offered within a broader context of integrity; when faculty and administrators do not themselves uphold ethical standards of behavior, the legitimacy and effectiveness of educational offerings are jeopardized.

Introduction

The primary purpose of this chapter is to consider how the study of ethics, in particular ethical decision-making, might best be infused into university curricula, so that students can become more aware of the types of ethical dilemmas they and other members of society and academia face, are better able to critically analyze problematic situations and behaviors, become more resolved to personally engage in ethical behaviors in general, and become more committed to approaching their academic work and academic relationships with integrity. The central argument is that academe should aspire to teach all students essential ethical decision-making skills, so that they may become well equipped to play an active role in the creation and maintenance of ethical organizational cultures and societies. University graduates inevitably end up working in a variety of organizations; many are in leadership roles. Without doubt, all will encounter ethical dilemmas at one time or another in either their personal or professional lives. Educators need to prepare them for this reality. In this way, not only might students (the leaders of tomorrow) become successful in leading ethical lives themselves, both in and out of school, but also come to positively influence the lives of many others.

This chapter addresses a number of key issues. First, the need for ethics education is established. Following, the question of whether ethics can (or should) be taught is briefly raised. Next, examples of advances in ethics research and education are shared. With it established that there is an urgent need for ethics education, that it is possible to teach ethics, and that many curricular advances are well underway, questions concerning the design of such programs are considered, including what should be taught and the recommended pedagogy of such instruction. Explicit examples are provided from business, as one example of a context-specific approach. The chapter concludes with a call for universities to ensure that they are fully modeling ethics and ethical decision-making in their own practices, systems, and cultures. Without this, it is questionable whether the administration or the faculty have the moral authority to provide such a curriculum, whether the instruction will be viewed as important, and whether the anticipated learning outcomes will be achieved.

The Need for Ethics Education

Evidence of ethical lapses and dilemmas can be found in the news every day, including such issues as: cheating in school, affronts to human rights and freedoms, environmental disasters caused by humans, food insecurity and homelessness, corporate scandals, engineering disasters, political and police corruption, sexual abuse within the church and other trusted social institutions, and a host of other ills impacting society in general, but particularly its most vulnerable people. While much of this evidence comes to attention as seemingly one-time or isolated events, there are clearly forces at play that are much more insidious – long-standing and deeply rooted dynamics supported by cultures of silence and inaction.

Educational institutions are not immune to unethical conduct as evidenced in other sections of this handbook, as well as in compilations such as *Creating the Ethical Academy* (Bertram Gallant 2011). A popular search on the topic reveals one website (Galante 2012) entitled *The Ten Biggest College Cheating Scandals* which documents cheating by students (selling exams, gaining unauthorized access to exams, tutors writing papers for varsity athletes, impostors writing exams for a fee), as well as by faculty and staff, such as trading grades and degrees for sex, money, and other favors. A similar site purports to report on the *Ten Biggest Research Scandals in Academic History* (Sebastian 2012). Involving faculty from top institutions such as Duke, Harvard, and Stanford, cases include reports of extensive plagiarism; stolen, falsified, and incomplete data; the exclusion of key contributors from award-winning scholarship; and the inappropriate influence of external funding partners on published research results. While each of the above cases came to light, and punishments were ultimately metered out, they raise the uncomfortable questions of why is this happening and how can ethical awareness and ethical decisions by students, faculty, and staff be encouraged and supported.

The need for – and legitimacy of – education’s central role in preparing students to effectively deal with ethical dilemmas and misconduct has been long argued. Many are convinced that ethics education and training throughout the education system is necessary to create an ethical academy and to develop ethical professionals and citizens (Keller 2011). This may be particularly true in professional programs, such as engineering and business, where it is an increasingly shared view that education should prepare students with the skills and knowledge necessary for considering the ethical implications of any decision made, whether business, scientific, engineering, economic, or otherwise (Bazerman and Trenbrunsel 2011; Gentile 2010; Oddo 1997). Employers agree – they want graduates who have sound ethical judgment and integrity, along with interpersonal and teamwork skills and the ability to solve complex problems and apply knowledge and skills to real-world problems (Hart Research Associates 2013). Unfortunately, graduates have been found lacking in these areas – the Collegiate Employment Research Institute at Michigan State University has found that new college hires are most often fired for unethical behavior. The second top-ranked shortfall was lack of motivation/work ethic (Gardner 2007).

Effective and ethical leadership is badly needed at all levels of society and in all types of organizations, including and perhaps particularly universities given their central role as “truth tellers” in society. The credibility of the degrees granted and the research results disseminated depend on educational institutions upholding the highest standards of integrity. Faculty, staff, students, and future graduates are needed to act as leaders, “blow the whistle” or help place the spotlight on misconduct when it does occur, and work diligently to create ethical change within organizations and society. If university graduates are not at the forefront of such action, who will be? Ethics education can help promote this, and educational institutions (at all levels) can provide a training ground for students to practice these skills, first in relation to avoiding or resisting academic integrity breaches, but gradually in relation to other work and professional-related problems and challenges. Of course, educating students in ethics alone is insufficient for creating a positive approach to academic integrity; see the other chapters in this section for more ideas for building a positive, systemic approach to academic integrity. Also see *Creating the Ethical Academy: A Systems Approach to Understanding Misconduct and Empowering Change in Higher Education* (Bertram Gallant 2011). Clearly, ethical misconduct does not only happen “out there” for researchers to study dispassionately; all educational institutions are vulnerable to the same types of forces that can happen in any complex organization or society. Ethics education is key to combatting those forces.

Can Ethics Be Taught?

While there is some debate as to whether or not ethics can – or even should – be taught, this is arguably a modern-day distraction. Universities were founded with ethics as a central focus. Twelfth-century European institutions known as “Studium Generale” provided scholars with the opportunity for the in-depth study of philosophy and its natural counterparts, theology and law (Rait 2007).

Accordingly, many of the earliest university faculty dealt regularly with ethical and religious issues, such as St. Thomas Aquinas who taught at the University of Paris in the middle ages. Aquinas defined four cardinal virtues (prudence, temperance, justice, and fortitude) as well as three theological virtues (faith, hope, and charity). Aquinas, and other scholars of his day, built on the work of the great philosophers from ancient Greece, including Socrates, who in 399 BC famously offered that “the unexamined life was not worth living.”

Today, much ethics education continues to draw on the great philosophers. Popkin and Stroll (1993), authors of a popular introductory philosophy text, *Philosophy Made Simple*, highlight the value of applying Socrates’ dictum (1993, p. xi):

[Socrates] found that nearly all of his contemporaries spent their lives pursuing various goals, such as fame, riches, pleasure, without ever asking themselves whether these were important. Unless they raised such a question, and seriously sought the answer, they would never be able to know if they were doing the right thing. Their entire lives might be wasted pursuing useless or even dangerous goals.

Arguing for the relevance of studying philosophy, Popkin and Stroil (1993) further offer that the philosopher “insists on bringing to light what our implicit beliefs are, what assumptions we make about our world, ourselves, and our values” (p. xi). Building on this point, they suggest (p. xv):

Philosophy... makes a person think – think about the basic foundations of his/her outlook, his/her knowledge, his/her beliefs. It makes one inquire into the reasons for what one accepts and does, and into the importance of one’s ideas and ideals, in the hope that one’s final convictions, whether they remain the same or whether they change as a result of this examination, will at least be rationally held ones.

