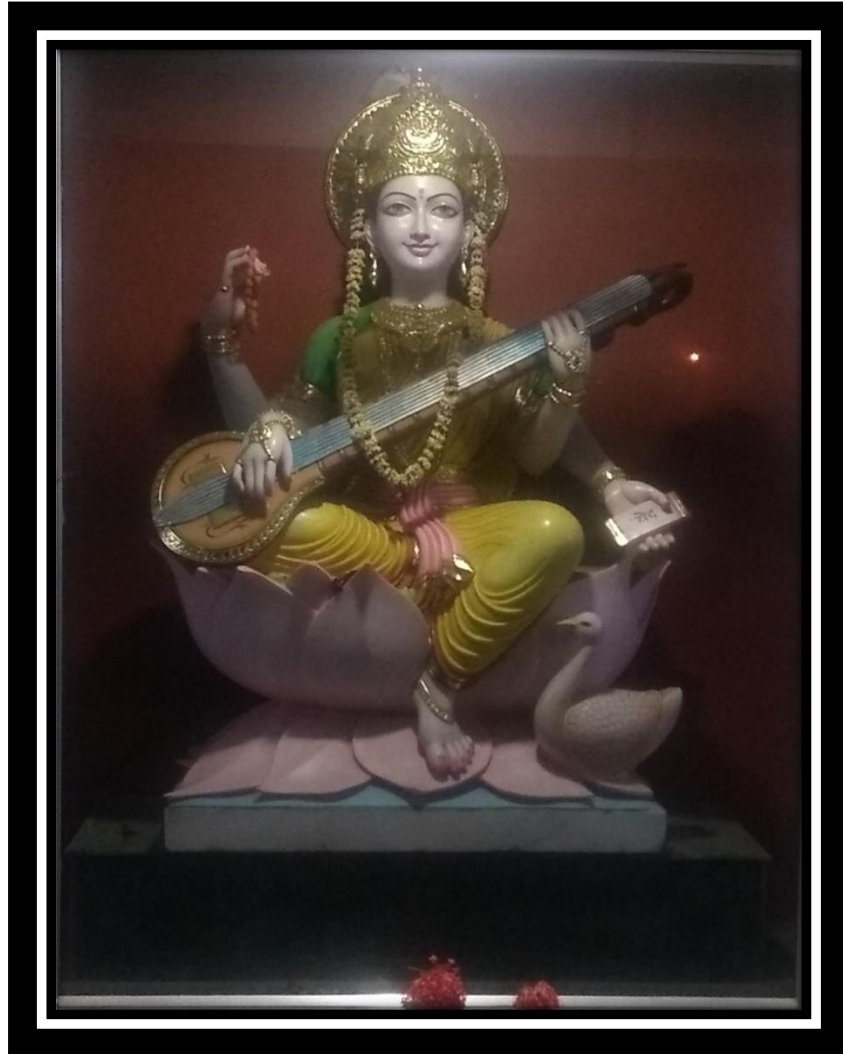




Higher Education in India



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PREFACE

Higher Education has its Identity as Higher Education only when it has the vision & mission to inter-connect all the entities of the universe harmoniously. The focus of the NEP (2020) is cross- disciplinary, inter-disciplinary and multi-disciplinary to realize the identity of Higher Education. Not only this The Higher Education ought to have the perspective to interconnect all the universes of this SRUSHATI & transcend space time and the entire web of the universes to have a connect with Thee of Whom, all of us, biota & a-biota are the expressions and emancipation! There is one & only one Cause, rest all are effects. SHRIMADBHAGVADGEETA; Chapter-10; SHALOK- 6 reads:

*महर्षयः सप्त पूर्वे चत्वारो मनवस्तथा।
मद्भावा मानसा जाता येषां लोक इमाः प्रजा॥*

“It means Seven RISHIs and prior to that Four MAHARISHIs and all the MANU (that is ancestors of Human Beings) were born through My Mind and All their progenies are residing in various LOKs.” There is one and only one Cause rest all are effects. The Universe is UNI-VERSE The SANKHYA PHILOSOPHY which believes in that the universe is essentially bipolar in nature does not refute the Thesis that the Originator of the Universe is one and only one. SHRUSHTA is one, whereas, SHRUSTI is the expression of SAFFULING of Thee. It is expression and manifestation in many varied forms! Only the bipolarity is perceptible in various forms , such as, PURUSH & PARKRUTI, High and Low, Hills and Valleys, High Electric Pressure and Low Electric Pressure, Two in One or Two Separate, their intercourse or cross pollination. This In-Life-Exit has been going on since SATYUG through Treta- DVAPAR and now KALYUG. With YUGANTAR from SATUG & Now KALYUG there is evident degeneration of Values and Institutions! Now the Oxy-Toxins injected into the Fruits and Vegetables are very harmful. Empty Rhetoric lead us nowhere. Idealism without Realism is useless. Multi-disciplinary without cross- disciplinary and inter-disciplinary are alienated! Expansion at a large scale expects decentralization of Higher Education, that too, at the level of devolution. Hope the NEP (2020) observes it!

Human mind is very mischievous! It is evident through the complex Virus COVID-19 which has created chaos all over the globe. Who has designed, developed and deployed it? Most probably, not the Wet Markets, but, the Human Mind. Is Higher Education for annihilation? Who is responsible for locked down? Who is accountable for massive human massacre! Hereby, may we Hypothesize that most probably the cause of limited knowledge of the Ultimate reality & even the Universe is that we human beings have become inhuman. Rather than seedling, germination, creation, construction and connection for Sustainable Growth & Development, we are busy with becoming Super Economic Power &, ultra-modernization.

One of Our MSU Vice- Chancellors, namely, BHIKHU BHAI PAREKH in our CASE, Faculty of Education and Psychology, The Maharaja Sayajirao University of Baroda Forums used to say very often that “Man is a Social Animal!”. But now there is a perceptible reality, Honorable Sir, that “ Animal is a Social Becoming

and Being!" When I was doing my Research Work, here, at MSU during 1977- 1985, one afternoon what happened was a PIG started crying at the pitch of his Voice. It is because some Predators (5-6), having long ropes tied bamboo sticks were trying to make it a Prey Tying the PIG Mouth Hard with a Rope. The Pig was crying and crying so loudly & touchingly that it was not bearable. It happened near the VIKRAM SARABHAI Hall of Residence, in the ground on the other side of the Road and Between VAD Tree & the Support Staff Quarters. Most of the Boarders from V.S. Hall & M.M. Hall and the other Halls of Residence came out of their Rooms, and the Passer by on the Road connecting MSU Administration, stopped to witness what was happening. But all of us, standing still, standing dumb, were witnessing the sordid Scene like Silent Spectators. Mean while a COW came running with the speed of storm and fought with those predators, in fact, scooped & hurt them, till she could liberate the PIG. All the Predators ran away. The COW unwrapped the mouth of the PIG and was with him till she ensured that the PIG was fully free!

Higher Education by Virtue of its identity as Higher has to be innovative, creative, constructive and connective. More and more knowledge we have more & more we try to tend to the Creator. We should try our levels best to connect with all the entities of the universes, harmoniously, unconditionally, come what may! But the ultimate reality is only a bit known and largely unknowable by the worldly People. It is because despite all of our efforts, we have limited database, a limited knowledge base, limited skill base and limited feeling faculty. It is because for building a theory we try to find and reason out cause & effect relationship. But, Reason is Re-as-on. Meaning thereby that we try to revisit our knowledge, skills, and feelings, again and again & every time we revisit there is a correction & gain. So, no knowledge is ultimate, no skills are ultimate, no feelings are ultimate. Hence no equation of concepts, that is, Principals and no schemas of Principles constituting a theory are ultimate. So, we know, but, only an iota of the reality.

*But, the ultimate aim of Higher Education is not merely building knowledge, Feeling and Skill Bases. The ultimate aim is to learn how to live fully meaningful, healthy, happy and peaceful life resonating with all, harmoniously, as a whole. With all ifs and buts, the Indian Education has its Identity. At present, it is India and India only which can unite fully all the continents through un-conditional love & affection. That is Our Higher Education Vision & Mission! India is trying to transcend from Human Development Index (HDI) to Universe Development Index (UDI)! AUM NAMAH BHAGWATE VASUDEVAE!
JAIHIND!*

Date: 11.03.2021

*CHHAYA GOEL
DEVRAJ GOEL*

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NEP (2020): Implementation and Returns

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1. School Education: Ladder

As per the National Education Policy (2020), the School Education Ladder now will be 5+3+3+4, wherein, five is the foundation & formative stage when there is first transition of child from Home to School to Early Childhood & Care Education (ECCE) Level 1, the most difficult phase. Merely Right to Education (RTE) may not facilitate the first transition from Home to School.

A child of three year will have first transition from Home to School in ECCE Level, that is level 1 of the ladder. How the children of the laborers can have access to the schools? How the children of the farmers can come to the schools? How the Road Side Children can have access to the Schools? How the Children Acrobats can come to the Schools?

How to have compatible schools as per the Educational and Vocational Development of these children, simultaneously? We can have separate institutions for the children Acrobats, where, they present their feats and are paid regular salary! Similarly the children of a farmer would need to develop agrarian skills along with schooling. Children of the laborers would need to be with their parents when they labor in the fields. How about the Children of the *GADIA LOHARS who are mobile along with Parents?* We need to design children compatible schools with suitable Time-Space-Personnel Management! Despite the rules and regulations still the child laborers are in perceptible range. There has to be a separate Commission for facilitating first transition of the children

from Homes to Schools. AANGANWADIS need to have ethos of AANGANWADIS. Kinder Gartens ought to have the validity of Kinder Gartens! Even in the Capital of India, Children Acrobats perform their feats in between the traffic on Red Light Signals and spread their hands expecting some coins or currency! Rarely they meet their expectations. Universalisation of KG1 Education is most difficult.

Earlier the Society was governing the Society. Then the State started governing the society. Now the economy is overarching, both, the State & the Society. What is the resolve to solve the problems?

2. Ending Extreme Poverty: A Focus on Children

“ India is a home to over 30% of almost 385 million children living in extreme poverty, the highest in south Asia, According to a new report by World Bank Group and Unicef, ‘ Ending Extreme Poverty: A Focus on Children.’

It said children are more than twice as likely as adults to live in extreme poverty. In 2013, 19.5% of children in developing nations were living in households that survived on an average of USD 1.90 a day or less per person, compared to just 9.2% of adults. Globally, almost 385 million children are living in extreme poverty.

The report said sub-Saharan Africa has both the highest rates of children living in extreme poverty at just under 50%. “ South Asia has the second highest share at nearly 36%- with over 30% of extremely poor children in India alone,” it said adding that four out of five children in extreme poverty live in rural areas.

The report said children are disproportionately affected as they make up around a third of the population studied but half of the extreme poor. The youngest are the most at risk with more than one-fifth of children under the age of five in the developing world living in extremely poor house holds. “Effects of poverty are most damaging in children. They are the worst off of all,” said Anthony Lake, executive director, Unicef.

https://m.economictimes.com/news/economy/indicators/30-of-very-poor-children-live-in-india--unicef/amp_articleshow/54685244.cms

There are many a issues that How the Education & Vocation of the children can go together? Can we have institutions providing regular occupation & Honorarium to Children Acrobats? Faculty of Family & Community Studies, MSU, has the provision for an AANGANWADI run by the expert staff.

3. Contribution of Gijubhai Badheka (15.11.1985 to 23.06.1939)



Teacher Profile for Foundation Stage

- **GIJUBHAI BDHEKA was an educator who helped to introduce Montessori Education Methods to India.**
- **He was a High Court Lawyer, however, following the birth of his child in 1923, he developed an interest in childhood development and Education.**
- **He is well Known for Education Reforms and Children’s Education.**

BOOKS by GIJUBHAI BADHEKA

- **DIVASVAPANA: An Educator’s Reverie: It is the day dreaming of an Educator, when, the person is fully lost in his vision, neither aware of the self, nor, that of the environment, with deep determination & action, that is, *ANUPRANIT ANUBHOOTI*, to realize the dream or goal, that is the focus, that is the all.**
- **Mata Pita BANNA KATHIN HAI**

- **RANJEETRAM SUVARNA CHANDRAK**
- **MOOCHALI MAA: He was affectionate to his Students to the way & extent that he was called “ Mother with Mustaches!”. He was impersonally personalized, even, in his classes!**

4. Our Communication

How long we will go on prescribing the medium of instruction? When will we transcend Three Language Formula? When will we and our children learn to communicate with the entire universe, both, biota and a-biota? We understand the languages of all the entities of the Universe. Even, we try our levels best to connect our AATMA with PRAMAATMA. Not only we understand the languages of the human beings, we also understand the language of the Animals, Birds, Glaciers, Water Falls, Rivers, Lakes, Ponds, Insects, Hills, Valleys and Plains, Oceans, Fish, Earth, Water, Air, Fire, AAKASH, one and all, the entire universe. Also, we try our levels best to transcend Time Space and Mind and have a connect with the Creator! Our *SNATAN SANSKRUTI which is NIT NOOTAN & CHIR PURATAN connects us with all as a whole in UNI-VERSE!*

5. Experiential Learning

We ought to have ample scope for experiential learning. The innovative and creative faculties of our children ought to be nurtured. We need to REVIVE OUR SANSKRITI & SANSKRIT! We need to REVIVE the ETHOS of our ETIHAS, ETHOS of Our SINDHU/HINDU GHATI SABHYATA!

6. Entrepreneurship

We ought to have Entrepreneurship, both, at School Education Level and Higher Education Level! We ought to be theosophical! We ought to realize Skill, Scale and Speed. Rather than servants our Education ought to develop Entrepreneurs, that is Masters of their Professions! Our NEP(2020) converges on Entrepreneurship.

“BANTA BAS UDDYAM HI VIDHI HAI

MILTI JISSE SUKH KI NIDHI HAI !

SAMJHO DHIK NISKRIYA JEEVAN KO

NAR HO NA NIRASH KARO MN KO”

A Verse by KAVI MAITHALISHARAN GUPT

7. Contribution by ANNE BESANT



- **Annie Besant came to India in 1895 AD.**
- **A British Socialist, Theosophist, Women’s Right Activist, Writer, Orator Educationist and Philanthropist.**
- **Regarded as a champion of Human Freedom, she was an ardent supporter of both Irish and Indian Self Rule.**
- **As an Educationist , her contributions included being one of the founders of the Banaras Hindu University.**
- **As an Educationist , her contributions included being one of the founders of the Banaras Hindu University.**

- She became a member of the Theosophical Society and a prominent Lecturer on the Subject.
- In 1898 she helped establish the Central Hindu School at Varanasi.
- In the late 1920s , Besant travelled in the United States with her protégé and adopted son Jiddu Krishnamurti, who she claimed was the new Messiah and incarnation of Buddha.
- Krishnamurthy rejected these claims in 1929.
- After the war, she continued to campaign for Indian Independence and for the causes of Theosophy.