Consistent with this view, within the literature there is strong agreement that ethics education should expose students to philosophical frameworks useful for reasoning through ethical dilemmas (Clarkeburn 2002; Felton and Sims 2005; McDonald 2004; Oddo 1997; Ozar 2001; Pettifor et al. 2000; Ritter 2006; Ryan and Bisson 2011; Sims and Felton 2005). The challenge is in helping students to see the value and applicability of such subjects to their personal lives, particularly if introductory courses in philosophy are taught by faculty who approach their instruction from a purely theoretical perspective or from the assumption that students are interested in pursuing advanced degrees in the subject (Pamental 1991). However, that challenge can be met by teaching students how to apply the principles and logic of these philosophies without an in-depth exposure to the history, authors, or philosophical depths of the disciplines. Teaching students the questions to ask according to each philosophical principle may be sufficient to helping them think about the ethical implications of each decision they make (Goodchild 2011; Kidder 2009).

Ethics education has also been informed by other disciplines, such as psychology. Perhaps, one of the earliest and most noteworthy influences was made by Lawrence Kohlberg (1981) who in the 1960s, and building on the work of Piaget, positioned education as the key in helping people develop ethical reasoning skills and progress through a series of moral development stages. Although Kohlberg’s stage theory has been disputed and extensive research has disproven the effectiveness of moral clarification for changing values-based behaviors, the influence of Kohlberg on ethics education remains because the value of discussing ethical dilemmas for enhancing ethical reasoning has been evidenced time and time again (Kidder 2009).

Based on years of research stimulated by Kohlberg, researchers began to focus less on ethical development and more on ethical decision-making and reasoning. Ryan and Bisson (2011), drawing on the work of Weber (1990), found support for ethics education resulting in an increase in ethical understanding (Boyd 1982), an increase in student awareness and understanding of ethical and social issues (Stead and Miller 1988), and an increase in ethical awareness (Burton et al. 1991), the first step in being able to make ethical decisions. Many other researchers have found that ethics education can “support and accelerate” the development of ethical decision-making or reasoning skills including the work of Clarkeburn et al. (2002) (see also Frisch 1987; Mayhew and King 2008; Penn 1990; Schlaefli et al. 1985; Schmidt et al. 2009; Self and Ellison 1998).

While some other studies have found a negative relationship (Ryan and Bisson 2011; see also Cohen and Bennie 2006; Stephens and Stephens 2008), these results have largely been discounted based upon methodological issues concerning the learning context. For example, it has been argued that unsupportive research findings may have resulted from the particular faculty and learning contexts studied: “professors, who hold questionable ethical philosophies, inadvertently projecting this onto their students or it could be a dearth of ‘real life’ application in textbook case studies” (Wittmer 2004 as cited in Ryan and Bisson 2011, p. 45).

These are welcome findings. Ethical development of the masses was once considered largely the preserve of the church and family. With declining church enrollments and the disintegration of the traditional family unit, formal education has arguably become one of the few remaining options for ensuring broad-based societal exposure to concepts related to ethical development and arguments in support of the existence of universal ethical values. That said, with secular mandates having removed religious instruction from most publicly funded schools and universities, it is questionable to what extent teachers and faculty today feel adequately prepared for or even sufficiently interested in promoting ethical choices. As Cragg (1997) notes, “I do not want to teach moral standards; I want to teach a method of moral reasoning through complex ethical issues so that the students can apply the moral standards they have” (p. 19) (as cited in Ryan and Bisson 2011, p. 46). From Cragg’s perspective, the curriculum should essentially remain values-neutral with respect to any particular ethical standard.

A counter argument to this view is that as western societal values and notions of character have declined, and consumerism, celebrity, and “cheating to win” have become increasingly revered and practiced (Callahan 2004), it is reasonable to question whether or not ethics education, devoid of the exploration of universal values, could ever be sufficiently impactful to have a positive effect on student attitudes and behaviors.

Clearly, ethics can be taught, and in fact, ethics is being taught. However, it is arguably not simply enough to expose students to philosophical theories or psychological models of ethical development. Ethics must be taught in an accessible way that exposes students to ethical standards, both those in and outside the academy, helping them to develop ethical decision-making and reasoning skills and providing opportunities to practice and apply these skills in multiple contexts and situations. Finding faculty willing and able to provide such instruction may be the biggest challenge of all given their “lack of confidence...that they have the skills or knowledge to “teach” ethics” (Keller 2011, p. 180).

Advances in the Academy

Consistent with the idea that ethics can and should be taught, there has been an upswing in calls for ethics education over the past 20 or so years. One example is the work of Tom Lickona (1993) who advanced the “Return of Character Education” within the K-12 school system. Character education has been

instituted primarily to help children and schools act less like ethical bystanders and more like ethical actors.

Centers for ethics also exist on many university campuses today – such as the Edmond J. Safra Center for Ethics at Harvard University. This center’s stated mission is “Advancing teaching and research on ethical issues in public life” noting that “widespread ethical lapses of leaders in government, business and other professions demands more and better moral education” (<http://ethics.harvard.edu/>).

Stanford’s McCoy Family Center for Ethics in Society is similarly committed to “bringing ethical reflection to bear on important social problems through research, teaching, and engagement.” This center’s website cites growing global social problems, including “extreme poverty, environmental sustainability, and international peace and security,” issues which they suggest are both technological and moral in nature. To that end, the center develops “initiatives with ethical dimensions that relate to important public problems and draw on the established strengths of interdisciplinary Stanford faculty” (<https://ethicsinsociety.stanford.edu/>).

Individual disciplines also have their own specialized ethics centers, focusing on questions and behaviors specific to professional practice. Vanderbilt’s Center for Biomedical Ethics and Society is one example, which provides “multidisciplinary leadership addressing the ethical, legal, and social dimensions of medicine, health care, and health policy” (<https://medicineandpublichealth.vanderbilt.edu/cbmes/>). Another example is the Clarkson Centre for Business Ethics and Board Effectiveness (CCBE) at the University of Toronto’s Rotman School of Management. Their “mandate is to monitor Canadian corporate governance trends and to provide guidance to firms looking to improve their board effectiveness and disclosure” (<http://www.rotman.utoronto.ca/facultyandresearch/researchcentres/clarksoncentreforboardeffectiveness.aspx>).

At the program level, a search of the word “ethics” on a national Canadian website, “Canada’s Higher Education & Career Guide,” which lists all related academic programs in the country, found 90 university-level ethics programs, with the majority (p. 64) in Ontario. These programs included 12 undergraduate-level certificates/diplomas, 33 bachelor’s/first professional degrees, 15 graduate-level certificates/diplomas, 20 master’s, and 10 PhD degrees.

Clearly, despite the debates on whether ethics can or should be taught, myriad opportunities for learning about ethics are being offered. There is, then, both an expressed interest in and need for ethics education, so let us turn now to what that education should be.

What to Include in the Study of Ethics

As a reminder, ethics education is being considered here as one of the positive approaches to a systemic way to enhance integrity in the academy. As Keller (2011) suggests, and as already noted, “genuine success in promoting integrity in the academy requires a more extensive focus on ethics that pervades all aspects of an institution’s culture” (p. 170). Any consideration of what topics should be included

as part of a program on ethics should begin with the explicit understanding that this subject should not be considered the exclusive domain of any one academic or professional discipline. In fact, because most professions have their own “codes of ethics that guide appropriate individual and organizational behaviors” (Keller 2011, p. 177), each professional discipline should be incorporating ethics education into the curriculum. How they do that, however, may differ (Keller 2011).

That said, a review of the literature suggests at least four components or attributes for an effective and comprehensive program of study. These include: (1) universal standards, (2) philosophical frameworks, (3) an embedded curriculum, and (4) a personal development plan. It is the combination of all four of these components that will help students to live a more examined and ethical life.

Universal Standards. Questions concerning what is ethical or moral clearly represent ongoing debates in academe and society, with different cultures and religions extolling different values, and shifts in ethical judgments taking place over time, witness changing views on smoking or gay marriage, for example. That said, there are arguably universal, core values such as honesty, fairness, compassion, integrity, responsibility, respect, and fairness; attributes that have been found to be both highly valued and enduring in most cultures around the world (Fort 2000, as cited in Brooks and Selley 2008, p. 11; International Center for Academic Integrity 2014; Kidder 2009). In particular, Kidder’s (2009) book *Moral Courage* summarizes evidence of cross-cultural support for the existence of shared ethical principles.

Building on this perspective, students should be exposed to the notion of universal standards and how these standards inform professional and organizational ethical standards. This advice is in contrast to what has been the prevailing view that the primary purpose of ethics education is not to change values or to teach students ethical standards. However, in relation to a positive approach to academic integrity, students must be taught the values upon which expected behavioral standards are built, such as the Fundamental Values of Academic Integrity (International Center for Academic Integrity 2014). Understanding and recognizing these ethical standards can also help undergraduates develop ethical awareness or sensitivity, a necessary first step in ethical decision-making (Kidder 2009). If a person cannot even recognize that a situation is an ethical one (or involves ethical issues), it is impossible to solve the ethical problem and act ethically in response (Clarkeburn 2002; Felton and Sims 2005; Kidder 2009; Pettifor et al. 2000; Ritter 2006; Sims and Felton 2005). Beyond an awareness of universal values undergirding academic and professional integrity, Felton and Sims (2005) suggest that ethical awareness can be fostered by:

- Helping students understand and be able to articulate their core values and their significance;
- Introducing students to core ethical values as a guide to ethical decision making;
- Helping students differentiate between ethical and other types of values (such as economic, political, etiquette, professional, and academic); and
- “Broadening a student’s understanding of ethics & its complexities” (p. 380; also supported by Gray and Gibbons 2007).

Philosophical Frameworks. As noted earlier, philosophical theories or frameworks can help students (and others) resolve the ethical dilemmas or problems of which they have become aware. The three most common philosophical frameworks taught in ethics courses come from Aristotle, Kant, and Mill. Although these are not the only relevant three, they are the ones most relevant to helping people think through contemporary ethical dilemmas (Kidder 2009).

From Aristotle, students may learn about the principle of virtues, the idea that ethical problems should be solved according to the virtues that are desired to be upheld (Fieser 2001; Kidder 2009). For example, when facing a choice to confront someone who is behaving unethically, one can ask “do I wish to be someone who is courageous or cowardly?” Or, if facing a temptation to lie, one could ask “do I wish to be someone who is trustworthy and honest or not?” The virtue principle is optimistic, assuming that most people want to be “good people” who do the right thing but need a reminder to do so.

From Kant, students may learn about the principle of the “categorical imperative,” the idea that the “right” choice of action is one that is consistent with a universal law or norm (Fieser 2001; Kidder 2009). For example, if a faculty member is facing a temptation to take a bribe from a student to raise a grade, one can ask “would I be okay if bribery was the universal norm according to which the education system operated?” Or, if facing a choice between truth and loyalty, one can ask “which action would I will into existence as the law by which everyone would behave?” The categorical imperative or “duty” principle assumes that people can be rational about their ethical decisions.

And finally, from Mill, students may learn about the principle of utilitarianism, the idea that choice of action should be the one that generates the greatest amount of happiness for the greatest number of people, for the least amount of pain (Fieser 2001; Kidder 2009). Utilitarianism tends to be the default principle used for decision-making in contemporary times, but it is just one principle (as has been shown) and may not always lead to the best ethical decision. Consider, for example, the famous “trolley dilemma” (Bazerman and Trensbrunsel 2011) which puts the decision-maker in the position of a train engineer who is facing a decision of allowing a train to maintain its course, in which case five railway employees will die, or actively changing the course of the train, which would result in the death of just one tourist who has wandered onto the tracks. Utilitarianism might objectively suggest that the engineer should change the course of the train because that would minimize pain and maximize happiness. Opponents argue that they would consider such a choice to be unethical, given that it would involve a deliberate act, resulting in the death of an innocent bystander.

Taken together these three theories provide different philosophical frameworks by which students can gain insight into the complexities of ethical decision-making as well to help students “develop a process” (Oddo 1997, p. 296), a “system of analysis” (McDonald 2004, p. 372), or the “cognitive competence” (Ritter 2006, citing Rossoow 2001) for resolving ethical issues. This includes “elements of moral awareness, moral understanding, moral reasoning, moral decision-making, and moral tolerance” (Ritter 2006, p. 156).

In the above discussion, it should be noted that wading into the mire of attempting to define ethics or the difference between ethics and morals has been avoided. As Kidder (2009) notes, this “is the stuff of academic discourse” (p. 56) that does little to help students develop ethical awareness and reasoning skills (particularly at an introductory level). As presented here, ethics may simply be understood as “doing the right thing even when no one is watching,” with the goal of ethics education being to teach students how to figure out what the “right thing” is.

An Embedded Curriculum. While stand-alone ethics courses can be highly suitable for teaching students basic philosophical theories and frameworks, and universal standards, enhanced learning can powerfully result from the opportunity to revisit these ideas at multiple points across the curriculum (Clarkeburn et al. 2002; Felton and Sims 2005; May and Luth 2013; McDonald 2004; Oddo 1997; Ritter 2006; Sims and Felton 2005; Trevino and McCabe 1994). The embedding or integration of ethics education enables students to practice decision-making and do so within the types of specific contexts that they will likely face as students, employees, and professionals (Felton and Sims 2005; McDonald 2004; Oddo 1997; Ritter 2006; Sims and Felton 2005).

Within business, as an example, raising issues pertaining to the ethical treatment of employees in a human resources course, or the ethical treatment of consumers in a marketing course, demonstrates that ethics is not a separate subject, to only be discussed in one particular course, but must be taken into account in all aspects of one’s personal, academic, and professional lives. Doing so helps to “legitimize ethics as an integral part of decision-making” in all contexts (Sims and Felton 2005, p. 35). More specifically, Felton and Sims (2005, p. 382) suggest that this can be done by:

- Helping students broaden their cultural understandings and impact of culture on ethical decision-making;
- Teaching students to take into account stakeholders and their “ethical positions, interests, or issues” as well as understand why differences exist and potential conflicts that might arise; and
- Developing in students their comfort and skills in discussing ethical issues in professional contexts.

An embedded strategy also can help students practice ethical decision-making, developing confidence in their ability to solve ethical issues in any context, consider multiple viewpoints, develop the language to discuss ethical issues with others, and consider the consequences of their decisions (Felton and Sims 2005; Kidder 2009; Mayhew and King 2008; Pettifor et al. 2000). This can be done by teaching students a model and facilitating their application of that model through structured opportunities to practice analyzing current and future possible ethical dilemmas (Mayhew and King 2008). There is no consensus on the perfect ethical decision-making model, although many have been proposed (see, e.g., those overviewed by Goodchild (2011) or Johnson (2006) or the model extensively explained by Kidder (2009)). The key is teaching the students a model that they can learn, practice

applying, and become skilled in using so that it becomes intuitive and accessible in times of intense and stressful situations, the times at which most unethical decisions are made. This model, including the universal standards and philosophical frameworks, could be taught to students early on in their program so that they can be asked to apply them over and over again throughout other classes in their curriculum. Take a biology program, for example. If students are taught an ethical decision-making model in their introductory biology course or even in a first-year experience course, they could then be asked to apply the model in the laboratory to resolve a research integrity issue, in a genetics class to resolve the contemporary ethical challenge of DNA manipulation, or in a peer instruction-based class to discuss the ethical issue of students “clicking in” for other students who are not present but wish to receive their participation points.