Three Hindu Schools By Annie Besant at VARANASI

- Hindu Boys School
- Hindu Girls School
- Hindu Sanskrit School (Which was initially founded by Maharaja KRAN Singh Family).

8. Sucheta Jasrai

Dr. Sucheta Yogesh Jasrai Designed, Developed and Implemented a film for facilitating First Transition of Children from Home to Pre-School- SAFAR GHAR SE SCHOOL TAK. The following link provides link for the Film- SAFAR GHAR SE SCHOOL TAK:

https://drive.google.com/file/d/1OojlqDDUvXmllFmNt4I1wCv5_q4hf9t/view?usp=drivesdk

- This film was found to contribute significantly in facilitating the First Transition of Children from Home to Pre- School.
- Also, this Film- GHAR SE SCHOOL TAK was conferred 1st Award by the CEC, that is Consortium of Educational Communication, UGC.

9. Many a Attempts to Facilitate the First five Years in a School

➤ **Froebel Kinder Garten**

➤ **Montessori Nursery**

➤ **Children Aanganwadi**

- **Germination- Incubation- Development- Connection, that is, Constructivist & Connectionist Approaches need to be employed very carefully!**
- **How to realize the ECCE?**

10. Piaget's Stages of Cognitive Development

- **Sensorimotor stage: birth to 2 years**
- **Preoperational stage: ages 2 to 7**
- **Concrete operational stage: ages 7 to 11**
- **Formal operational stage: ages 12 and up**

11. Rajkumari Mishra

Development of the Creative Faculties of the Pupil Teachers Employing Participatory Approach:

Some Research Scholars at CASE, MSU, VADODARA employed Participatory Approach for orienting the B.Ed. Students on how to develop the creative composition faculties of the children! Here are some poems composed by the School Students employing Participatory Approach which they were initiated into by the B.Ed. Pupil Teacher Trained by one of our Doctoral Scholar, namely, Rajkumari Mishra(CASE, MSU, Vadodara, Gujarat):

ॐ

ये हरियाली कैसी लगती है!

*ये हरियाली कैसी लगती है
हरी हरी चादर ओढ़े सजती है
कोयल की कुहक भरी बोली
हमको अमृत सी लगती है!*

*उन्मुक्त गगन नीला नीला
टिम टिम सितारों से झिलमिल
चंद्र कांति में खोकर
अँधियारा भी उजला उजला!*

*नदियों के कल कल बहने से
झरनों के झर झर झरने से*

बारिश की टप टप बूंदों से
इस मन में उमंगें जगती हैं

हरी भरी हर डाली पर
गौरैया कोयल की बोली
बसंत पंचमी के उत्सव पर
माँ सरस्वती अति उत्तम लगती हैं!

रंग बिरंगे फूलों की खुशबू से
और मलय बयार के झोंखों से
पल्लवों के अविरल हिलने से
कुदरत अनुपम लगती है!

रंग बिरंगे फूलों भीतर बाहर
तितली कैसे कैसे उड़ती है
मधु माखी फूलों के भीतर
कितनी साधक लगती है!

साइन बीबी पठान!

12. School Education Chaos

a. Status of Our Nurseries

Rarely the play centers have the facilities & attributes of the Play Centers. Nurseries rarely have congenial conditions for incubation! Schools are lacking Life Skills! Jean Paige's Stages of Cognitive Development are lost! Still we have not been in a position to resolve the issue of three language formula!

b. Status of Our School Subjects:

What do we learn in history? What do we learn in Science? What do we learn in Mathematics? What do we learn in Psychology? What do we learn in Languages? What do we learn in Sociology? What do we learn in Philosophy? Where are our life Skills?

c. Status of Co-Curricular Activities

Where are the co-curricular activities? Where are our Games & Sports? Where is our Athletics? Where are our- seeds-germination-incubation-creation- construction-connection & innovations? Where are our Pioneers? Where are the children of the labourers?

13. NEP (2020) for School Education

- NCPFECCE: National Curricular and Pedagogical Framework for ECCE up to the age of 8 has been envisaged to be developed by the NCERT. It is envisaged that prior to the age of 5 every child will move to a Preparatory Class or BALVATIKA (that is prior to Std.-1).The New Education Policy has proposed some Programs for training of the Anganwadi Teachers for the ECCE.**

NCFSE for School Education

National Curriculum Framework for School Education will be undertaken by the NCERT. National Text Books with Local Content and Flavour. Transforming Assessment for Student Development. Support for gifted students. Support for Special Education & Inclusive Education.

Recruitment & Deployment of School Teachers

Four Year Integrated B.Ed. Program. The harmful practice of Teacher Transfer will be halted. TETs will be extended to cover teachers across all stages (Foundational, Preparatory, Middle & Secondary). Service Environment and Culture. Continuous Professional Development of Teachers.

Career Management & Progression

Teachers doing outstanding work will be recognized and promoted. National Professional Standards for Teachers will be developed by 2022 AD.

14. Approaches to Teacher Education

Teacher Education by 2030 AD will be moved into multidisciplinary colleges and universities. The multidisciplinary HEIs and Universities will aim to house outstanding Education Departments that offer B.Ed., M.Ed. And Ph.D. in Education. Provision for 4 year integrated B.Ed. Provision for 2 year integrated Program intended only for those who have already obtained Bachelor's degree in other specialized subjects.

One year B.Ed. Program will be offered only for those who have completed the equivalent of 4 Year Multidisciplinary Bachelors' degree or who have obtained a Master's degree in a speciality and

wish to become a subject teacher in that speciality. The multidisciplinary Higher Education institutions offering 4 Year integrated Program and having accredited for ODL may also offer high-quality B.Ed. Program in blended or ODL mode.

Formulation of the NCFTE

By 2021 a new NCFTE will be formulated by by the NCTE in consultation with the NCERT.

15. Teacher Education Ethos

We were never interested in B.Ed. It is B.Ed. which interested us . We opted for wandering wild, But, Education captured us;

Far from structure of Phenol, Far from synthesis of Cholesterol, Far from super- het Receivers, Far from gold medal achievers;

Far from differential & integral Calculus, Far from GeoGebra & Quadratic Equation, Far from Equity & Logical Operators, Far from Mega Projects & Micro Processors;

It is Education which eternally accomplished, The DNA structure, core & ethos of Life, More than Knowledge & Epistemology, Transcended us of Mind, Space & Time;

GURUS the best Form of GUNA, Still NIRGUNA, Always make our Lives Sublime, No Storms can Shake a Butterfly, on Flower Petals with Nectar Divine!

Education facilitates our transition, From atom to nucleus, from dot to globe, One with the universe, the latest version, From self to Self, the blissful immersion!

16. Higher Education

Higher Education in India is being governed more by neo-liberalism, neo-capitalism and neo-colonialism. The increase in the demand of higher education be it liberal or technical is unmanageably large, rapid and pressing. Public and private dichotomy continues to be there in the higher education. The governance & administration of Higher Education ought to be based on scientific, democratic, humanistic principals. CBCS is being largely implemented in higher education. There has to be a significant shift from F2F to e-mode to distance mode. Apex agencies are still lost in the dual mode of granting & monitoring. Higher Education continues to be governed by bureaucratic, conservative, hierarchical and obsolete model.

Learning from the profiles of Nalanda & Takshshila the culture of Higher Education needs to be revived and even trans-created. We will have to do away with ritual convocations which are very often without invocations. The top academic leaders & administrators of Higher Education have to be creative & critical inter-disciplinary and multi-disciplinary experts having rich profiles and balanced personalities. The Professors ought to profess at the levels that every bit of their text and act is its own testimony. The support staff ought to support & guard Higher Education, always and all ways, every moment, everywhere, under all conditions. Higher Education rather than stretching hands for grants will generate corpus of funds through its own production and patents. Art without perspective, Commerce without substance, Science without ethics and Administration without sensibilities and sensitivities and Leaders without creative & critical thinking, decision making and problem solving abilities are worthless.

1. Teaching Staff Scenario in Higher Education

There is a void and vacuum in the State Universities. Persons have been serving as temporary lecturers, Temporary Teaching Assistants year after year in the State Universities. There is abrupt cut in the Teaching & Research positions. Even when the positions are sanctioned by the Centre there is no State concurrence. Bricks, stones, cement, computers, white boards and smart boards do support education. Buildings do facilitate education. But, Machines cannot replace humans. Money cannot replace men.

2. Higher Education: Public & Private

The public and private dichotomy is a continuous phenomenon in higher education. A large number of existing institutions have inadequate infrastructure and education competence to bear Higher Education. Neither we have been in a position to sustain liberal arts nor develop science and technology. The product which gets the license from the institutes of Higher Education is rarely their product. This is largely the product of off-campus sector which operates in many varied ways. Higher Education day by day is being governed by the private sector, which mostly has more of commercial motive than educational. Higher Education has been made commodity and commerce. How to realize excellence, equity and equality at the same time?

3. Institutional Restructuring and Consolidation

NEP (2020: 10.1) reads that the main thrust of this policy regarding higher education is to end the fragmentation of higher education by transforming institutions into large multidisciplinary universities, colleges and HEI clusters/ Knowledge Hubs, each of which will aim to have 3000 Or more students.

This would help build vibrant communities of scholars and peers, breakdown harmful silos, enable students to become well rounded across disciplines including artistic, creative and analytic subjects, as well as, sports, develop active research communities across disciplines including cross disciplinary research, and increase resource, efficiency, both, material and human across higher education.

Added focus on Multidisciplinary Higher Education Institutions in NEP

NEP (2020) envisages to have Multidisciplinary Higher Education Institutions progressively. Though our ancient Universities, namely, NALANDA and TAKSHILA were multidisciplinary, cross-disciplinary and inter-disciplinary, but, is there a single Higher Education Institution or University in India or even globe over at present which is true representative of the universe? The answer evidently is “NO”. Even if we have these as envisaged by 2040 A.D., then, how much flexible would be the CBCS? Why do we need twenty years to realize interdisciplinary Universities and Autonomous Higher Education Institutions? For skill, scale and speed we need creative and critical, governors and leaders, thinkers and workers (two in one).

4. Higher Education Scenario

The Gross Enrolment Ratio (GER) in higher education of Indian has registered an increase from 24.5% in 2015-16 to 25.2% in 2016-17 according to latest All India Higher Education Survey (AIHES) released by HRD Ministry. The survey findings were based on responses of 795 universities, 34,193 colleges and 7,496 standalone institutions. There are total of 864 universities, 40,026 colleges and 11,669 standalone institutions in the country.

Key Highlights of AIHES

- **Gross Enrolment Ratio (GER):** GER is statistical measure for determining number of students enrolled in undergraduate, postgraduate and research-level studies within country and expressed as a percentage of population. India is aiming to attain GER of 30% by 2020, but it is still far behind countries like China with GER of 43.39% and US with 85.8%.
- The proportion of students pursuing higher education in India hasn't increased dramatically from 2015-16 to 2016-17. It was in range of 23% to 25% since 2013-14. Tamil Nadu has highest GER in India at 46.9%.
- Six states have registered GER higher than national average (25.2%), with their share of students entering higher education is growing twice as fast as overall rate. These states are Tamil Nadu (46.9%), Himachal Pradesh (36.7%), Kerala (34.2%), Andhra Pradesh (32.4%), Haryana (29%) and Punjab (28.6%).
- However, eight states UP (24.9%), Madhya Pradesh (20%), Odisha (21%), Bihar (14.4%), Gujarat (20.2%), Rajasthan (20.5%), Mizoram (24.5%) and West Bengal (18.5%) had GER ratio far less than the national average. Bihar has lowest GER with just 14.4% of its eligible population (in age group of 18 to 23 years) pursuing higher education.

Gender Parity Index

- India registered its best performance on the GPI in last seven years — 0.94 in 2016-17 from 0.86 in 2010-11. GPI is calculated as quotient of number of females by number of males enrolled.

GPI equal to 1 indicates 1, value less than 1 indicated disparity in favour of males. In Seven states — Goa, Himachal Pradesh, Meghalaya, J&K, Nagaland, Sikkim and Kerala — women in higher education have outnumbered men.

College Density

- States in south India have higher college density. It is defined as number of colleges per lakh eligible population. The college density in top three states/UTs is Puducherry (49), Telangana (59) and Karnataka (53). Bihar (7 colleges/1lakh population), Jharkhand (8) and West Bengal (11) on the other hand, are at the bottom in terms college density.

Number of Foreign Students

- There hasn't been much improvement in the internationalization of education in the country. There is marginal improvement in number of foreign students —47,575 in 2016-17 from 45,424 in 2015-16— with 31,779 men and 15,796 women. The highest share comes from the neighbours Nepal (23.6%), Afghanistan (9.3%) and Bhutan (4.8%).

5. Teaching Staff in HEIs

- *There is a void and vacuum in the State Universities.*
- *Persons have been serving as temporary lecturers, Temporary Teaching Assistants year after year in the State Universities.*
- *There is abrupt cut in the Teaching & Research positions. Even when the positions are sanctioned by the Centre there is no State concurrence. Bricks, stones, cement, computers, white boards and smart boards do support education. Buildings do facilitate*

education. But, Machines cannot replace humans. Money cannot replace men.

Staff Scenario of TEIs of KUK

- There were more than 20 Teacher Educators in the Department of Education KUK during 1990, whereas, now in 2021, there are only 4 Teacher Educators in the Department!
- There were 17 Teacher Educators in the University College of Education KUK during 1990, now there is only one permanent Teacher Educator!
- Emerging question is- Why the Permanent Teaching Staff positions have not been filled?

6. Relative Focus on Hard Skills and Soft Skills

- There is less creation, but more communication. Focus is more on marketing than production. The Higher Education youth is lost in customary designs. There is added focus on soft skills. Only Hard Skills will not do. Only Soft Skills will not do. Both hard and soft skills are crucial.

7. Higher Education: Maintenance & Expansion

- There is a problem of maintenance and expansion of higher education. A large number of institutes of higher education have constituted a variety of committees, such as, Admission Committee, Work Load Committee, Fee Committee, Selection Committee, Salary Committee. Despite all efforts by the institutes of higher education, there are numerous problems, such as, follows:
 - A large number of State Universities are under staffed.