Overall, an embedded ethics curriculum provides more learning moments than would be achievable in any one stand-alone ethics course (May and Luth 2013); in fact, ethics education that remains exclusively theoretical has been found to have little or no impact on ethical decision-making (Schlaefli et al. 1985). In contrast, the integration of ethics into disciplinary courses teaches students that ethics is integral to the everyday business of making decisions, not something that is exceptional, rare, or unique (Gentile 2010; Oddo 1997; Trevino and McCabe 1994).

Personal Development Plan. Finally, there have been some suggestions in the literature that students should also be encouraged to develop a plan for acting ethically (Ritter 2006, p. 156, citing Callahan 1980; Felton and Sims 2005; Oddo 1997; Pettifor et al. 2000; see also Sims and Felton 2005). This can be done by facilitating student thinking about the obstacles and challenges they will inevitably encounter as well as provide resources to help them act according to ethical standards. For example, in the Academic Integrity Seminar at University of California, San Diego, taken by students who have academic integrity breaches, the final assignment for the students (after learning and applying an ethical decision-making model) is the development of an Integrity Action Plan in which they must identify their values, their strengths for upholding academic integrity, and their weaknesses that may undermine academic integrity and how they will address those weaknesses. The Giving Voice to Values curriculum by Mary Gentile (Babson College) provides educators with materials helpful to educating students on acting ethically despite the difficulties of doing so. Perhaps, a capstone course that explicitly addresses this issue would be appropriate, or the content could be embedded within a senior level, co-curricular learning opportunity, that supports career development.

Pedagogy and Structure

Regardless of the specific learning objectives chosen, ethical decision-making is arguably best learned through student-centered experiential methods like structured discussion groups, problem-based learning, or team-based learning (Ritter 2006, p. 156, citing Pettifor et al. 2000; Clarkeburn et al. 2002;

see also Bonwell and Sutherland 1996; active learning also supported by Clarkeburn et al. 2002; Hartwell 1995; Schlaefli et al. 1985; Sims and Felton 2005). This may be because the learning preferences (feeling, watching, thinking, and doing) inherent in experiential learning are all necessary for developing ethical decision-making skills (Pettifor et al. 2000).

In addition, experiential learning “requires individuals to engage in critical reflection and personal involvement in order to become autonomous thinkers” (Pettifor et al. 2000, p. 261), and autonomous thinkers are better able to act ethically in spite of the unethical actions of others. Finally, it is suggested that teaching students in a way that is not “normal” for them (or perhaps even preferred) will help the students adopt alternative ways of thinking, which is also necessary for ethical decision-making (Sims and Felton 2005).

According to the literature, some necessary structural elements for effective ethics education include timing, format, and active learning, as outlined below.

Timing. Any instruction module on ethics requires between 4 and 12 weeks of instruction at 2 h per week (Clarkeburn et al. 2002; Gray and Gibbons 2007; Schlaefli et al. 1985; Trevino 1992). Ethical awareness may be achievable in 3 weeks, but at least 6 weeks is needed to help students develop ethical reasoning skills. And, anything less than 4 weeks may leave students with “unresolved issues,” and this “lack of closure” will lead to “ineffective ethics experiences” (Sims and Felton 2005, p. 42).

Format. Team-based or problem-based learning can be particularly effective for teaching ethical decision-making because “small groups can positively nurture student motivation towards developing their ethical and moral skills” as they “generate a sense of belonging and shared experience, which can nurture motivation and enjoyment in learning” (Clarkeburn et al. 2002, p. 68; Gray and Gibbons 2007). However, small groups need to be facilitated by trained leaders who have the “skills and confidence to analyze and clarify” student confusion about ethics and to help them make decisions according to ethics, rather than other factors (Clarkeburn et al. 2002, pp. 70–71). Online courses are generally not recommended because they can limit carefully facilitated social interaction, a necessary and integral component to ethical decision-making (Antes et al. 2009).

Active Learning. Appropriate pedagogical activities can include storytelling, personal reflections and discussions, case studies, and values clarification. Storytelling (e.g., sharing examples of when one has encountered and solved an ethical issue) can be beneficial because it “impacts students in ways that arouse curiosity and a desire to engage in dialogue and often leads to personal insight” (Sims and Felton 2005, p. 41). Personal reflections (perhaps through journaling) and discussions about actual experiences with ethics (preferably from a service-learning or work or study situation) enable the “processing of experience” (Sims and Felton 2005, p. 44; also supported by Schlaefli et al. (1985)). Case studies that are relevant to real-life situations and experiences of the students and their potential future profession are used as a basis for discussion and practice in resolving ethical problems (Ritter; Clarkeburn 2002; Clarkeburn et al. 2002; Gray and Gibbons 2007; Oddo 1997; Sims and Felton 2005; Schlaefli et al. 1985). And, finally, values

clarification, during which students identify, examine, “critically appraise,” and apply their ethical values to a situation (Felton and Sims 2005; Nonis and Swift 2001; Oddo 1997), can be helpful in encouraging students to “reflect on the way in which their reasoning, actions, and decisions are affected by their values” (Gray and Gibbons 2007, p. 223). This is important because otherwise students do not learn how to “deal with value conflicts” that will inevitably arise (Felton and Sims 2005, p. 389) or begin to understand the complexity of ethical situations and the “moral conflicts” that naturally occur.

Of course, in any such instruction, faculty will need to be prepared for issues which may surface during highly emotional situations (examples of misconduct/lapses of integrity that students have personally engaged in or been the recipient of); the availability of professional counseling services should be made clear to students at the start of the course so that faculty do not feel pressured or burdened to provide advice or support that they are ill-prepared to offer.

Within university programs, the content of any ethics course will inevitably reflect the tenets and interests of the particular discipline with overall responsibility for the course. Such courses therefore range from the highly theoretical (e.g., in philosophy departments) to the applied (e.g., in professional programs). Within professional programs, students can be expected to develop an awareness of the types of ethical breaches and dilemmas that have and do occur, the costs of such breaches (to all stakeholders), and the management and leadership skills needed to prevent unethical behaviors from occurring.

Building on previous research, it is reasonable to expect that courses that students find relevant to their future careers and lived experience, with the expectation of application of theory to real issues, will be those that are most effective.

Ethics Education Within the Professions: A Business School Example

Many professional programs, like business, have been placing increasing emphasis on ethics, over the past decade or so (Bebeau 2002; Culver et al. 2013). This has been motivated in part by a number of high-profile scandals involving major corporations and senior executives, but also by a growing realization of the need for professionals who can adapt to new pressures (e.g., those brought on by technology) while upholding values like responsibility, respect, trustworthiness, honesty, and fairness (Culver et al. 2013). In other words, professional associations and employers are no longer willing to take a chance that their new members will appropriately choose integrity over other values when faced with a dilemma. Part of what is driving this change is the growing recognition that “good ethics are good business.” In “Ethics and Governance” (2008), Brooks and Selley argue that business is in the midst of a “world-wide reform of corporate governance” (p. 1) and that organizations are increasingly seeking to develop cultures of integrity that will help “to restore credibility to decision making” (p. 1).

One study by the Association to Advance Collegiate Schools of Business (the major accrediting body for business schools around the globe) (Davis 2014) reported a 37.5 % increase in the number of business programs dealing with ethics and corporate social responsibility in accredited business schools, between 2008–2009 and 2012–2013. This growth was more than double any other emerging area in the business field – such as supply chains (17.4 %) and entrepreneurship (13.5 %).

Similarly, the UN’s Global Compact and associated Principles for Responsible Management Education initiative (<http://www.unprme.org/>) argues that responsible management education includes developing in students the capacity to be globally socially responsible leaders. Currently, over 500 business schools from over 80 countries have become signatories to the UN’s principles.

What is being taught in these schools is arguably highly relevant to students from any university program. University graduates, regardless of discipline, either join organizations or start their own, and many assume leadership roles. Ethical decision-making should be considered an essential transferable skill, along with ability to understand the impact of culture on the actions of employees and manage successful organizations (whether a business or not-for-profit venture).

These findings are in stark contrast to what has traditionally been the case. A 1990 study by David, Anderson, and Lawrimore (1990) found that 92 % of business students reported that they had “never attended a business ethics seminar in college” (as cited in Ryan and Bison 2011 p. 47). This is despite the fact that at about the same time, Stark (1993) found that “over 500 business-ethics courses are currently taught on American campuses; fully 90 % of the nation’s business schools now provide some kind of training in the area” (p. 38). This suggests that another important element to ethics education is whether or not the available courses are “required” as part of the curriculum. Simply offering courses in ethics is clearly not enough.

Within the University of Guelph’s (Ontario, Canada) College of Business and Economics (a recognized “Champion” among PRME signatories), students are first introduced to the potential of business as a “force for good” and becoming “global ethical investors,” through a double-weighted first-semester course, in which business plans are developed and those with the most potential run for a month, with the profits going to support micro-loans to women in the developing world, through a program called “micro-tyco” (<http://www.micro-tyco-registration.com/>).

First Steps for Interested Faculty

Faculty who are interested in pursuing curricular and pedagogical changes consistent with the advice provided in the sections above are well advised to consult with members of local curriculum committees and to work to ensure that ethical maturity is a recognized and valued student learning outcome. A curricular mapping activity can help to identify opportunities for curriculum enhancement, both with respect to

the potential addition of stand-alone courses as well as encouraging an embedded strategy. Changes can also be made within individual courses taught by interested faculty members. Through the careful selection of learning materials and activities, existing learning outcomes can continue to be achieved, while being taught through an ethical lens.

Another approach would be to form cross-disciplinary course development teams (including faculty from philosophy and psychology) in an effort to ensure that courses offered across the institution are accessible and applicable to non-majors and adopt the recommended pedagogical approaches mentioned above. Promoting such courses as electives can provide valuable additional expertise and resources, while helping to shore up enrollments in the arts and social sciences. Where full courses are not possible, invited lectures can help to insert particular expertise within the existing curriculum.

A member of the local teaching and learning support center may also be able to provide support and feedback. Participation in ethics-themed academic conferences and learning communities can also be useful, for connecting faculty with similar interests, accessing learning materials, and discussing various pedagogical approaches that others have found useful (for more information, consult with journals such as *Teaching Business Ethics*, *Journal of Business Ethics*, and *Science and Engineering Ethics*).

Infusing an Ethical Campus Culture

As previously argued, for such courses to be effective, it is important to consider the context in which they are offered. From a systems perspective, it is essential that in endeavoring to teach ethics that universities also endeavor to practice ethics (Bertram Gallant 2011; Lickona 1993). While not the focus of this current chapter, it is critical to note that in order to effectively teach ethical decision-making, faculty must arguably see themselves as ethical models and mentors, people who are endeavoring to “create a moral community” and show genuine respect and concern for peers and students. In other words, faculty who personally “practice moral discipline” comply with institutional policies and work to create democratic and collaborative classroom environments. Beyond this, faculty (through the curriculum) can work to “inspire altruistic behavior” by providing students with opportunities to engage in volunteerism and service-learning projects within local communities. They can work to ensure democratic and effective student government and ombudsman positions. They can encourage administrators to appoint integrity officers, who in turn will ensure institutional policies and practices are consistent with an ethos of integrity. Perhaps, most important is the personal and institutional response when ethical lapses do occur. Faculty and administrators who look the other way or who fail to adequately deal with cases of misconduct undermine efforts to teach ethics and to develop cultures of integrity.

Conclusion

Society today is fraught with injustice in every imaginable sphere. As the “leaders of tomorrow,” university graduates should be equipped with the skills needed to effectively deal with the ethical dilemmas they will undoubtedly encounter and hopefully be inspired to make a positive difference in the world. While there has been some debate in the literature about whether ethics be taught, research has also suggested that the development of ethical awareness and essential skills can result when course design, pedagogy, and instructor attributes are appropriately considered. Reflecting this outcome, ethics courses and programs are becoming increasingly common. The content of such courses may range from the theoretical to the applied. Research suggests that stand-alone theory-based courses can play an important role, as can profession-specific courses in which theories are applied to specific ethical dilemmas. Ideally, such courses will be required, as course availability does not ensure exposure for the vast majority of students.

Ethics education alone is insufficient, however. Such notions will remain hollow (and appear hypocritical) if sufficient attention is not paid to the ethical behavior of faculty and staff or to the institutional cultures in which students, faculty, and staff are operating.

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Abstract

The factors driving the low political profile of the academic integrity movement are explored. Greater attention to political analysis and seeking allies in the political arena are required to strengthen institutionalization of academic integrity on campuses. Offered are practical suggestions for increasing political sensibilities within an academic integrity movement that has the linked goals of mitigation of student academic dishonesty and sustained improvements of teaching and learning.

Introduction

This chapter explores the factors that contribute to the low political profile of the academic integrity movement, what explains the phenomenon, and how those in the movement can leverage greater knowledge of political processes to strengthen both academic integrity and educational institutions. “Getting political” has been a

P. Drinan (✉)

College of Arts and Science, University of San Diego, San Diego, CA, USA

e-mail: drinanm@aol.com

neglected opportunity that the academic integrity movement needs to now seize to not only acquire powerful outside allies, but also better understand and pursue the institutionalization of academic integrity that is ongoing on many campuses but not yet fully rooted.

Paul Bloom, professor of psychology and cognitive science at Yale, believes “moral progress happens.” He goes on to say that reason is crucial to devising procedures that will let our “better selves” thrive. And he also asserts that politics, government, and institutions are central to moral progress (Bloom 2014, p. 70). The academic integrity movement often pays attention to procedures, such as honor codes, and also to shaping cultures and local customs and rituals that can embrace academic integrity. But there has been neglect in the academic integrity movement of the possible and positive roles of politics and government in promoting academic integrity. Likewise, there has been neglect of examining how aspects of political institutions could provide insights into how to strengthen academic integrity on our campuses and contribute to moral progress.

There are five primary reasons for this neglect in the academic integrity movement including:

1. Political cultures that value limited government and support the notion that government is frequently incompetent, corrupt, or distant;
2. Idealism within the academic integrity movement that avoids the highly contentious, often messy, and bewildering world of political action;
3. A belief in the higher education community that academic freedom could be compromised by political intervention;
4. Lack of interest groups and public champions that could advance academic integrity as an issue at governmental levels; and
5. A failure to articulate the need for political involvement.

The multifaceted world of politics can be confounding if empathy for politics is not developed by more persons in the academic integrity movement. This chapter traces the merging and emerging contours of education and politics as it affects possibilities for promoting academic integrity. We will move through several levels involving:

1. Idealism, realism, and setting an agenda for a renaissance of teaching;
2. Political ideologies and nurturing a sense of urgency;
3. The dangers of corruption and the opportunities for institutionalization; and
4. The “how” of getting political.

Managing Optimism and Pessimism: The Promise of “Low Idealism”

Modern political cultures vary across the planet, but all claim to promote a radius of trust that promotes conflict resolution and also public values such as safety and

economic growth (Almond and Verba 1965, pp. 6–9). Ideologies attempt to fill the space created by political culture as proponents of ideologies contend for attention and the shaping of political agendas. This rough and tumble world leads to reductions in the radius of trust and so is often anathema to those who want to promote academic integrity. Their idealism is a source of strength, but also an impediment to political activity. The dilemma is that academic integrity idealists are comfortable with the notion of a radius of trust but troubled by ideological contestation that erodes trust in the ferocious and messy arenas of politics.