- The teaching staff positions are sanctioned by the Central Government, but very often there is no State concurrence.
- There is abrupt cut on the teaching and non-teaching staff positions by the States.
- Staff salary on Paper is different and in actuality is different, more so, in case of a sizeable institutions run by a large number of private trusts.
- There is degeneration of a sizeable number of higher education institutions in terms of various parameters- input, process, throughput, and output.
- There are demand and supply in-equations.
- There are problems of all levels of maintenance-preventive, corrective, adaptive and perfective.
- We have significantly lesser number of higher education institutions than what we need. Establish six more IIT. Open 'n' more IIM. Establish 1000 more universities. All excellent recommendations by the Committees and Commissions.
- But, how to? Professors cannot be produced over overnight. Merely pumping money, throwing grants and laying foundation stones do not ensure suitable infrastructure.
- Expansion of higher Education is beyond the limited data bases and faculties of Committees and Commissions.
- It requires sources & resources, vision & mission, determination & action.

8. Higher Education: Public & Private

- **The public and private dichotomy is a continuous phenomenon in higher education.**
- **A large number of existing institutions have inadequate infrastructure and education competence to bear Higher Education.**
- **Neither we have been in a position to sustain liberal arts nor develop science and technology.**
- **The product which gets the license from the institutes of Higher Education is rarely their product. This is largely the product of off-campus sector which operates in many varied ways.**
- **Higher Education day by day is being governed by the private sector, which mostly has more of commercial motive than educational.**
- **Higher Education has been made commodity and commerce. How to realize excellence, equity and equality at the same time?**

9. Higher Education: General & Honours

- **Honors' at Bachelor's level is an anti-thesis to multidisciplinary.**
- **Graduates without sound knowledge base at a tender age try to be micro-specialists having little understanding of the whole.**
- **As a result, they are neither fit for self nor field.**
- **It is high time that the nation does away with Honors at undergraduate level. Even at Post-Graduate level, the specialization should emerge from the field.**

- **The Generalist & Micro-Specialist dichotomy ought to be resolved.**

10. Institutional Restructuring and Consolidation

- **NEP (2020: 10.1) reads that the main thrust of this policy regarding higher education is to end the fragmentation of higher education by transforming institutions into large multidisciplinary universities, colleges and HEI clusters/ Knowledge Hubs, each of which will aim to have 3000 Or more students.**
- **This would help build vibrant communities of scholars and peers, breakdown harmful silos, enable students to become well rounded across disciplines including artistic, creative and analytic subjects, as well as, sports, develop active research communities across disciplines including cross disciplinary research, and increase resource, efficiency, both, material and human across higher education.**

Added focus on Multidisciplinary Universities/HEIs in NEP (2020)

- **NEP (2020) envisages to have Multidisciplinary Higher Education Institutions progressively. Though our ancient Universities, namely, NALANDA and TAKSHILA were multidisciplinary, cross-disciplinary and inter-disciplinary, but, is there a single Higher Education Institution or University in India or even globe over at present which is true representative of the universe?**
- **The answer evidently is “NO”. Even if we have these as envisaged by 2040 A.D., then, how much flexible would be the**

CBCS? How much will be the sharing of credits across disciplines?

- **How much infrastructure will be required to convert this idealism into realism?**
- **Why do we need twenty years to realize interdisciplinary Universities and Autonomous Higher Education Institutions?**
- **For skill, scale and speed we need creative and critical, governors and leaders, thinkers and workers (two in one).**

11. (NEP-2020) & Regulatory System of Higher Education

- **The regulatory system is in need of a complete overhaul in order to re-energize the higher education sector and enable it to thrive.**
- **The distinct functions of regulation, accreditation, funding, academic standard setting will be performed by distinct, independent and empowered bodies.**
- **This is considered essential to create checks and balances in the system, minimize conflicts of interest, and eliminate concentrations of power.**
- **To ensure that the four institutional structures carrying out these four essential functions work independently yet at the same time work in synergy towards common goals.**

HECI Umbrella with four Verticals

Four structures will be set up as four independent verticals within one umbrella institution, the Higher Education Commission of India (HECI) as follows:

- **National Higher Education Regulatory Council (NHERC)**
- **National Accreditation Council (NAC)**
- **Higher Education Grants Commission (HEGC)**
- **General Education Council (GEC)**
- **A National Higher Education Qualification Framework (NHEQF) will be formulated by the GEC and it will be in sync with the National Skills Qualifications Framework (NHEQF).**

Catalyzing Quality Academic Research in All Fields through a new National Research Foundation

- **Institutions that currently fund research at some level, such as, Department of Science and Technology (DST), Department of Atomic Energy (DAE), Department of Biotechnology (DBT), Indian Council of Agriculture Research (ICAR), Indian Council of Medical Research (ICMR), Indian Council of Historical Research (ICHR), and University Grants Commission (UGC), as well as, various private and philanthropic organizations, will continue to independently fund research according to their priorities and needs.**
- **However, NRF will carefully coordinate with other funding agencies and will work with science, engineering, and other academies to ensure synergy of purpose and avoid duplication of efforts. The NRF will be governed, independently of the government, by a rotating Board of Governors consisting of the very best researchers and innovators across fields.**

Professional Standard Setting Bodies

- **The professional councils, such as, the ICAR, VCI, NCTE, COA, NCVET will act as Professional Standard setting bodies (PSSBs).PSSBs will continue to draw the curricula, lay down academic standards and coordinate between teaching, research and extension of their domain/discipline as members of the GEC.**
- **Despite the critical importance of research, the research and innovation investment in India is at the current time, only 0.69% of GDP as compared to 2.8% in the United States of America, 4.3% in Israel and 4.2% in South Korea. The NEP (2020) envisions the establishment of a National Research Foundation (NRF).**

Primary Activities of the NRF

- **Fund competitive , peer reviewed grant proposals of all types and across all disciplines;**
- **Seed, grow and facilitate research in academic institutions, particularly at universities and colleges where research is currently in a nascent stage, through mentoring of such institutions.**
- **Act as a liaison between researchers and relevant branches of government as well as industry, so that research scholars are made aware of the most urgent national research issues, and so that the policy makers are constantly made aware of the latest research breakthroughs; so as to allow breakthroughs to be optimally brought into policy and/or implementation;**
- **Recognize outstanding research and progress.**

12. Higher Education Ethos

- **Higher Education can develop and sustain its status as Higher, when there is an environ of germination, incubation, innovation, creation, construction and connection.**
- **We face problems right from infancy through old age. We identify, formulate and address the problems through research rigor.**
- **The NEP (2020) reads now, but, by virtue of our conditions we are multidisciplinary, interdisciplinary and cross disciplinary.**
- **We believe in harmonious coexistence. Harmonious coexistence demands caring and sharing. Caring and sharing demands research.**
- **Most of the pioneers, that is, topmost researchers were not materially rich. They did not stretch their arms and palms for funds. Despite the poor conditions of life, they have been labeled as pioneers because of their research and innovation.**
- **The terms, such as, regulation, recognition, funding, assessment and accreditation are being used very frequently.**
- **Expansion in any area demands, decentralization that too at the level of devolution. We expect that our NEP (2020) observes it.**
- **India is a land of Seers, Researchers and Sages. Honourable Prof. K.P. Pandey has always been of the view that we have wonderful researchers, some LAUKIK, some ALAUKIK, whereas, others both LAUKIK & ALAUKIK.**

- **We have Pioneers and Pioneers, Nobel Laureates and Nobel Laureates.**
- **They work silently, peacefully, and fully. They are fully lost in Innovation & Research. It is a fact that quality research is realized when the scholars are fully lost, when they have full immersion.**

13. Effective Governance and Leadership for Higher Education Institutions

- **All HEIs in India will aim to become independent self governing institutions pursuing innovation and excellence.**
- **Measures will be taken at all HEIs to ensure leadership of the highest quality and promote an institutional culture of excellence. Upon receiving the appropriate graded accreditations that deem the institution ready for such a move, a Board of Governors (BoG) shall be established consisting of a group of highly qualified, competent and dedicated individuals having proven capabilities and a strong sense of commitment to the institution.**
- **It is envisaged that all HEIs will be incentivized , supported, and mentored during this process, and shall aim to become autonomous and have such an empowered BOGs by 2035. The BOGs shall be responsible and accountable to the stake holders through transparent self- disclosures of all relevant records. It will be responsible for meeting all regulatory guidelines**

mandated by HECI through the National Higher Education Regulatory Council (NHERC).

14. Inbreeding in Higher Education

- There is lot of inbreeding, that is, regionalism and provincialism in higher education.
- Some of the States insist on State domicile for admissions into the programs. In addition to this the services rendered by the teaching staff in the other States do not count towards the service benefits. As a result the higher education is administered by a mono- culture, largely, by mediocre.

15. Reservation Not Remediation

- We have sizeable reservation (>50%) in higher education. In this age of equity, equality and democracy, it is highly desirable.
- But, along with this, what is absent is, thorough remediation.

Inadequate Autonomy Flexibility and Transparency

- Higher Education institutions have only a little autonomy, flexibility and transparency, which is too meek to nurture higher education.
- Higher Education is being governed by bureaucratic, conservative, hierarchical, traditional model rather than by human relations model.

16. Higher Education: Input, Process and Output

- We have little control on the Inputs and Processes of higher education. So, the relevance and quality of the product of higher education cannot be forecasted and achieved deterministically.

- Process norms are grossly neglected. There is more focus on exposition and instruction, rather than creation and construction.
- Higher Education has become more theoretical than practical.
- There are wide gaps between vision and mission. There are wide gaps amongst educational objectives, curricula, modes of transaction, and evaluation.
- There is progressive dilution from objectives to evaluation.

17. Problems of Sharing of Resources, Inter-disciplines & Trans-Disciplines

- There is a little networking amongst the agencies and institutions of higher education.
- Exchange and sharing of sources & resources is very rare.
- A few consortiums here and there are more for demonstrations, than fully functional.
- There are rare repositories of learning resources.
- There are boundaries and seasoned gate keepers amongst disciplines.
- People from various disciplines rarely sit around the table.

18. Problem of Sharing of Sources & Resources

- There is a need to share credits intra-university and inter-university.
- Also, there should be provision for Credit Transfer, Student Mobility and Mutual Recognition.

- Most of the Higher Education Institutions are working more or less in isolation.
- There is a need of sharing resources and courses within institutions, between conventional and conventional universities, Open and open universities, and conventional and open universities.

19. Centralized Higher Education

- Most of the Universities in India are affiliating universities.
- The affiliated colleges go by the curricula, modes of transaction and evaluation designed by the Universities. They have little autonomy, because a large majority of them are not properly equipped for offering Post-Graduate Programs.
- Being economically affluent and politically powerful does not ensure the higher education credibility of a private trust.
- The Post-Graduate product of a large number of these trusts has little insight into the national problems and developmental challenges.
- Research has become a ritual. As a whole the quality of higher education suffers. Should the PG programs be delimited to Universities and autonomous institutions, only? Or else could each and every institute of higher education be resourceful, powerful, and autonomous?
- Education, as on date, is on the concurrent list.
- But, most of the States have brutally abused Education. There are external shows to establish the face validity. But, the

content & construct validity rarely exists, whatsoever was there has already faded or fading fast.

- **It is high time that Education with all grace be on the central list.**

20. In-Innovative Higher Education

- **Despite the repeated focus on semester based credit system, still annual and marking system is prevalent in most of the institutions of higher education.**
- **Choice Based Credit System is offered by the rare institutions. Continuous internal evaluation is the feature of rare institutions. Still there is a primitive culture of flying Squads in Higher Education Examination.**
- **Even in this age of Technology in Education, Electronic Distribution of Examination Papers is done by only a few institutions.**
- **Very often the Innovative Programs proposed by the efforts of some Institutions are declared to be not under the purview of the apex agencies in the respective areas, because, the so called expert committees fail to appreciate these programs.**
- **The apex agencies need to be additionally careful while constituting the Expert Committees for the Innovative Programs.**

21. Research at Higher Education: Mapping & Management

- **It is of utmost importance that the young minds be attracted to the doctoral research, as it holds a promise for the development of the nation.**

- There is evident upsurge in enrolment of Ph.D. Programs. Does it really hold a promise for the development?
- *The reason for unproductive research in Education in India is the easy going tendency of the Researchers.*
- *Our only trend is to get the Ph.D. or book published at the earliest . Above all, the mindset of the researchers needs to be oriented towards research rigor.*
- The essence of the degrees, such as, Doctor of Philosophy and Doctor of Letters ought to be rigorously observed. VIDYA VACHASPATI & VIDYA VARIDHI should be identified through their calibers. Their situational presence should justify their beings.

22. Invalid Evaluation in Higher Education

- Evaluation in higher education is largely invalid right from input through process to output to placement.
- Our admission criteria in most of the faculties are faulty, because we do not have the research base with respect to the predictors of performance in various programs.
- Still, the classical Norm Reference Testing continues in most of the institutes of higher education, promoting competition. Rarely we go by Criterion Referenced Testing and Item Response Theory.
- In the interview boards, rather than trying to know what the candidates know, we try to make them feel stupid by making them conscious of what they do not know.

- A large number of interview boards fail to discriminate finely between candidates. The problem becomes, still severe, when we need to discriminate between 98th and 99th percentiles.
- Internal evaluation, reevaluation, double valuation, centralized evaluation, all have question marks. A person with B+ passes the life situations, whereas, A+ fails.
- What do the degrees of a degree represent, if not the helplessness of the Higher Education System? Rather than grading our product on an n point scale could we have pass and not-pass in Higher Education realizing mastery learning?

23. Low Return on Investment in Higher Education

- Only 5-6% of the persons who are conferred degrees are graduates in the real sense.
- Ritual convocations without real invocation are meaningless.
- How to observe the Higher Education wear the scarf with distinction, decency, decorum & discipline and glittering medals with resonating pride?
- For realizing that, we need to revive the culture of higher education. Rather than formally constituted knowledge commissions, each and every entity of higher education should realize and demonstrate its identity as a Knowledge & Action Commission.

24. Self Killing Complacency of Micro- Specialists

- Self-killing complacency of micro-specialists of Higher Education is a matter of great concern.

- How much each one of we Professors professes even our own discipline?
- Higher Education has made us more fragmented than holistic.

25. Placement, Promotion and Administration in Higher Education

- Where are the alumnus of Higher Education? Most of the institutions of Higher Education do not have record of alumnus.
- What would be more shameful than the institutions of higher education refusing to recognize their own products?
- Academic administration of the institution must by thinking, speech and action portray their commitment to high ethical standards.
- A sizeable number of educational institutions do not observe healthy constellation and ethical climate.
- Many academic administrators are not in a position to observe the laid down acts, rules, resolutions and ordinances.
- The true test of administration is when the rules and acts are silent. At times the conditions demand administrators to be over and above the system at the same time not against the system.

26. State of Arts, Science, Commerce and Administration in Higher Education

- Art without perspective, commerce without substance, science without ethics, and administration without sensibilities & sensitivities are meaningless.