There are only a few ways to deal with this. The best, according to many political scientists and pundits, is to approach the matter of both academic integrity and politics with a tempered idealism, what columnist David Brooks of *The New York Times* alludes to as a “low idealism.” Low idealism, according to Brooks, “rejects the politics of innocence” and “begins with a sturdy and accurate view of human nature” (Brooks 2014, p. 27). Instead of complete transformation of educational institutions to eliminate academic dishonesty, reducing its incidence is a realistic goal and achievable. But as an agenda item, this is not particularly inspiring. The best candidate for inspiration is a renaissance of teaching because great faculty-student interaction and the radius of trust that goes with it are essential to both learning and academic integrity (Lang 2013). The absence of effective teaching and persistence of high levels of student academic dishonesty can be called corruption, a seemingly supercharged term to many educators but a rather common one in the world of politics and political analysis.

Framing the issue of managing academic integrity in this way exposes the central narrative of academic integrity and the possibilities and dangers that surround it. A renaissance of teaching powerfully reinforces the notion that mitigating academic dishonesty is intimately connected to success in teaching and learning. Strong faculty-student interaction, together with deeper respect for teachers by students, is almost always associated with lower rates of academic dishonesty. Exposing more starkly the negative side of academic dishonesty as an example of corruption displays the seriousness of the issue and compares it to one of the most corrosive factors affecting government itself.

Does this type of analysis privilege pessimism over optimism given that a teaching renaissance seems less likely than a persistent continuation of student academic dishonesty? Not necessarily. Government and politics frequently have to deal with seemingly intractable matters (otherwise the issues would be easily resolved). There has to be a vision of what can happen positively if one is going to deal with virtually intractable matters, and even well-supported priorities take decades to accomplish. For example, confronting the link between smoking and lung cancer is not enough unless there is a vision of a healthier, happy individual who is free of the addiction to smoking and unless there is patience, passion, and resolve in confronting the problem. Getting an item on an agenda, whether on a campus or in a government, takes both careful analytical work to identify the parameters of a perceived problem and also a long timeframe to accomplish resolution. Institutionalization of the resolution involves making changes “stick”

so that they are hard to reverse. Experienced government and academic leaders know this and can learn from each other how to construct institutions that are known for their durability.

If creating robust institutions of academic integrity on our campuses were as impossible as Sisyphus rolling his rock up the hill, there would be insufficient room for an optimism that is needed to drive strong academic integrity systems. Governments have been successful in building institutions, such as social security systems, to mitigate poverty among seniors and the disabled. And educational institutions have been successful in shaping, for example, research assets onto their missions so as to resolve the difficulty of forging new knowledge that can be disseminated to not only students but also society at large. Success can occur as can “moral progress.” It takes a blend of idealism and realism to do this, and educators can learn from politicians and government leaders the ways this blend can work.

The Politics of Urgency

Teaching and education are important matters for governments for several reasons: (1) supporting political socialization and national identity; (2) supplying key components for economic and cultural development; and (3) measuring student achievement as a metric for both national and teacher performance. Education has been a key agenda item in government and politics for all of these three. And academic integrity is vital in all three. For the first, definitions of citizenship often revolve around character and clear commitments to the polity and to a nation that have to be relied on. Economic and cultural progress requires reliance on the pursuit of knowledge and truth, and these would be undermined by falsity and duplicity. And measuring student and teacher performance accurately is essential to accountability.

Education and politics have almost always been linked whether in Confucianism, nineteenth-century nationalism, twentieth-century debates over tenure, or twenty-first-century rows over teacher unions. History and language were central to the elaboration of nationalism, for example, and formation of character to Confucian norms. The academic integrity movement, in several ways, seems to show affinity for Confucian ideals. In modern terms, the academic integrity movement appears closer to conservative tendencies that emphasize individual responsibility and values. Elements of the political left are seen in attention to due process and the duty to educate all in the community. But neither the right nor the left has a monopoly on values since it is about a competition of values, not their existence, which is at stake in the political arena. Education at its core normally emphasizes both a critical function and deference to the careful pursuit and dissemination of truth and knowledge (Boyer 1990). The left often embraces the critical function and finds comfort with rapid processes of change. The right often embraces tradition and is skeptical of the benefits of change. Ideologies are normally either pro-change or anti-change. The academic integrity movement is positioned well between these two poles although, rhetorically, conservatism seems more harmonious with it.

The academic integrity movement has tended to be in a safe zone in the ideological debates. Academic integrity as a topic emerged from the experience of honor code schools in the mid-south and southern United States of America along with military academies. This conservative tendency, centered on character formation, found resonance among many progressive educators who were aspiring to upgrade the structure of teaching and learning environments. The formation of the Center for Academic Integrity (now the International Center for Academic Integrity, ICAI) in the 1990s attracted hundreds of progressive educators who could imagine the linkage of academic integrity with dramatic improvements of teaching and learning. The massive research on student academic dishonesty by Donald McCabe of Rutgers University provided a key legitimization to the emerging movement. The safe zone was defined by a predominantly conservative vocabulary about values and character on one side and a desire for robust improvements in the learning environment on the other.

But this safe zone may be too safe in providing sufficient stimuli to action and a more rapid expansion of the movement. Political sensibilities may need to be nurtured and, more importantly, cannot be eschewed as the debates about measurement of student learning and accountability of teachers proliferate, especially in the United States. The issues of cheating on standardized tests by students, teachers, and administrators cannot be avoided anywhere, thus pulling the academic integrity movement in the direction of trying to comprehend the deep corruptions that can exist in educational systems. “Corruption” is a strong term that is amenable to political analysis but is used infrequently in the academic integrity movement. There has to be a vivid, clear diagnosis of why academic integrity is so needed and in the starkest, most realistic terms possible. Without this kind of articulation, it is doubtful that the academic integrity movement can develop political traction. And without political traction, the academic integrity movement will only be able to tweak the edges of the problems of student academic dishonesty. Urgency and the ripeness of the issue can command attention if we accept that educational and political matters are deeply entwined and if we acknowledge that political considerations are an opportunity, not an obstacle. It is time to leave the safe zone.

Corruption and Institutions

The term “corruption” is used infrequently to describe student academic dishonesty in the academic integrity movement. “Fraud” is used far more frequently, typically in the limited contexts of research results or manipulation of testing results. Corruption is rarely used to describe and examine student academic dishonesty itself although several academic integrity researchers have suggested that the greater use of the term has two advantages: (1) developing an appreciation of what student academic dishonesty is doing to institutions of learning; and (2) displaying a common vocabulary with the world of politics and government where the language of corruption is used far more frequently

(Bertram Gallant and Drinan 2006, pp. 852–853). Examining corruption ironically helps us tease out what the bright side might look like.

First, a definition of corruption is needed. The late Samuel Huntington of Harvard University established the classical understanding of its meaning in the 1960s. He stated: “Corruption is behavior. . . which deviates from accepted norms in order to serve private ends” (Huntington 1968, p. 59). This definition can apply to both public officials and to student behavior. Officials who take bribes are corrupt because they are placing their private lives or their families and friends above the public interest. Students who cheat or plagiarize likewise are privileging their own interest of a higher grade, or avoiding a lower one, above that of fair and equal evaluation of expected performance. The personal costs of student corruption are higher than that of public official corruption because the student is foregoing immediate learning, whereas the public official is gaining an immediate asset. In both cases, however, corruption threatens an institution, whether governmental or educational. Corruption is often rationalized, of course, around the notion that “everyone does it.” While this is not accurate, what is true is that corruption leads, in Huntington’s words, to “decay” (Huntington 1968, p. 6). The clearest evidence of decay is loss of confidence in the institution to a pervasive cynicism. The clearest consequence is loss of organizational competence to fulfill the mission of the institution. Reducing the incidence of corruption is, then, essential to preventing institutional decay. Governments and institutions of learning are amiss if they do not take corruption seriously.

Is corruption a growing problem? Huntington argued it is for government because economic growth leads to inequality while modern political cultures emphasize legal equality. The two, in combination, can often delegitimize political institutions. Opportunities for greater wealth increase the temptations for corruption particularly if political reform is much slower than economic and social change. Corruption occurs as new economic forces (e.g., railroads in the nineteenth century) remove obstacles for growth (landowners and their political representatives in this example) by “buying” legislatures.

According to many academic integrity researchers, there have been increases in student cheating, including plagiarism, because the techniques for cheating are becoming more sophisticated and technology more ubiquitous. Huntington might argue that this shows similarity to the drivers of government corruption as institutions lag in responding to the new situations. Huntington does say that modernization changes “basic values of society” (Huntington 1968, p. 59). Societies undergoing rapid value change may find it hard to defend older values such as honesty or deference to authority. What bothers many academic integrity researchers about student academic dishonesty is not that it is increasing (there is not much evidence of a large surge), but that students who cheated in the past knew it was wrong; but new generations of students increasingly do not see it as wrong (Davis et al. 2009, p. 66).

The situational similarities of corruption in government and educational settings are useful to not only to flag the seriousness of student academic dishonesty but also establish a more robust sense of what institutionalization of academic integrity

entails. Educational leaders can learn what institutions of government do to avoid corruption. In turn, educational leaders can strengthen their own institutions and find ways to put academic integrity higher on the agenda of public officials.

There are, then, at least three layers of institutionalization that should command our attention: (1) institutionalization of student academic integrity; (2) institutionalization of educational systems; and (3) political institutionalization. All three are critical to the success of the academic integrity movement although the first two have commanded by far the most attention within the movement. There are two reasons why the third layer is important: (1) lack of stable political institutions increases the likelihood of corruption throughout society, including educational systems; and (2) success at political institutionalization can be a model for successful institutionalization of our educational institutions. Imagine a world of effective, responsive governments and one can then easily imagine a world of effective, responsive educational institutions that value academic integrity and the radius of trust between teacher and student that is associated with it. So, now it is time to explore what the term institutionalization means in greater depth.

Huntington's classical work on institutionalization, *Political Order in Changing Societies*, provides definitions and analysis that can be of utility to educational leaders. Huntington states: "Institutions are stable, valued, recurring patterns of behavior" and "Institutionalization is the process by which organizations and procedures acquire value and stability" (Huntington 1968, p. 12). The core of his analysis of institutionalization is in his four criteria of institutionalization, and it is by incorporating these that educational leaders can improve their efforts to constrain the corruption of student academic dishonesty and mitigate its consequences.

Besides cynicism and loss of confidence, what specific elements of corruption are manifest? Overlooking wrongdoing, expediting it, participating in it, and failure to manage it are the elements common to corruption along with personally benefiting from it. Educators can benefit from student academic dishonesty by getting credit for student performance, even illicit, or by avoiding the perceived hassles of confronting it. The latter is more pervasive and is often articulated by teachers and administrators; there is probably no greater indicator of the corrupting quality of student academic dishonesty than this commonly articulated "wisdom."

The first and most important of Huntington's criteria is adaptability – an ability of an organization and institution to respond effectively to different challenges (Huntington 1968, pp. 13–17). For academic integrity promoters, this means responding to more than test cheating, but also to new types of cheating or weakening attitudes toward cheating by students, faculty, and administrators. Huntington states that success at adapting to each challenge increases the probability of success in responding to each new challenge over time.

The second criterion is more surprising – complexity. According to Huntington, complex institutions are more adaptable because they have many organizational units capable of responding to diverse challenges (Huntington 1968, pp. 17–20). Conventional wisdom often sees simplicity as a value, but simple institutions do not have an array of capabilities to respond to the growing number of threats posed by social modernization. That is why a student-run honor code is typically insufficient

for successful institutionalization even as honor code schools show frequent success at mitigating academic dishonesty. Faculty orientation programs, administrative specializations to support academic integrity enforcement, and institutional research capabilities that can assess the prevalence and trends affecting integrity are all needed on a campus for successful institutionalization.

The third of Huntington's four criteria is autonomy – the ability of an organization to avoid control by outside forces (Huntington 1968, pp. 20–22). For example, if big oil makes government energy policy, government is not autonomous. And if donors or supporters of athletic programs in the community overwhelm academic integrity procedures, the educational institution is not autonomous. In the United States, supporters of athletic programs have been known to intervene on primarily academic matters even to the point of forcing out high school principals and teachers for attempting to enforce academic integrity procedures. In other parts of the world, family or government connections have been known to intervene in a similar manner by financial gifts or similar inducements. The inducements do not even have to be directed to the private gain of a faculty member or administrator; some inducements could be used for the “benefit” of the institution whether as endowment or gifts for buildings or programs. This is, of course, still corruption because it erodes the autonomy of the institution.

The fourth criterion of institutionalization is organizational coherence – is the institution unified? This criterion is needed to support the previous three, especially balancing out complexity. Complex institutions require coordination and discipline. Institutionalization of academic integrity requires the various parts of the educational system are not only aware of what other parts are doing, but also find ways to assist the other parts and pull in the same direction. Adaptability, complexity, and autonomy are all furthered by coherence (Huntington 1968, pp. 22–24).

The above organizational wisdoms could be distilled without reference to political institutionalization, but it does help education leaders appreciate the lag between social change and organizational change while gaining the full dimensions of corruption as an analytical and rhetorical device. Social changes come fast in the modern world. The lag in time for political or organizational change to catch up is frustrating, but nevertheless, patience is required along with organizational acumen.

The second reason for attention to the analytical world of politics is to provide insights and strategies for seeking support of academic integrity from political processes and government itself.

Getting Political

We often hear of the intersection of academic integrity matters and government only around cheating scandals at military academies or around plagiarism allegations against government leaders such as the withdrawal from the 2014 election of a US senator from Montana. Most public cheating scandals involving testing are managed, or at least monitored, by intermediate private institutions such as the Educational Testing Service, by public-private agencies such as accreditation

bodies, or by state education ministries or local governments. Getting academic integrity on their agendas is complicated by a variety of factors and often is as difficult as getting legislatures or parliaments to take up the matter. Agendas are, by their nature, very crowded in the modern era. Competing for attention is difficult, but that is the very fabric of a political process.

So, in getting political we need to start with the basics of public opinion, the attentive public (those who pay closer attention to policy matters), and interest groups. Scholarly research on student academic dishonesty has accelerated dramatically over the last 20 years, stimulated in great part by the massive data collection of Donald McCabe of Rutgers University and by the organizational support of the International Center for Academic Integrity (ICAI). Media accounts of cheating scandals have increased markedly along with the research as news organizations turn to the growing number of academic integrity researchers for commentary and analysis. The ICAI is a professional organization but typically does not act as an interest group in the political process. Its relative youth and fewer than 300 members (schools, colleges, and universities) do not yet provide the clout to affect political processes and only marginally influence intermediate institutions such as the Educational Testing Service or accreditation agencies. Its strength as an organization comes from mutual support and diffusion of best practices on promoting student honesty.

Other groups in the USA such as the National Association of Student Personnel Administrators and character development organizations such as the Josephson Institute keep the issue of academic integrity alive, but there is not yet a critical mass to command urgency on the part of intermediate institutions or representative assemblies. There are champions of academic integrity galore on campuses, in the ICAI, and among smaller character foundations. But it will likely take further time, a greater sense of crisis, or more scandals to propel the issue forward onto political agendas. The strangely good news for the academic integrity movement in going political is the certainty that cheating scandals will always be with us.