- **Who should be the top academic administrators of higher education? These have to be essentially inter-disciplinary experts having rich profiles & balanced personalities.**
- **An analysis of the top administration of higher education, nationwide, reveals, that civil servants, industrialists, pure academic professionals, and Statesmen all are misfits in the administration of higher education. There are rare personalities with integrated profiles.**
- **The Universities and Institutes of Higher Education have to bear with the best possible available. It is disgracing higher education to plant in-compatible administrators.**

27. Stereotyping in Higher Education

- **A large number of refresher courses which are meant for staff development and capacity building are not serving the envisaged purpose.**
- **Rather than designing means for staff development we have more of staff rating scales. These tools are more for describing the field than constructing.**
- **Same age old practical are repeated in the science laboratories. Same age old theories are practiced despite the changing conditions.**
- **Arbitrary criteria are superimposed on the reality promoting fundamentalism.**
- **Neither we have been in a position to sustain liberal sciences, nor, scientific realism.**

28. Micro-Specialization, Narrow Breadth and Shallow Depth

- **Though the various disciplines are doing a lot of service to the society, yet there are many emerging issues and problems.**
- **How to stop deforestation? Can Botany contribute to the reduction of pollution? How to mass educate the development of the seasonal plants? How to save endangered species of plants?**
- **Can Zoology contribute to the regulation of population? How to correct the imbalances in male-female ratio? How to control diffusible diseases? How to save endangered species, for example, lion, tiger, black- buck? How to realize mass production of compatible medicine?**
- **How can Chemistry contribute to the control of pollution? How to produce degradable polymers?**
- **How can Physics realize the conservation of energy using conventional sources?**
- **There is a lot left to be discovered/ constructed in the areas of laser technology enhancement, transportation and space research.**
- **Rather than abstract and empty, mathematics needs to be more real and meaningful.**
- **Languages should be register specific and functional.**
- **Commerce should be more with service motive.**

- **Technology is sweeping the globe. But, there is more of media crowd than culture. Educational Instructional Software are rarely user compatible right from KG to University and continuing education levels.**
- **Though information in Science and Technology is multiplying at exponential rates but still there is a wide gap between the expected rate of evolution of scientific knowledge and what it actually obtains.**
- **There are easily perceptible Science and Technology divides in the society.**
- **Philosophy and Psychology which are the strongest foundations for society are losing their identities?**
- **How top level administrators very often are found to have low level affect attributes?**
- **Our degrees of a Degree are representative of the extent of course completion than developed competencies.**

29. Career Advancement Scheme in Higher Education

- **CAS in higher education is highly desirable in this age of humanization and democratization, but, it has significantly lost its purpose.**
- **The Career Advancement rather than a function of merit is the discretion of whims and fancies of administration and it is losing credibility due to malpractices prevailing in the institutes of higher education, for example, referees not sending the reports in time, faculty having sound profile being not promoted.**

30. Professional Ethics in Higher Education

- **We are largely proud of the Indians for their roles & professional ethics. Despite all adverse conditions they perform their duties with all dedication.**
- **For parenting Indian parents are models for the globe, for software industry Indian Engineers, for patients Indian Doctors, for learners Indian Teachers. We have harmonious culture and healthy constellation amongst all entities.**
- **However, some deviants, here & there spoil the professional excellence, peace & harmony. How? Needs no illustrations. Everyone needs to rear the baby. We should not leave it to others.**
- **The very presence of doctors relieves the patients of disease and discomfort. All doctors need to observe punctuality & presence.**
- **Software engineers should produce vaccines to remedy than viruses to replicate.**
- **We teachers need to renew ourselves to remain alive and innovative rather than becoming stale to delete even the already running programs & courses. Rather than neo-liberalism, neo-capitalism, neo-colonialism, let humanism flow through all professions governing higher education in India.**

31. Causes of Chaos in Education

- **Our Policies are reasonably good. But, the faults come up at implementation level. Our Educational Objectives are Excellent. But, first dilution takes place at the Transaction level, next at the Evaluation Level.**

- **We have a tendency to disregard the indigenous, even that of High Quality, and have developed a Craze for the Foreign. It is evident through our APIs.**
- **We have gone recursive after enforcing a Common University Act, State or Central. The Question is why should we have a Common University Act. The Root cause is we are neither powerful enough to appreciate autonomy, nor diversity. Let us learn to respect the uncommon & unique in us.**
- **We should not have a tendency to disrespect the Educational Administrators who very often operate in a multi-parametric setting. Many of we Educational Administrators serve as Honourary Honourable Servants.**
- **We need to develop a very strong Service Cadre in India of the Profile of Shri Shankran, Andhra Pradesh, 1957 batch and Shri S.C. Behar, Madhya Pradesh, 1961 batch.**
- **The UPSC should have due place for Education in Service Cadre.**
- **Establishment of Universities demands thorough preparation. We should assure & ensure that the Universities are properly established. India cannot afford to erect Universities arbitrarily.**
- **Some of the Universities have become abode of some criminal tendencies. The Universities should employ Strong Security with High Level Intelligence to control and counter all such devastating forces.**
- **The products of a large number of Scientists are not utilised, because of lack of facilities for Clinical Trials & Patenting.**

- **Indian Scientists should be provided due facilities in India.**

32. Suggestions to Strengthen Higher Education Policy Perspective

- **The Vice Chancellors, Executive Committee Members and Senate Members ought to be identified very rigorously. They should be the persons of very high caliber.**
- **The acts, statutes and ordinances of the higher education should be fully & strictly observed.**
- **It is high time that we do away with the crowds of regulatory bodies. Our higher education has degenerated with the induction of such regulatory bodies. In fact, these have become the hubs of malpractices. If such bodies cannot live by the principles, religiously, then how can these observe the act, statutes, NIYAMS and ADHINIYAMS.**
- **Higher Education, by virtue of its ethos, has to be autonomous. The higher education institutions should be stand alone. It is high time that we do away with the affiliations. The learning outcomes ought to be worked at for every type and level of higher education and those should be the referents for observing the quality of higher education.**
- **There should be uniform curricula of Science, Mathematics, Engineering ,Technology, and Medicine throughout India, to control any further dilution.**
- **The Liberal Arts should be fully strengthened. The power of India can be revived through the Cultural Heritage & Religious Heritage of India. The Liberal Arts ought to strengthened.**

- **Teacher Education Policy, Health Education Policy, ICT Education Policy should have the same status as that of Economic Policy and Fiscal Policy.**
- **Minimum 5-6% GDP should be spent on Education.**
- **Minimum 2-3 % of the GDP should be spent on Research.**
- **The Ph.D. Course Work made mandatory has mechanized Research in all the disciplines, all over India. The nation should attempt, aggressively, to de-mechanize research.**
- **The Academic Performance Indicators need to have Scientific Bases.**
- **Grants & Endowments are respectable in the Realm of Education, but, to sustain the status as “*Higher Education*”, the Higher Education should construct ample Patents to be self-supportive.**
- **Higher Education should realize autonomy in its True Sense and Spirit. It should no more be governed by Bureaucratic, Conservative, Hierarchical systematically Self-Killing Model.**
- **Who is the most Supreme Governor of India? Is it Education? Is it Society? Is it State? Is it Legislative? Is it Executive? Is it Judiciary? The immediate history is a witness to Judicial over-activism. Why? No in-depth evidence is required to infer that all the rest have more or less lost their identities. It is bitter to relish the hard reality. The fact is that we all have over loaded the Judiciary to be over-active. Due to over-load on any system, either it goes mad or burns out. *It is Education and Education***

only, and more so, the Higher Education, which can bewitch the minds and control the crimes.

- *The entire Higher Education is sick right from Higher Education Policy to Practice, from Gross Enrolment Ratio to the % of the Pass-outs Employed. Over and above, the norms at all phases of the system parameters are highly wanting. The input norms, process norms, output norms, pick-place & promotion norms have to be worked out very scientifically.*
- *There is no Parallel amongst the Higher Education Institutions across India. Why? There is no comparability amongst the products of the various institutions, though towards the same PG Degrees or PG Diploma. The services rendered in one State largely do not count towards the service benefits in the other States. The superannuation age varies from State to State, State University to Central University.*
- *Is there no Press and Publisher in Our Village, Town, City, District, State, Neighbor State, Nation, Continent , that we like to fly to Oxford, Cambridge, VDM, to get our publications done? It is good that through this plight we are trying to realize the Universe- ideas ought to be distributed and disseminated globally. But, the problem lies else where- We value more where it is published rather than what is published. We are seeking high- fidelity media. Cannot we develop these in India? There is a request & caution to all of us to revise our thinking. Let us learn to Love My India..*
- *Come what may, we should safe guard our Higher Education. The Higher Education should revive its identity. Modernization*

demands revival of the culture of ancient Indian Universities, such as, NALANDA, TAKSHSHILA, VIKRAMSHILA. There should be Higher Education DVARPANDITS!

43. Realizing the Identity of Education in India

- **The moment we utter World Class Universities, we recall Takshila, & Nalanda, the Ancient Universities of India which have no parallel still!**
- **Let us have Quality Control in our Academic Institutions, so as to have Knowledgeable, Humanistic, Competent Graduates, not merely wearing Scarf & Holding Degree, but resonating with the universe with complete invocation & immersion.**
- **World class universities are where ideas germinate & spring, feelings flow, motor creates, the soul spirit reins, and the self resonates within and with the universe, where the Human Beings Transcend from Human Development Index (HDI) to Universal Development Index (UDI) and Human Beings tend to be Universal Beings, where we have unconditional love for the nature with super inner control. Let us cleanse ourselves with all compatible rinsing agents & submit fully, with complete immersion for understanding the manifestations of the universe.**

Concluding Remarks

- **India is a proud Nation, because, come what may we do not compromise with our principles.**
- **We have a very rich VIDYA HERITAGE.**

- **It is a blissful experience to dive deep into the Indian Scriptures. The deeper we dive the higher we are!**
- **We feel proud of our education which is education in the true sense. Truthfulness, Compassion and Forbearance are the essential features of Indian Education which are always higher.**
- **India is full of pioneers. Let us realize our collective wisdom!**
- **The NEP (2020), our New Education Policy, seems to be highly idealistic, when we perceive its face validity.**
- **But, its content and ethos deeply touch our cores and souls. We need to dive deep into our scriptures to cultivate & nurture this Universe.**
- **There is a need to remove KHAR- PATVAR & useless contents from our texts right from school education (5+3+3+4) through Higher and Continuing Education.**
- **The universities and Higher Education institutions have to be true representatives of the universe. Universe Development Index (UDI) ought to be the concern of every university.**
- **Unconditional love for all is the means of renunciation, to integrate with the whole, to merge with the whole, to be one with the whole. Our Higher Education should transcend us of the time, space and mind.**
- **We feel proud of Indian Education where Legacies are Nurtured & Dreams are Sustained, Developments are Continuous & Journeys are eternal.**

- **Our legacies are unconditional love & dreams are peaceful coexistence having knowledge of Thy creation, interrelation & interdependence, our developments are holistic & our Journeys are 360 degrees round the clock, endless infinite.**
- **Our Education prepares saints and seers, artists and scientists, technocrats and engineers, researchers and pioneers.**
- **Our NEP(2020) aims to develop we learners as holistic beings, as universal beings, where, entry into the Universities or HEIs will be on satisfactory dialogues with the DVARPADITS' profiles of NALANDA & TAKSHILA and exit by the ACHARYAS, all in one, such as, STEAM & SCOPE, that is Science Technology, Engineering, Arts and Mathematics, as well as, Spiritual, Clinical, Organizational, Positive, Educational Psychology all in one, PNHENTOP, that is, Physiotherapist, Neurologist, Heart-Specialist, Ear-Nose-Throat, Orthopedic & Physiotherapist all in one.**
- **As per the NEP (2020) our Higher Education will deterministically prove its identity at the functional level.**
- **It will justify its name only when it revives our legacy and realizes our dreams.**
- **It will groom us into our ancient universities and religious scriptures, as well as, facilitate full, meaningful, peaceful, happy, and healthy coexistence!**
- **The ultimate aim of our Higher Education or University Education is Uni-verse. To realize uni-verse all the constituents**

of the universe have to be in unison, treating every one as a source than re-source.

- There has to be eternal connect of AATMA with PRAMAATMA.
- We believe in SATYAM-SHIVAM-SUNDARAM. We need humanistic, holistic, completely interconnecting always smiling Vice- Chancellors of the Universities who can nurture the legacies and sustain the dreams. Who believe in growing together, developing together, where, the journey is eternal despite all the odds and evens. Let us utilize our Collective Wisdom for Development of Thy Creation! AUM NMAH BHAGWATE VASUDEVAYE!

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Human Development Index to Universe Development Index (HDI to UDI)

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Abstract

The ultimate aim of existence is full, meaningful, happy, healthy, resonating life, where, ideas spring, feelings flow, motor muscles create, and the self resonates unconditionally with all in unison & uni-verse. With YUGANTAR, that is, from SATYUG, TRETA, DVAPAR, KALYUG there has been degeneration in the values & virtues. SATUG was standing on Four Legs, TREATA on Three, DVAPAR on Two, whereas, the present KALUG is standing only One Leg. These Legs connote Values & Affect Attributes! Earlier the society was governing the society, after that the state started governing the society, now the economy is over arching both the State & the Society. Earlier the human beings were respecting the Nature. Now we human beings have started exploiting the Nature. Instead of treating her as source, we have started exploiting her as resource. India is a land of Hare Rama! Hare Krishna! India is a land of Saints and Seers! India is a land of AVATARS & RISHIS. India believes in VASUDHAIV KUTUMBKAM! The aim of India is to

realize the development of universe through Uni-verse. For India the existence of every entity is justified. Why Human Development Index only? We are trying our levels best for the growth & development of the Universe. Let us learn to live together. Healthy co-existence of all the entities demands understanding the mysterious ways of the nature. This article tries to make an humble attempt on how to live with the Mother Nature, how to unfold the mysteries of Mother Nature, how to realize knowledge base, feeling base, skill base of the Mother Nature connecting AATMA with PRAMAATMA and sustaining this connect for sustainable Development of one and all, as a whole, biota, as well as, a-biota? Let us introspect! What we want to be! What we are becoming! What our being is! What ultimately our de-becoming is! Just like computer networks we can have fully connected network with all the 84,00000/= YONIES with all through Cosmic Topology! We can live and leave fully meaningfully! Today, that is, 26th February (26.02.1982: 9:16 PM) is the NIRVAN DIVAS of Mother. She devoted her full life serving all the entities! Many a diseased entities would seek her treatment! My Mother whose MAYAKA is CHULKANA a Village near SMALKHA in Haryana was really Humane! Graceful! Blissful! When she left for VAIKUNTH DHAM all the Nods were resonating with AVIRAL Tears!

Human Development Index Ranking

From the 2020 Human Development Report

Rank	Country	HDI Value (2019)	Life expectancy at birth (years) SDG3	Expected years of schooling (years) SDG 4.3	Mean years of schooling (years) SDG 4.6	Gross national income (GNI) per capita (PPP \$) SDG 8.5
1	Norway	0.957	82.4	18.1	12.9	66,494
2	Ireland	0.955	82.3	18.7	12.7	68,371
2	Switzerland	0.955	83.8	16.3	13.4	69,394
4	Hong Kong, China (SAR)	0.949	84.9	16.9	12.3	62,985
4	Iceland	0.949	83.0	19.1	12.8	54,682
6	Germany	0.947	81.3	17.0	14.2	55,314

7	Sweden	0.945	82.8	19.5	12.5	54,508
8	Australia	0.944	83.4	22.0	12.7	48,085
8	Netherlands	0.944	82.3	18.5	12.4	57,707
10	Denmark	0.940	80.9	18.9	12.6	58,662

Source: Human Development Report Office. Created with data wrapper

Rank of India in Human Development Report

Out of 189 countries, India has ranked 131 on the Human Development Index 2020 prepared by the United Nations Development Programme (UNDP). With an HDI value of 0.645, the country fell in the medium human development category. The UNDP has revised and updated the underlying data and adjusted the goalpost, making it difficult to accurately compare India's ranking this year and in 2019. However, the UNDP in its country report gave some statistics tracing India's journey in human development between 1990 and 2019.

Human Development Index calculation

The Human Development Index (HDI) provides a single index measure to capture three key dimensions of human development: a long and healthy life, access to knowledge and a decent standard of living.

The HDI utilizes four key metrics:

- life expectancy at birth – to assess a long and healthy life
- expected years of schooling – to assess access to knowledge of the young generation
- average years of schooling – to assess access to knowledge of the older generation
- gross national income (GNI) per capita – to assess the standard of living

There are two steps to calculating the HDI:

1. Forming indices for each of the four metrics

Values of each of the four metrics are first normalized to an index value of 0 to 1. To do this, "goalposts" of the maximum and minimum limits on each metrics are set by the UNDP, as shown in the table.

With the actual value for a given country, and the global maximum and minimum, the dimension (indices) value for each metric is calculated as:

Dimension index= (Actual Value- Minimum Value)/ (Maximum Value- Minimum Value)

The dimension index is therefore 1 in a country that achieves the maximum value and it is 0 for a country that is at the minimum value.

2. Aggregating the four metrics to produce the HDI

Once each of the individual indices have been calculated, they are aggregated to calculate the HDI.

The HDI is calculated as the geometric mean (equally-weighted) of life expectancy, education, and GNI per capita, as follows Income)

$$HDI = (Index\ H * Index\ E * Index\ Income)^{\frac{1}{3}}$$

Universe Development Index (UDI)

Every entity in this universe has its own identity & place from ant to elephant. Every one has the right to live fully meaningful happy, healthy and resonating life, with interrelation, interdependence and integration with harmonious coexistence in UNI-VERSE. All the biota and a-biota have the right to exist. At the same time we know that mass can neither be created nor destroyed. Though the forms change. The universe has 84 lakh YONIES!



Elites and Ethos





Demolishing GOMANTAK (GO MAAN ANT TAK) and Building Midtown 3BHK Multistoried for Elites! That, too, by ANIRUDDH Group; Grandson Namesake of VASUDEVA- Is it wrong or right! From Legacies Nurtured, From Dreams Sustained From Development together to Segregated Elites- Is it wrong or right! From Fields of the Farmers! From striving laborers! From International Laborer Organization! Emerging smiles & delights-Is it wrong or right! From NALANDA (NA ALAND DADATI ITI), that is NAHIN KM DETI JO (VIPUL or in Abundance), From TAKSHSHILA, that is, TRKSHILA to Plagiarism and Stereotype- Is it wrong or right! The NEP (2020) Plight for Revival of Our Ancient Education Culture through 5+3+3+4 School Education & Inter- Cross- Multi disciplinary Higher Education, Day & Night,- Is it wrong or right! Higher Education Commission of India with four verticals, NHERC, NAC, HEGC & GEC and Professional Standard Setting Board & Board of Governors employing democratic decentralized devolution- Is it wrong or right! Our Teacher Education is evidently lost, because, Mostly Educationists have become Politicians, whereas, Politicians have become Educationists, Education is in quest of own identity- Is it wrong or right? Where is our Research & Development? Let us invest on Education & Research, Revive our legacies, Live SANATAN, and develop together, With continuous connect with the Divine!- Is it wrong or right! Let us learn to co-exist harmoniously, Let us Revive Culture of the Orient, Let us UNI- VERSE, Transcending Time-Space & Mind!- Is it wrong or Right!

The NEP (2020) is in quest of the ethos of the ancient ARYAVRUT Universities. But where are the DWARPANDITS & ACHARYAS of that wisdom. Where are the Learners of that profile? NALANDA & TAKSHSHILA were the universities which were the true representatives of the Universe. Is there any university at present globe over which truly represents the universe, studies the universe and connects with the universe and sings in tune with the universe, wherein, GEETAM, VADYAM, NRUTAM produce SANGEETAM? Is there any university which helps in connecting the AATMA with PRAMAATMA and sustaining that SNATAN, that is, eternal connect! Let us dive into BHAKTI YOG, KARMA YOG, GYAN YOG and RAJ YOG and go through the Philosophy of SWAMI VIVEKANANDA on all sorts of YOGA!

Dogs which provide us Vigilance and Security Round the Clock, Be it BELA- a German Shepherd (my intimate friend) with the VSO of the NCERT India, be it RONNY- a German Hunter with Anshul & Gauri of MSU, Be it GOPI- an Indian Alert with tremendous Power with SRUSHTI of VADODARA, be it TOMY & ROJAR (My eternal friends at JANAKPURI Indore & NCERT New Delhi, be it all the battalions of Indian Street Dogs who are in command, Awake and Faithful (In command round the clock in every street of India, everywhere). No thieves can dare enter here. Be it Military Warriors who are precise sensors and Hunters! Should not all the Dogs with their intelligentsia have the Rights to Vote for electing the Representatives for the Republic? Should not all of them have the rights to live full, meaningful, happy, healthy and devoted lives?

The Cows in India are the family members of human families. The Cow KAMLA was our family member. She was fully affectionate to all the family members! My Mother told me many a times that when you leave for Hostel, she weeps and does not eat. We have to solace her progressively. During holidays when I would come back home, KAMLA would resonate with her face up and down infinitely till I would stretch my arms and love her in abundance! Our HARKE PALI would come in the morning take all the cows of the community out for Grazing and then all of them would come running home with rising GODHULI in the evenings. Cows are worshipped in India and many a countries. They milk of cows is elixir! Similar is the status of CHANDINI the cow of two of our Research Scholars who have been conferred Ph.D. degrees in Education! Their calf climbs to meet the family members on the nth Floor? The affection of cows and calves is remarkable. Lord Krishna and his progressive generations ANIRUDH used to rear cows. Cows were lost in the DHUN of the BANSURI of lord Krishna on the banks of River YAMUNA! Should not we respect and protect cows?

We need to have unconditional love for all the animals. Services of the Horse CHETAK are on record! MAHARANA PRATAP is identified with CHETAK! The donkeys, horses, camels have their own identities. The sheep and goat have their own identities, The Pigs have their own identity, The honeybees, butterflies and bumblebees have their own identities. Do we know why the honeybees, butterflies and bumblebees are significantly depleting? It is because we have started treating them as resources rather than sources. Let us introspect how we have been treating the honeybees which provide us honey. We treat them brutally when the beehive is full of Honey. We detach the honey beehives from trees, squeeze, remove the entire honey and leave nothing for the honeybees to survive on during winters. These are deprived of home and honey both. Another is we Indians have entered into the era of ultra-modernization by blindly imitating others. Lights are on, both, outside & inside the multi- storied buildings. Very often through the open space, these, innocent, Honeybees enter these buildings, these innocent creatures strike against the glowing lamps recursively, do not find the ways out, try to go out of the window glass pans, climb and fall, fall and climb, but, ultimately die! God has created all the entities for harmonious coexistence! Let us realize and revive our original culture & civilization! Ultra-modernization may not be civilization!

All the trees, herbs and climbers have their indeterminate properties, characteristics, attributes and their values, India is well known originator and leader of AAYURVEDA! SEMAL & SADABHAR are known as Silent Doctors! Every cell of their being is used as medicine. KACHNAR, AMALTASH, POPPY, ROSE, CHAMPA & CHAMELI, PEEL & NIMBOLI, PEEPAL, VAD and NEEM, SHATOOT, JAMUN and BERI, ANAR & Banana, TULSI, ADRAK, TURMERIC, AVANLA, ADOOSI, AAM & JAMUN, AMROOD, NASHPATI, BAGGUGOSHA, TIL, KALIMIRCH, LAVANG all the entities have their own values. We should grow all these gracefully rather than destroying these mercilessly!

Now the sparrows are rarely seen! We are deprived of the chirping of sparrows! Every bird has its own identity, role and beauty! Our National Bird is MOR (Peacock). Dancing Peacocks, KUHAKTI KOYAL, Peaceful Pigeons, VEERAGANA MAINA, Innocent KASTOORS, BAAZ and Crows, Parrots and KATHPHOD (Woodpeckers) all have their own identities and grace!

Roaring Tigers & Lions, Running Rabbits, Walking elephants, Playing Squirrels, Trumpeting Elephants, Slithering Snakes, Buzzing Flies, Intelligent Rats, Visiting Cats have their own identity and grace! Melting glaciers, roaring waterfalls, Natural water springs, flowing, meeting & merging rivers, have their own ethos!

Universe Development Rights!

We have Human Rights Declaration (Dec. 10, 1948), UNO Convention on the Rights of Children (Nov. 20, 1989), but, how many countries globe over are observing and respecting these Rights? New Zealand provided Voting Right to women as elector first of all for the House of Representatives, Many a rights are observed & respected In Scandinavian Sweden, Denmark and Philippines! India is the first country globe over which is Transcending the Human Development Index (HDI) and Evolving the Universe Development Index (UDI); Where the Rights of every entity are respected!

The Security by various Battalions of Native Dogs, Many a species of Dogs migrants in India are Vigilance and Security Workers! Should not all of them be treated as Sources! "One afternoon Predators Were trying to prey a Pig, The pig cry was very painful and touching, People around were watching as silent spectators! Meanwhile, a cow appeared, fought, and the Pig was liberated! Should not the animals, birds and other beings, such as, Cows, Pigs, Tigers, Lions, Deer, Horses, Camels, Honey Bees, Butter Flies, Bumblebees, entire Nature, Including Human Beings be treated as Sources than Resources! MHRD has been revived as Ministry of Education, Similarly HRDC could be renamed as HDC, Originality & Innovativeness of every entity Ought to be identified and respected!

Sustainable Development Index

The Sustainable Development Report 2020 has been released. It comprises the SDG Index and Dashboards for all UN member states. The report has been prepared by teams of independent experts at the Sustainable Development Solutions Network (SDSN) and the Bertelsmann Stiftung. As per the report, Sweden topped the Sustainable Development Goals (SDG) Index 2020, followed by Denmark and Finland. India has been ranked 117th in the index with overall score of 61.92. The score can be depicted as the percentage of SDG achievement.

About UN Sustainable Development Solutions Network:

SDSN mobilizes scientific and technical expertise from academia, civil society, and the private sector to support practical problem solving for sustainable development at local, national, and global scales.

About Bertelsmann Stiftung:

It is one of the largest foundations in Germany. It promotes social inclusion and work towards advancing this goal through programs that improve education, shape democracy, advance society, promote health, vitalize culture and strengthen economies.

The Sustainable Development Goals (SDG) Index 2020:

The SDG Index evaluates the performance of the countries on the 17 SDGs which were agreed by the international community in 2015 with equal weight to all 17 goals. The score achieved by each country indicates its position between the worst (0) and the best or target (100) outcomes. Similarly in previous editions, three Nordic countries topped the 2020 SDG Index: Sweden, Denmark, and Finland. India has been ranked 117th in the index with overall score of 61.92.

According to the report, every country has a “red” score on at least one SDG in the dashboards. Cote d’Ivoire, Burkina Faso, and Cambodia are the three countries that have progressed the most in terms of the SDG Index score while the three countries that have declined the most are Venezuela, Zimbabwe, and the Republic of the Congo.

Here is the list of 17 SDG Goals:

SDG 1	No poverty
SDG 2	Zero hunger
SDG 3	Good health and well-being
SDG 4	Quality education
SDG 5	Gender equality

SDG 6	Clean water and sanitation
SDG 7	Affordable and clean energy
SDG 8	Decent work and economic growth
SDG 9	Industry, innovation and infrastructure
SDG 10	Reduced inequalities
SDG 11	Sustainable cities and communities
SDG 12	Responsible consumption and production
SDG 13	Climate action
SDG 14	Life below water
SDG 15	Life on land
SDG 16	Peace, justice and strong institutions
SDG 17	Partnerships for the goals

Top countries in the 2020 SDG Index Rankings:

Ranking	Country	Score
1	Sweden	84.72
2	Denmark	84.56
3	Finland	83.77

4	France	81.13
5	Germany	80.77
6	Norway	80.76
7	Austria	80.70
8	Czech Republic	80.58
9	Netherlands	80.37
10	Estonia	80.07
48	China	73.89
117	India	61.92
134	Pakistan	56.17

Sustainable Development of India

Some Case Studies from India:

1. Case Study of a Village TAJPUR in Haryana:

TAJPUR is a village near SONEPAT on the other side of Grand Trunk Road. MURTHAL (earlier called MUNI SATHAL) is in between SONEPAT and TAJPUR. During 1950s TAJPUR was a very prosperous village resonating with dancing crops in fields, Gardens resonating with fruits, SHIVALIKS (Temples) full of devotees and echoing and reechoing sound of bells and chorus prayers. There were some HAVELIS of small bricks with beautiful attractive architecture on the corridor tops of elephants, Elephant Riders with DUNDUBHI, Attractive beautiful PRAKRUTI, Powerful PURUSH and Warriors.....There were some houses of bricks. Most of the houses were made up of Raw Clay. All the casts, creeds, religions, men & women, Humans and other Animals were living together, with all decency & simplicity. The village TAJPUR is situated near the River YAMUNA. Every Sunday all the villagers of TAJPUR would go to River YAMUNA singing BHJAN including children. Worship Lord Sun there, dive in Yamuna or bath in Yamuna, Sit on the banks of MAAN YAMUNA. Then they would fill their Holy Pots with MAAN YAMUNA NEER. Sprinkle it in the entire village streets and homes.