More problematic than lack of interest groups that promote the issue of academic integrity is the relative lack of public champions for academic integrity. There certainly have been advocates of modest public profile who have been educated in military academies or other honor code schools. But there yet have been champions of the level of a Bill Gates or a Michael Bloomberg on public health and education, for example. A strategy to recruit such a champion has not yet matured, but it is essential to develop one if public opinion and the attentive public are to be mobilized.

The recruitment of public champions can emerge as a natural extension of the best professional identities of educators. Hugh Hecló has argued, though, that too many professionals are “neglecting and dishonoring the longer-term values of the going concern of which they are a part” (Hecló 2008, p. 7). He goes on to say that “personal success without a sense of the normative good at the heart of . . . professional identities . . . will undermine social trust and institutional values” (Hecló 2008, p. 7). The positive sides of this are the many educators who do take academic integrity seriously along with the explosion of scholarship on academic

integrity the last 20 years. Add to this the growth of a group of support personnel and administrators in student affairs or other offices on our campuses who facilitate implementation of academic integrity policies on many campuses; they display expertise, promote best practices, and can be key advocates for academic integrity. But their roles are more technocratic and bureaucratic and do not yet supply the same power as a more organized interest group or a public champion of high profile.

Public champions may emerge as they see the opportunity for leadership and develop a vision of what is required. Warren Bennis argues: “Unless you know where you’re going, and why, you cannot possibly get there” (Bennis 1994 pp. 39–40). Larry Hinman, a philosopher, suggests that this is far more than strategic planning; rather, it must be a “convincing vision of human flourishing” (Hinman 1996, p. 12). Student academic honesty is needed to pursue truth, develop a radius of trust in society, and nurture a thriving, positive personality – particularly of young people in their most formative years of emerging adulthood. Add to this theme a renaissance of teaching and the ingredients for a powerful vision are available to potential public champions. Finding these champions is not easy, but the ingredients are available now.

What might the role of a public champion in the USA look like on the matter of academic integrity? It might look like this:

1. A high-profile philanthropist convenes a meeting of experts associated with the ICAI, representatives from character foundations, ETS, and influentials on boards of trustees of various public and private universities.
2. The meeting leads to a call for action to put pressure on congress, executive branch, and accreditation agencies to require more self studies during reaccreditation on rates of student academic dishonesty and make them as transparent and available as they are on campus sexual assaults or failure rates on repaying student loans.
3. The call to action stimulates the formation of an advocacy group that pursues robust academic integrity initiatives including higher expectations for public oversight and accountability.
4. The issue of academic integrity develops public momentum and feeds on itself, increasing the likelihood of educational institutions moving academic integrity higher on their internal agendas.

And how might this play itself out? Institutions may end up competing for higher scores on academic integrity just as they do now for environmental practices. Accreditation agencies keep the pressure on for self studies during reaccreditation. Academic dishonesty becomes as much a household discussion topic as the National Football League and domestic violence or Roman Catholic priests and sexual abuse of youths. It will probably take a combination of the attentive public – those in the know about education and educational reform – with a general public awareness of severe dysfunctions before a sustained momentum can be achieved.

Even so, the landscape of politics and public policy is littered with issues that did not sustain momentum – wars on drugs and obesity, for example. But mitigation of student academic dishonesty is not as difficult to achieve as many other public policy objectives, and so there is room for optimism.

One final note should be made on interest groups and champions that could be characterized by reference to Sherlock Holmes and his solving a case by “the dog does not bark.” The bark heard so little of in this essay and in the academic integrity movement is that of schools of education. Frequently criticized and even demonized, schools of education have not been deeply involved in methodically promoting student academic honesty as a theme. This matter deserves attention within the academic integrity movement if there is to be a “belling of the cat” (to mix metaphors) of the dangers of corruption associated with pervasive student academic dishonesty, let alone the development of a renaissance of teaching.

Conclusions: From “Low Idealism” to Institutionalization

So, what are the strategic outcomes of the effort to get political? Political institutionalization can inform the institutionalization of academic integrity, and politics has been shown to be a possible catalyst to strengthen academic integrity on campuses. But what might the institutionalization of academic integrity look like more specifically and does that really connect with a renaissance of teaching and avoidance of corruption?

Some academic integrity researchers have argued that institutionalization of academic integrity would likely display itself at four fairly distinct stages (Davis et al. 2009, pp. 155–162). Stage 1 is recognition and commitment, the sense that there is something wrong on a campus and that it needs to be addressed. The second stage is response generation, the development or reinvigoration of policies and procedures to deal with student academic dishonesty. Stage 2 is not difficult to achieve if an educational organization borrows best practices from others and implements them with some seriousness across the organization. There is always a danger of regression to the first stage if the campus does not sustain its efforts. Stage 2 is critical – it displays the difficulties and development opportunities associated with confronting the issue of student academic dishonesty.

Stage 3 is the real goal of pursuing academic integrity. It is defined as a thorough implementation of academic integrity procedures, so that there is clarity among all stakeholders about how to handle student dishonesty and frequent communication and proper socialization of students, faculty, and administrators regarding the importance of academic integrity. Stage 3 institutionalization is in evidence if there are conversations and publicity about academic integrity across campus and if the incidence of student academic dishonesty is decreasing (or at least students realize that it is wrong and do not feel that “everyone is doing it”). Stage 3 is really

the “sweet spot” of academic integrity institutionalization because it represents a stage where it will be difficult to slide back to stage two or even stage one.

The fourth stage is the fullest possible integration of academic integrity into campus life. But why should not stage 4 be the goal of the academic integrity movement? It certainly could be and often drives campuses in the direction of a student-run honor code because, when successful, these systems do seem to significantly reduce student cheating and become a matter of pride on a campus. But “low idealism” reminds us that we are not going to be perfect. And many campuses have developed robust stage 4 systems without a fully developed student-run honor code. Indeed, Voltaire’s wisdom of “the best is the enemy of the good” should be kept firmly in mind here. A student-run honor code may seem optimal, but the failure to design and implement one may dispirit a campus and let it slide back to stage 1 or 2. A desirable and available option is a modified honor code involving substantial student leadership but also a robust partnership with faculty and administrators. This can provide a natural evolution from stage three and is increasingly seen as highly viable by many in the academic integrity movement. There is nothing wrong in being “stuck” between stages 3 and 4. Indeed, it is much better than the alternative of slipping back into stage 1 or 2. There is nothing wrong in aspiring to stage 4 if a campus is firmly on stage 3. But campus leaders must realize that it is not at all easy nor can a campus “jump” into stage 4 by skipping stage 3.

Trying to skip stage 3 is strangely similar to the debates about “permanent revolution” among twentieth-century Marxists. Leon Trotsky, the Russian revolutionary, argued that it was possible for early capitalist, developing countries to skip the level of bourgeois capitalism and, through a peasant and proletarian revolution, move directly to communism. Mao Tse-tung had such sympathies also. But the notion of skipping stages was confounded by the exigencies of coordinating economic, technological, social, and political change so as to make societies effective, responsive, and attuned to human rights.

The lesson of stages and the belief in moral progress display the practicality of low idealism and the promise of realism. The academic integrity movement appears strongest when it is characterized by low idealism and a leadership that are attentive to designing rules and procedures that let our better selves thrive. Institutions cannot, as Benjamin Applebaum has argued in relation to markets, “substitute for failed virtue” (Applebaum 2014, p. 15). But institutions, political and educational, can create conditions that incentivize good behavior and disincentivize bad. We will know there is success when cheating rates are declining, and campus stakeholders feel good about that; when faculty no longer complain about the alleged workload of confronting a student about cheating; when administrators are rewarded for their vigorous use and defense of academic integrity procedures; and when government and politics are seen as supportive of all the above. This will fulfil the promise of “getting political.”

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