As the time elapsed, the villagers found it very difficult to make both the ends meet. Sometimes it was due to the flood water of Yamuna. Some of the aged people who were treating the entire village as their own mother left for heavenly abode. Some of the villagers moved to SONEPAT and other towns. Some even left for cities as far as Bombay and PUNE! The big enchanting HAVELIS which were full of life were deserted. There was no one left in the HAVELIS to take care of. Gradually the HAVELIS collapsed. The earthen GHERS were swept away by the MAAN YAMUNA frowning Floods. Our beloved Gardeners (MUNSHI MALI) & (NIHALI MALAN) died. Similar has been the status of many other gardens. Old plants disappeared. New seeds were rarely sown. There were rare care takers of the seeds which were sown. Their germination, incubation, creation, Sustainable Growth and Development were not properly taken care of. All the gardens have become deserted grounds. Every Tree has the right to sustainable Development and Growth! Many a trees are cut down in the name of conversion of cities into Smart Cities! Which are the indicators of Smartness? Multi Storied Magnanimous WIFI & HIFI buildings, Virtual Reality (VR), Augmented Reality (AR), Mixed Reality (MR), Quick Response Codes(QRCs), and data clouding. Where is the actual reality?

2. Case Study of a Community PRABHU NAGAR at SONEPAT

I was born at PRABHUNAGAR, SONEPAT in the early morning of DADA MOHANDAS MELA DAY(Goel Devraj) . My childhood was full of live in and around PRABHUNAGAR Community & sometimes in CHULKANA my NANIHAL near SONEPAT. Both PRABHUNAGAR and CHULKANA were full of life during my childhood. These places were booming with People, Trees, such as, PEEPAL, VAD, NEEM, SHEESHAM, SHATOOT, IMLI, LISODHA, PEEL, GULHAD, AAM JAMUN, and DUDHARU animals, such as, Cows, Buffaloes, Goats and other animals, such as, donkeys, horses, monkeys and a variety of birds, namely, sparrows, crows, pigeons and parrots. There were many a water resources, namely, Water Well within our PRABHUNAGAR Community, and RAHATS (Persian Water Wheels) around the community in the fields! In front of every house there used to be one or more than one KHOR for feeding the Cows & Buffaloes, Where, the food was served to them, such as, wheat fodder with KHAL & BINOLA and/or BARSAM. Every morning Cow PALI, namely, HRKE PALI would come take the cows of the entire community outside in the fields for grazing lush green grass, like that of GULMRG & SONMRG. Throughout the day he would rear the Cows very affectionately and then come back in the evening with GODHULI! We used to play many a games during day, namely, BEEZO BANDARI, PITTHU, KAYAN DANDA, KHOKHO, KABADDI, Hockey, Football and many more. In the evening we would milk the cows and buffaloes! Now the entire PRABHU NAGAR has lost its identity. No cows! No buffaloes! No NEEM! No SHEESHAM! No PEEL! No LISODHE! No GULHAD! No Water Well. Not even a single tree! Not even a single KHOR!

I feel proud of my Primary School Education! My School was located in a village a few miles away from PRABHUNAGAR. We children used to go to our School-“ Middle School LAHRADA” then.

The School was full of life. Our initial Primary Classes were conducted under trees outside as at VISHVABHARATI SHANTINIKETAN. We learnt schemas of Hindi Alphabets writing on soil with finger tips. Progressively, we learnt Tables of numbers standing in a circle and voicing aloud. We were provided with a alphabet sizable limited volume booklet called KAYADA! Many values were inculcated in us during Primary Education at our school, which the NEP (2020) aspires to revive.

We entered the Primary School directly in Standard-1. Even then the first transition from home to school was difficult. It was very difficult to sustain me in the school to begin with and progressively, also. It is because the schools repelled and home attracted. The very first day from the school, I ran away, that too, with the speed of storm. But, my grandfather who accompanied me to the primary school, adjusted me in the school, by employing, SCOPE, that Spiritual, Clinical, Organizational, Positive and Educational Psychology. By the way my Grand Father enjoyed all freedom. He could never be kept in the school. One of our doctoral students, SUCHETA, here at the MSU, designed and produced a film- *SAFAR GHAR SE SCHOOL TAK to facilitate first transition from Home to Pre-School. This film was awarded number one*

award by the Consortium of Educational Communication, UGC. The film has been found to facilitate and facilitate significantly the first transition of children from Home to Pre-School.

3. Case Study of My Middle & Secondary School Education

I have completed my Middle & Secondary School Education from the S.M. Hindu High School, SONEPAT, a quality School at SONEPAT. I feel proud of each and every teacher of my School. My Hindi Teacher- AMARNATH SHASTRI, whenever he recited a Poem, be, it PUSHHP KI ABHILASHA by MAKHAN LAL CHATURVEDI, MURJHAYA PHOOL by MAHADEVI VERMA or any other poem- Still the stanzas of the poems recited by him echo and re-echo:

*“ CHAH NAHIN SURBALA KE GAHNON MEIN GOONTHA JAOON!
CHAH NAHIN PREMI MALA MEIN BINDH PYARI KO LALCHAOON!
MUJHE TOD LENA VAN MALI; US PATH PR TOON DENA FAINK!
MATRI BHOOMI KO SHEESH CHDHANE JIS PATH JAAVEN VEER ANEK!”*

*“MAT VYATITH HO PUSHHP KISKO SUKH DIYA SANSAR NE!”
SVARTHMAE SABKO BANAYA HAI YAHAN KARTAR NE!”*

Every class used to do YAGYA in the morning, every day, turn by turn. Our SAHDEV SHASTRI who was Drawing Teacher also would guide us in doing YAGYA. Still the SHALOKAS flowing during YAGYA keep rising:

*“AUM VISHWANI DEV SVITAR DURITANI PARASVA YAD BHADRAM TANAE AASAVE!
AUM HIRNYAGARBHA SAMVARTAT AAGRAH BHUTASYA JAATE PATIREKA AASEET!”*

History Taught by our Teachers JAYDEV & DHARMADATT SHASHTARI still reminds of MAHARANA PRATAP:

*“ CHAAR BAANS CHAUBEES GAJ ASHAT UNGAL PRAMAN;
TAAH OOPAR SULTAN HAI MAT CHOOKE CHAUHAN!”*

DARSHAN TAUGHT BY DHARMADATT SHASTRI still enlightens us:

*“Never compromise with your Principles, Come what May!
Observe SANATAN DHARMA in every bit and act of life!
Whatsoever we do we owe an explanation to the self & universe!”*

*“ Honour or Shame from no condition rise!
Act well your part there all the Honour lies!”*

Our ABHAYDATT Shashtri has taught us

*“ No Phobias No Fears;
Always be NIDAR!”*

*As a result all of us have confidence! Never Diffidence!
We can peacefully revolt against any baseless threat!*

Our Mathematics Teacher Head Master Dhani Ram was a very competent, decent and dedicated Teacher. He used to teach us Mathematics very easily and precisely. The Theorems taught by him are still on our tips. It is the mathematics taught by him which has helped us in doing all sorts of computations, Geometry, Algebra and Geogebra. Many a student taught by him are in various fields are serving to the best of their abilities and capabilities. Even after retirement he provided Honorary Services to the School.

“One day while computing regular polygon from equilateral triangle through pentagon, decagon and multisided polygon with our B.C.Ed. (Bachelor of Computer in Education) students at the DAVV, Indore we arrived at a conclusion that circle is a regular polygon whose each side tends to be a point, rather, becomes a point. Its genesis is definitely from my High School Education!”

All of my teachers right from Class-1 through Class-10 were very affectionate to me. But, there are some otherwise experiences are also there. Once in a periodical test in mathematics I obtained perfect ZERO. My mathematics teacher Master Jeet Ram made me sit on the back side of the class with another classmate who was also perfect ZERO. But, this class mate was frequently having cough & cold. I told my Mathematics Teacher Jeet Ram that I cannot sit with him, because, he is having frequently cough & cold. Master Jeet Ram insisted that both of you are Zero in mathematics, so, you have to sit together! I stood up in the class and said that I will top mathematics in the final exam and sit in the front next year in the mathematics class. I worked very hard and topped mathematics in the final examination!

Once my Secondary School Teacher Kishori Mal was having English Class was having English Language Class outside in the grassy lawn in the evening. He raised a question. Some of the classmates raised their hands to respond. But, I responded to his question correctly, but, without his asking to respond. He called me to come nearer to him. I thought he would appreciate, but, instead he hit me at the back with full power countless. But at the end of the class he, stretched his arms and loved me. He said sorry with continuously dropping tears! It was a big lesson for all of us. We ought to observe decency, decorum and discipline!

Whenever my Father (Shri RAGHUNATH SAHAI- A Freedom Fighter Very Close to MAHATAMA GANDHI) visited our S.M. Hindu High School, he would take me to the Big Hall of the School. There he would point towards a Honour Board where his name is written in the list of the School Topper in Tenth Class against 1939 AD. Further he would say, my Sun, Your Name should appear on such Honour Boards!

After completing Schooling I joined Hindu College, SONEPAT in Pre- University also called Prep. After completing Prep I joined Pre-Engineering. But, I lost my interest in Pre-Engineering, because, it did not interest me. I told my parents that I want to leave Education, because, it does not interest me. My Mother never went to School. My Father completed Graduation from Saint Stephen College, Delhi. But, both, of them were great Psychologists, Sociologists and above all Educationists. They said does not matter. You may leave your studies. We have number of Cows and Buffaloes, you can take care of them, or do some other business. During that period they employed the entire SCOPE of Psychology on me, that is, Spiritual, Clinical, Organizational, Positive and Educational. Through that I revived my interest in Pre-Engineering. I resumed my classes. Our Prof. JANARDAN JINODIA JANSANGHI was teaching us integral Calculus those days. I stood up in the class and asked him what use is integral calculus in life situations. He said at present I like to tell you that integral calculus can be used for computing the areas of irregular surfaces! Progressively we will learn more of it! Then I sustained my interest in the Pre-Engineering!

An instance from the Saint Xavier Institute of Engineering Mahim, Mumbai

After completing B.Sc. from Hindu College Sonepat, I joined Radio Officers' Course at the Saint Xavier Institute of Engineering, MAHIM, MUMBAI in 1971 AD. Then I was residing at Santa Cruz, VAKHOLA Bridge in the Home of one of Professors, namely, JOE D'Souza. I used to go to my college by local trains from Santa Cruz to MAHIM. One day morning it started raining very heavily, in torrent, cats & dogs. We three students, despite, trying level best reached the Institute late by five minutes. Our Principal Father BORGEOUS was standing outside to welcome the late comers wearing white gown with an umbrella on. He shouted at all the three of us (the late comers) "You aspire to be Radio Officers! You are late today, perhaps because of heavy rains. Tomorrow when you would be in the roaring Sea (JVAR & BHATA) your Ship is likely to deviate or sink! The Naval Forces would then be busy search and researching the ship and your dead bodies! Why are you looking downwards! You Guys see me eye to eye! Do not you feel ashamed? Hence forth you should be in time, neither late, nor, early! Understood!" It has been a big lesson for all of us!

My Saint Xavier Teachers were very affectionate. One day when one of the Professors was conducting the class on Radio Servicing, he called me, in front of the entire class and said "All of you Guys from Bombay look at this boy from a Village in Haryana. His Speeds of Telegraphy and Telephony are so fast & precise! Can you ever match this boy!" Another Professor after playing Volley Ball appreciated my play saying "You touched the volley ball just at one of the fingers' point and returned and placed precisely where ever you liked!" Those kind gestures of our teachers have groomed us for sustainable development!

Our Teachers at the S.D. College Muzaffarnagar, UP, India

I pursued my M.Sc. (Organic) Chemistry at the S.D. College Muzaffarnagar. All of our Professors were very competent and cooperative. Our Class Lectures very well delivered by the staff members. I still recall the synthesis of Hemoglobin, Cholesterol and Ergosterol. Whenever I see a carrot, I recall the classes of Professor Loival, our Principal, who taught us that how β -Carotene present in carrots is converted into Retinal, Vitamin A which is very good for eyes. We still recall the dyes & drugs taught by him. Our laboratory was fully operational. We conducted the experiments whole heartedly. But there were some accidents also. One day I was given an experiment on estimation of Phenol without telling that it was Phenol. When I touched Phenol there was swelling in my hands. Another Senior Student, Senior Student (Shashi Kant) tried to open concentrated Nitric Acid bottle in the sink. When he opened the lid of the bottle, the concentrated Nitric Acid Splashed on his face. His entire face was badly affected. Eyes were safe, because, he was wearing Spectacles.

The Ethos of Our Teacher Education Institutions:

I was never interested in B.Ed., but, it is B.Ed. which interested me! I wanted to wander wild, but, it is B.Ed. which captured me. The very first session was by our Honourable Teacher Educator, Dr. ADARSH SHARMA. Her opening communication was the motto of Our College is "Education is Adjustment!" Then she said Education is a discipline from which all the disciplines emerge and into which all the disciplines merge. Education is interdisciplinary- cross- disciplinary- multi-disciplinary. Education is for all round development of the personality- Physical, Cognitive, Affective, Psychomotor! Education helps us in connecting our AATMA with PRAMAATMA for Sustainable Development & MUKTI. Education helps us in connecting with all the entities of the Universe through inter-relation, inter-dependence and integration. Were some accidents also Education helps us in becoming one with all. That is the Sustainable Development Goal! Our Teacher Educators groomed us into the core & foundations of Education, methods and methodology of teaching various subjects, special areas and vocations, such as, Agriculture, Horticulture, Servicing of Electric and Electronics Appliances! Our Hindu College of Education

inculcated in us various values! Particularly, Education is Adjustment! Education is de-conditioning! Education is all round development!

I opted for the vocational course- Agriculture. The yield of Potato Crop is still on record, both, quality & quantity!

B.Ed. I was sick for a long period! So, I could not get good score. It was some where around 55%. But, I was very good at Sports and Athletics. During the College Tournaments I was first in Off Step and Jump, Team Race, Disc Through and Javelin Through. I one first Prize in Badminton Singles and Second Prize in Badminton Doubles.....

Then I wanted to pursue M.Ed. But, my score in B.Ed. was around 55% only. I appeared for the M.Ed. Admission Interview praying "AUM NMAH BHGVATE VASUDEVA!" On the basis of the Scores obtained in B.Ed. I was not selected. Then one of the Admission Committee Members, namely, Dr. KNAHIYA LAL PANDIT asked "Do you have Co-curricular Activities Certificates?" I said "Yes, Sir!" Then I presented all the Co-curricular Activities Certificates. Then I was selected, but, my name was last, but, one in the Admission List. I feel proud of all the Teacher Educators who taught us, namely, Prof. Uday Shankar (He used to call me BALDEV), Dr. (Mrs. Laxmi Shankar), Prof. Lokesh Koul, Prof. CHUNI LAL KUNDU, Prof. H.C. Sinha, Prof. N.S. Mavi, Prof. Vipula Chaturvedi, Prof. Y.P. Aggrawal, Prof. Surya Prakash Malhotra, Dr. KNAHIYA LAL PANDIT, Dr. Surender Mohan Gupta, Prof. Sushama Sharma, Prof. Sushil Kumar Gupta, Dr. Shrvan Kumar Gupta and Research Scholars Dr. Lokesh Verma, Dr. Manmohan Singh, Dr. Sushil Jindal and Dr. Sheela Mangla..... The Department of Education, KUK, has been booming with Education! The resonating laughter of Dr. Pandit, Psycho Analysis by Prof. Shankar Id-Ego- Super-Ego, Mental Hygiene & Child Guidance by Prof. Kundu, Sociology of Education by Prof. Mavi, Research Methodology by Prof. Koul, Prof. Aggarwal & Prof. Pandit, Special Education & Inclusive Education by Prof. Sushama Sharma, Philosophical Foundations by Prof. Vipula, Problem Sharing with the Research Scholars and Regular Tea & Coffee with them, Supporting in all the friendly ways by the Support Staff are still on record.

How can we forget the legacies of the Kurukshetra! Shrimadbhagvadgita- having 700 Shalokas and 18 Chapters, and Shrimadbhagvatama having 12 SAKANDHS and 18 Volumes! Everyone in this universe should study each and every SHLOKA of these volumes, assimilate and act for full, meaningful and healthy life and liberation!

Research Studies at the MSU Vadodara

I completed my Ph.D. in Education from the CASE, that is, Centre of Advanced Study in Education on School Broadcasts in India. Then I completed my Post- Doctoral Research at CASE on ETV in India. After that I joined as a Research Associate on a Planning Commission of India as a Research Associate and worked on a Project on Vocationalization of Education in India. Here I found that the Centre of Advanced Study in Education justified its name as Centre of Advanced Study in Education. I joined at the CASE in 1977 as a UGC JRF and left CASE in 1985.

My University Career as Faculty Member at the DAVV, Indore

I joined as a Lecturer at the School of Education Devi Ahilya Vishwavidyalaya, Indore during 1985. Then promoted as Reader there in the year 1989. During this period two new degree programs, namely, B.C.Ed. and M.C.Ed. designed and developed by our Team were institutionalized. The products of these degree programs are domain leaders in Technology World Wide. Bhupendra Bagora is serving in UK. Manjeet Singh Khalsa has his Show Rooms in Germany, Honkong and at Pune, Pramod Thiwarkar is serving US. Aparna, Deepika Sharma, Jitendra Kanungo, Manisha Shah, Nayana, Nilesh Malpani, Rajendra Chaudhary, Sharad Bhawsar, Shirish Purohit, Ritika Datar and many a Computer Educationists

products of Bachelor of Computer in Education & Master of Computer in Education are serving Abroad and in India!

We started with one computer and one Dot Matrix Printer under CLASS Project, that is, Computer Literacy and Studies in Schools. Two of the Staff members from School of Education, DAVV, Indore, namely, Prof. D.N. Sansanwal and Dr. Devraj Goel were deputed to Roll Wala Computer Centre, Ahmadabad for Computer Training of Three Week on BASICA- an interpreter, Word Star- a Text Editor, LOTUS-1-2-3, dBASE-II- a data base management system..... After completing that training program, I joined number of training programs on Computer Education and Computers in Education at the GSITS, Indore organized by ISTE (Indian Society of Teacher Education) on behalf of the DOE (Department of Electronics) Government of India. These were certificate courses, namely, Office Automation& Database Systems, , System Analysis & Design, Programming in 'C' Language, Structured System Programming using C, Microprocessor and its Applications, Data Processing Techniques, UNIX & C, DBMS (Data Based Management System, and FOXPRO. Then we introduced Computer Education as an Optional Course at B.Ed. level and progressively at the M.Ed. level. Prof. Balkrishn Passi, Head School of Education, DAVV, Indore motivated us to start Diploma in Computer Education. It was whole heartedly supported by our Honourable Vice Chancellor Prof. Mahendra Singh Sodha. The Programme was running very well. Then it was renamed as B.C.Ed., that is, Bachelor of Computer Education. Progressively we introduced M.C.Ed., that is, Master of Computer Education. Many a Projects were completed under these Programmes. B.C.Ed. was during Day, whereas, M.C.Ed. was Evening Program.

My University Career as Professor at the MSU, Vadodara

I joined as Professor of Education at the MSU on 11.11.1994. Then I served as Professor and Head, Department of Education, Faculty of Education and Psychology, MSU, Vadodara for five years from 14th June, 1995. Served as Coordinator UGC SAP at the level of CASE for more than thirteen years. Retired as Professor of Education from the MSU on 02.04.2013, but, continued serving up to 14th June 2013 to complete the Semester. During this career as Professor of Education I served the Faculty of Education and Psychology as Dean(In-charge/Officiating) for a period of about one and a half Year! The CASE successfully and fruitfully organized a National Seminar from 11-13 May 1998 under the aegis of DPEP, Government of India- "Innovative Practices in Pupil Evaluation." During this period of about 19 years 36 books were published by CASE with ISBN. About 500 copies of each book were sent to the selected Teacher Education Institutions in India every year. Eight Compendiums of Abstracts of Research Studies conducted by Teacher Education Institutions in India were e-published by CASE which have been progressively available on the Intel Site www.educationindia.net. A e-News Letter SAP SPECTRUM was also started which was published and deployed every September & March. The CASE also developed a site www.icorecase.org for sharing the Educational Research & Innovations by the South Asian Countries. During this period I served the NCTE also, once as a member on the WRC of the NCTE during 2001 to 2004 when Shri S.C. Behar was the Chairperson of the WRC- NCTE, and another term 2008 to 2011 when Prof. Devraj Goel was the Chairperson of the WRC- NCTE. We tried to serve the NCTE to the best of our capabilities.

Evolving a Taxonomy of Educational Skills

I researched as Fellow Emeritus (Professor Emeritus) of the UGC from 2014 to 2016 and evolved a Taxonomy of Educational Skills. It is being used as a course in Teacher Education in some of the universities.

Designing and Developing MOOCs at the CIET of NCERT

After completing the Project "Evolving a Taxonomy of Educational Skills" as UGC Professor Emeritus at the MSU, I joined the CIET of NCERT in October 2016. Served there as Professor (Educational Technology) for four Years up to September 2020 end. There our work was mainly on MOOCs, that is,

Massive Open Online Courses. We developed a four credit course- Perspectives, Issues and Research in Teacher Education for M.Ed. and M.A. (Education Students). In addition to this modular course coordinated the 14 Modules of the course on Research Methodology. Also contributed to the construction of Tests for testing the Students on the MOOC on Educational Administration. I attended various courses on FOSS offered by the CIET. Particularly, I developed my expertise on editing text-video-audio through EPUB. During this period I shared many a Poem composed by me in Hindi, English, GURUMUKHI and Gujarati Countrywide. Some of e-Books authored by me on Poetry are available on the site www.issuu.org/devrajgoel. It was a highly an enriching experience to study & share the lush green campus of the NCERT through these volumes.

A General Body Meeting of the NCTE: Some Reflections

Once the General Body Meeting the Apex body of Teacher Education (NCTE) was scheduled. The meeting was going on and the two central government representatives were sitting, one on the left and the other on the other side of the Chair, namely, Prof. S.V.S. Chaudhary! One of these two Government representatives was not letting even the Chairperson Speak. This representative started with a pre recorded rhetoric that You Regional Committees have undue delays in considering the cases! You are biased people! Your Visiting Team members do not observe their identities!..... There was pin drop silence, except, two of the false power seekers were found to be pro Government representatives. Then I stood up as a member of the General Body as Chairperson of the NCTE- WRC, Bhopal and asked this representative " What for the General Body Meeting has been called? You are not letting even the Chairperson Speak what to talk of other General Body Members! You have used absolutely abusive language for the Regional Committees of the NCTE and the Visiting Team Members! May, I suggest you to take your communication back! Let us realize and revive the identity of the General Body! Further he was told that do you know most of our Regional Committee Meetings go on till late at night! One day the Minutes of the Committee were signed at 3:30 a.m. We were all awake, because, we identify with our Nation! Our VT members at times are provided with the Gunmen Guards ,so that, they are in a position to inspect the profiles of the Teacher Education Institutions! Learn to respect Education! First learn to do self-governance than only do administration. It is Education and Education only which can bewitch the minds and help realize Sustainable Development! We are serving the NCTE as honorary honorable Persons! Please learn to behave. We feel proud that we are born and brought up in India! We ought to have Humane & Professional Service Cadre of the profile of Shri Shankaran, Andhra Pradesh, 1957 Batch and Shri Sharad Chandra Behar, Madhya Pradesh, 1961 Batch! UPSC of India is expected to contribute significantly to this vision."

Universe Development Index

Every year we experience the Human Development Index of the countries globe over. But every entity in this universe biota or a-biota has its own identity and right to live full, meaningful, happy and healthy life with harmonious existence. So, there is a need of working out the universe development Index. As per our scriptures there are 84,00000/= YONIS and a-biota! HDI and UDI are not so important as healthy co-existence. India believes in VASUDHAIV KUTUMBKAM, that is, the entire universe is a family. But in this KALIYUG human beings have started treating the Mother Nature as a Resource than Source. We are bent upon destroying our Legacies and are blindly imitating ultra-modernization. In this process of treating Mother Nature as Resource, we, the human beings have also become resources. We are happy to learnt that the name of the MHRD has been revived by the present Government as Ministry of Education. Similarly the ASCs which were renamed as HRDCs ought to be HDCs. All the degrees and diplomas which are treating and naming any entity, who so ever, be perceived as a source rather than resource.

How to work out the Development Index for every entity. Let us begin with Trees! There are various How to work out the development Index of an entity:

- A. *PEEPAL DEVELOPMENT INDEX= (Expected life of a PEEPAL * Return on investment from a PEEPAL)^{1/2}*
- B. *Cow Development Index= (Expected Life of a Cow* Returns on investment from a cow)^{1/2}*
- C. *Honeybee Development Index= (Expected Life of a Honey Bee * Returns on investment from a Honey Bee)^{1/2}*
- D. *PANCH RATAN (TULSI, PODINA, GINGER, HALDI, AVANLA)Development Index= (Expected Life of Tulsi Plant* Return on investment from a Tulsi Plant)^{1/2} + (Expected Life of PODINA PLANT* Return on investment from a PODINA PLANT)^{1/2} +(Expected Life of Ginger Plant* Return on investment from a Ginger Plant)^{1/2} +(Expected Life of HALDI PLANT* Return on investment from a HALDI Plant)^{1/2} + (Expected Life of an ANVALA Plant* Return on investment from an AVANLA Plant)^{1/2}*
- E. *River YAMUNA Development Index =(Expected Life of YAMUNA* Returns on investment from YAMUNA)^{1/2}*
- F. *Soup (Pomegranate* Pineapple* KIWI) Preparation Index can be computed the way we have computed the above mentioned indices!*

Tea Plantation and Manufacturing

The tea (Tri-Ethyl-Amine) plantation needs a moderately hot climate with reasonable humidity. Required soil PH from 4.5 to 5.5 and rain water 80-100 inch yearly for 8-9 month and High Carbon Content in the soil. Plantation material is either seed or sampling. For planting 5-7 inch Pothole required. After 7-8 month decentring is conducted for branch formation and best season for centring is – April to May .Tea plantation needs good drainage for excess water removal. After 15-16 month of plantation tipping is done for growth and plucking start after 24 months depends on health of tea bushes. After 24 months 1st pure is done for frame formation.

Centring of TEA

After two to three weeks of sowing the braches appear. When it becomes 50-55 cm high then the leaves formation takes place. Optimally Pruning and Plucking is done after 5 years. But some people do it after three years practically. Leaves are kept in shadow, not in the Sun Light. Then throw weathering the excess water of the leaves is removed.

Manufacturing:

1. Crush Tear & Cut (CTC)

Through weathering 20-30% of the moisture of the Tea Leaves is removed by keeping the leaves for 10 to 20 hours. Then the green leaves are put in a roller for giving shape.

- CFM (Continuous Fermenting Machine): 40 min at 50^o C
To colour change /oxidation) from Green to Brown

- Dryer = 115-120⁰ C for 45⁰min
- Vibro Sorter = for sorting and grading of tea
- Grades of CTC (Crush Tear Cut) Tea –BP(Broken Pekoe), OP (Orange Pekoe) , BOP(Broken Orange Pekoe)
- Packing

Green Tea

- ✓ Green Leaf
- ✓ Roasting
- ✓ Cooling
- ✓ Rolling
- ✓ Dryer(First firing)
- ✓ First fine segregation
- ✓ Second Rolling
- ✓ Dryer(Second firing)
- ✓ Sorting for grading
- ✓ Green Tea Grades

There is no uniform grading system for green teas, but, the better quality tea consists of a leaf and bud, then two leaves and a bud and so on. Some common green tea leaf terms are:

1. Gunpowder: (Also called Pearl Tea)

Young leaves and buds are rolled tightly into pellets which unfurl in the cup.

2. Imperial

Loosely rolled pellets made from older leaves.

3. Young Hyson

Young leaves rolled long and thin

Orthodox Tea (Black Tea)

- Green Leaf(Received in factory)
- Hard weathering
- Rolling
- Fermenting
- Dryer
- Sorting
- Black Tea Leaf Grades: FOP, GFOP, OD, CD

Grade	Full Form	Identity
OP	Orange Pekoe	Long, thin, tightly rolled leaves
P	Pekoe	Smaller, Shorter leaves than OP
FOP	Flowery Orange Pekoe	Longer leaf than an OP, but, not as tightly rolled
GFOP	Golden Flowery Orange Pekoe	FOP with some golden Tips
TGFOP	Tippy Golden Flowery Orange Pekoe	GFOP with more golden tips
FTGFOP	Finest Tippy Golden Flowery Orange Pekoe	Better quality TGFOP teas
BOP	Broken Orange Pekoe	OP leaves that are broken
FBOP	Flowery Broken Orange Pekoe	FOP leaves that are broken

Grades of Tea

Tea grading is based on the size of the leaf and types of leaves included in the tea. Though leaf size is an important quality factor, it is not, by itself, a guarantee of quality.

Teas are often designated as OP or FOP. These designations are part of the grading system used for the whole leaf black teas and refer to the leaf size and amount of tip in the tea.

Pekoe means teas picked as 2 leaves and a bud, OP, or Orange Pekoe, is a full leaf tea with no tips or buds, FOP, or Flowery Orange Pekoe, is a longer leaf than an OP and has some buds. Grading systems and terminology vary with TEA Type and country.

Generally, the more whole the leaf is and the more buds it contains, the higher is the Grade of the Tea.

Tea Preparation for drinking

1. Boil water at 95 degree Celsius
2. Remove from stove
3. Add tea leaves
4. Add Ginger
5. Add Lavang
6. Add cardamom
7. Keep it for about 5 minutes
8. Filter
9. Add milk
10. Add Sugar

There could be many a way for preparing TEA for drinking. Sometimes, while preparing Tea many a questions come in the mind:

1. Where from the cooking gas comes? How it is filled in a Cylinder?
2. How it is distributed to the houses?
3. How the cooking gas flows from the cylinder to the Stove in the Kitchen?
4. How the gas stoves are constructed?
5. What is their quality control mechanism?
6. What is a gas lighter & how it functions?
7. Which alloy pan we use for preparing Tea?
8. Why water is used as a medium for preparing Tea?
9. Which tea leaves we should use for drinking Tea?
10. What is the chemical composition of Tea?
11. What happens, if we extract the same tea leaves again & again?
12. What should be the syntax for Tea Preparation?
13. Which various ingredients could be used while preparing Tea?
14. What are the constituents of all these ingredients?
15. In which type of cup or container we should fill Tea?
16. At which mix temperature we should sip the TEA?
17. How many cups of Tea we can consume in a day?

Like this there could be a large number of questions? Should we use Ram Tea, Shyam Tea, Native Tea, KAPOOR TEA, MARVA or a mix? Should we use Black Tea or Green Tea? Should we use TAJA TEA, TAAJ MAHAL TEA, VAAGH BAKRI TEA?

G. How to calculate the TEA (Tri Ethyl Amine) Development Index:

TEA development Index = $(\text{Expected Life of a TEA Plant} * \text{Returns on investment on a TEA Plant})^{1/2}$

H. RAAB SOUP (GUD, BAZRA AATTA, NARIYAL, SONTI, CLOVE, BLACK PEPPER & GANTHODA) Development Index could be computed the way we have computed the other Indices as mentioned above. Similarly we can compute the development index for many a Products, such as, DAALVDA, Mix BHAZIYA, THEPLA.....

Some Suggestions for Universe Development:

1. Every entity in the universe has its own identity and function! Let us learn to respect each and every entity!
2. There should be healthy interrelation, interdependence and integration amongst all the biota and a-biota.
3. We have our own priorities, but, there should be due attention on Education at all levels. Maximum Possible GDP (5-6%) be invested in Education.
4. The Scenario of Research & Innovation in our country is not appealing. Research and Innovations need to be revived.
5. Education in our country should be duly respected. For example in the Department of Education, KUK, during 1990 AD the Teaching Staff was 22. Now in 2021 it is just 04. The Teaching Staff in KUK College of Education during 1990 was 17, now, it is just 01. How to run Teacher Education? The Department of Education (CASE) was having the Permanent Teaching Staff of 25 during 1995, now, the Department is being run mostly by the Temporary Teaching Assistants! Similar is the status of a large number of Departments Countrywide!
6. The UGC SAP Programs countrywide have become defunct, because, no grants are being released by the UGC! Similar is the Scenario of the ICSSR! All the delays in releasing grants are being attributed to COVID-19, its derivatives, and lock down.

7. The NCTE has almost gone defunct. There are rare response to the genuine queries even after repeated reminders, by the NCTE Regional Committees which have now been centered at Delhi.
8. Expansion in any field demands decentralization, that too, at the level of devolution! Let us reflect on our NEP (2020), whether there is centralization of Education or decentralization!
9. The Viruses of the kind COVID-19 and its derivatives can destroy the globe. There has to be an immediate check on the Nation(s) who has/ have produced it. There is a need to properly and ethically reformulate the constitution of bodies like WHO and UNO and their functioning.
10. Education is in quest of its identity. Education ought to be duly respected, because it is Education & Education only which can bewitch the minds and help in restoring Peace for Sustainable Growth & Development.
11. Education is being governed by bureaucratic, conservative, hierarchical, table to table , self killing model still. Education ought to be governed by the Human Relations Model.
12. There should be immediate checks on the Cross border firing and smuggling of drugs & animals!

Concluding Remarks:

JEEVO JIVASAYA JIVANAM means that one living being is food for another living being. Human beings eat plants, fruits, pulses, nuts.....Some human beings even it animals. China has a wet market. Animals in turn eat other animals and plants for their survival! The animals could be ZERAYUZ, ANDAJ, UDBIJ, SWEDEJ and CLONES. Every entity has its own identity in this universe. Every entity has the Right to exist, but, SRUJAN, JEEVAN and VISARJAN are the evident realities! Living beings are constituted of five TATVs, PRUTHAVI, JAL, VAAYU, AGNI, & AAKASH! When a living being is conceived, PRANA are infused. Our hunch is perhaps along with the conception! After due growth and development in the above mentioned five embodiments, the living beings appear. It is coming IN. Then there is Life Journey. After that EXIT! At the same time mass can neither be created nor destroyed. Then applies the Einstein's Equation, that is,

$\partial E = \partial M * C^2$. Through this exit a lot of energy is released. So these various wonderful forms are scattered in the form of energy, which is the capacity of doing work, and further converted into the Five Elements again. But, the AATMA gets the VAIKUNTH DHAM, or another FORM/YONI corresponding to SAATAVIK, RAJSIK or TAMSIK PRAVRUTI or KARMA. BHUTAN is a country globe over which is highest on Happiness Index. BHUTAN is far away from materialism. There BHUTAN Legacies are NURTURED and DREAMS sustained with full determination and action. On the other end there are false power seekers who are fully materialistic and aspire to become SUPREME Economy by producing a Highly COMPLEX Virus COVID-19, which has created chaos, globe over. We human beings were locked down and are locked down due to the Mischief Mongers who have produced Viruses for annihilation of the self and others. PRAMATMA is omnipresent & is the only CAUSE of this UNIVERSE; Rest all are Effects. All of us feel proud that we are born and brought up in India. India is our Mother. India is a PEACE loving Country. It is the state of Peace, realizing which, we can know the entire universe and travel into the metaphysical realm by transcending Time- Space- Mind, a state where, we cease to be, we forget the self and surroundings and become one with the almighty. The enchanting revelations are when the researcher is fully lost in the quest! Let Noble Thoughts Come from every entity! Knowledge nurtures in, both, odds and evens.

India is a land which is known for its Culture of the Orient, Indus Valley Civilization, VASUDHAIV KUTUMBKAM, MUNIS and RISHIS, SAINTS & SEERS, Farmers & Teachers, Doctors and Engineers. India is a Nation known for all cultures- Agriculture, Horticulture, Sericulture, Digiculture. We have GOMANTAK, as well as, Honey Bee Culture! Despite Hills, Valleys, Plains and AASAM, we all are one, not only with Indians, but, with every one. We understand the communication of all, as a whole, We know the languages of the birds, reptiles, insects, animals, rivers, waterfalls, lakes, RHATS, and wells & tube wells. We Indians even without electronic WIFI & HIFI can connect with each other and share the states of each other through THOUGHTTRONS! We understand the languages of the celestial bodies, Sun,

Moon and Stars. We can even understand the communication of Migrant Birds, such as, "BTA TOON BTA TOON" . We can understand all the regional languages of the Universe. We have abilities, capabilities, competency, proficiency & feelings for all the entities. We have Universal language connecting with all. Our SHRIMADBHAGVADGEETA, and SHRIMADBHAGVATAM have educated us on how to realize the self, connecting with all! The SAPTA RISHIS constitute our SWASTIK- a symbol of Peace & Prosperity! Today (26.02.2021) is the 55th NIRVAN DIVAS of VEER SAVARKAR. We salute The Unique Freedom Fighter of the Profile of VEER SAVARKAR who devoted himself fully for the freedom of India! He was a staunch believer in HINDUTAVA and practiced it despite extreme tortures by the British. Had all of us been Hindu Militants we could never be enslaved by any power, be it, Moguls, Portuguese or the British! India has got freedom through the efforts of, both, *Hindu Militants and Messengers of Peace! Guns and Swords & CHARKHA & TAKLI, all have more or less equally contributed for the freedom of India from the British Regime.*

With all ifs and buts, India sustains its Growth & Development through Eternal, that is, SNATAN Approach, come what may. It means "*NIT NOOTAN CHIR PURATAN!*" *Come what may we nurture our Legacies & Realize our Vision, by going together, by growing together, transcending the castes, creeds, regions and religion. The name of our first Education Minister Post- Independence was Maulana Abul Kalam AZAD! He was a Learned Person, Eloquent Father of Dialogue and AZAD means above all castes, creeds, regions and religion. Let us treat every entity affectionately, unconditionally, with all decency, decorum and discipline! Let us be one with all. Let us universe through ANUPRANIT ANUBHOOTI and timely action and affection for all! We have all Hopes with Mother India & We Promise Mother India that we will revive our Ancient Culture and Modernize & Civilize with the Present Demands & futurological command to revive Peace & Harmony!*

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Autonomy & Quality of Indian Higher Education

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Vadodara, Gujarat, India

Indian Higher Education has been known for its quality since the establishment of the Ancient Indian Universities, namely, Nalanda & Takshila. Modern Indian Higher Education Institutions, namely, Indian Institute of Science, Bangalore and Indian Institute of Technology, Indore have been struggling for sustainable development of the Higher Education. But, progressively, the degeneration of a large number of Indian Higher Education Institutions is on the fore. It is mainly because of neo-liberalization, neo-privatization & blind- digitization. Liberal Art has become so liberal that it has lost its identity. Similar is the state of Science & Technology. Our fresh Engineers, how-so-ever, skilled & learned are wandering here & there for their survival. We are busy without business. Commerce is largely without service motive. Bureaucratic, conservative, table to table self killing model is leading our higher education nowhere. Values of the east are lost, whereas, the western styles & values are pouring. We have become more smart than civilized. There is identity crisis of Higher Education in India. What use are the degrees of a degree? DAAN, ANUDAAN, VIDAAN have lost their values. Charity with brand is no charity. University grant is the right of People in democracy, but, it has lost its grace. Convocations without invocation are useless. Neither there is content base, nor that of skills & competencies. ANUPRANIT ANUBHOOTI is rarely found amongst the graduates. Convocations have become customary. What is higher in higher education? Unless we revive our ancient values & life styles we will be nowhere. There is an immediate need to nurture & culture higher education. Progressively there is degeneration of autonomy & quality, both. Autonomy is self governance, self determination & action, where

NITI & NIYOJAN, both, are in one. Autonomy flows through self determination & action. Autonomy survives with freedom & independence, introspection & self regulation. Autonomy cannot be bestowed. It is self cultured & nurtured. Germination, incubation, creation, construction & connection are the essential features of autonomy. Only the pioneers can be autonomous & excellent. False names & fames lead us nowhere. Even false awards & rewards are too meek and weak to exhibit excellence. Baseless foundation stones cannot hold the buildings. Even the stones of such foundation stones are lost what to talk of buildings on these. Autonomy is evidently realized through zeal & determination, choices & actions, skills & competencies, free feelings attitudes & philosophy of life, knowledge base than through false degrees, designations & bestowed administrative positions. We have grossly failed to realize autonomy & excellence. It does not mean that we do not observe excellence. But, very often, we are merit blind. Autonomy & excellence are like quintessential recluse. These do not like to be recognized , rewarded & awarded. Their level of excellence is so high to be recognized by the so called expert committees, in fact, very often there is a tendency to neglect & derecognize the autonomous. It is a proud moment to find the AIU University News focusing on such an issue.

The Times World University Ranking 2019

The Times World University Ranking 2019 list is out. On a positive note, 7 more Indian Universities have made it to the list in comparison to last year and new institutes have outranked the older ones, this year. Indian Institute of Science (IISc) Bangalore has made it to the 251-300 rank band and is the highest ranked Indian University in the list. The list comprises of more than 1250 Universities from 86 countries worldwide. While the Universities ranked in the global top 10 have retained their position, Yale University is the only newcomer in the list. Switzerland's ETH Zurich has slipped down to 11th position this year.

Among the 49 Indian Universities, IIT Indore has been ranked the second best Indian University beating highfliers like IIT Bombay, IIT Kharagpur and IIT Kanpur among others.

List of Indian Universities in Times World University Ranking 2019

SNO	Higher Education Institution	Times World University Rank 2019
1	Indian Institute of Science, Bangalore	251-300
2	IIT Indore	351-400
3	IIT Bombay	401-500
4	IIT Rourkee	401-500
5	JSS Academy of Higher Education and Research	401-500
6	IIT Delhi	501-600
7	IIT Kanpur	501-600
8	IIT Kharagpur	501-600
9	Savitribai Phule Pune University	501-600
10	Amrita University	601-800
11	BHU	601-800
12	University of Delhi	601-800
13	Indian Institute of Science Education & Research Pune	601-800
14	IIT Guwahati	601-800
15	IIT Madras	601-800
16	IIT Bhubaneswar	601-800
17	IIT Hyderabad	601-800
18	Jadavpur University	601-800
19	National Institute of Technology Rourkela	601-800
20	Panjab University	601-800
21	Tejpur University	601-800

22	Acharya Nagarjuna University	801-1000
23	AMU	801-1000
24	BITS Pilani	801-1000
25	Indian Institute of Science Education & Research Kolkata	801-1000
26	IIT (Indian School of Mines) Dhanbad	801-1000
27	JMI	801-1000
28	National Institute of Technology Tiruchirapalli	801-1000
29	Osmania University	801-1000
30	Pondicheery University	801-1000
31	Sri Venkateswara University	801-1000
32	Thapar University	801-1000
33	VIT University	801-1000
34	Amity University	1001+
35	Andhra University	1001+
36	Annamalai University	1001+
37	Cochin University of Science & Technology	1001+
38	G.B. Pant University of Agriculture & Technology, Pantnagar	1001+
39	GITAM University	1001+
40	University of Kerala	1001+
41	KIIT University	1001+
42	The Maharaja Sayajirao University of Baroda	1001+
43	Manipal Academy of Higher Education	1001+
44	University of Mysore	1001+
45	PSG College of Technology	1001+

46	SASTRA University	1001+
47	SATYABHAMA UNIVERSITY	1001+
48	SRM University	1001+
49	Tamil Nadu Agricultural University	1001+

Universities for Grant of Graded Autonomy in India

CENTRAL UNIVERSITIES

SNO	University	NAAC Score	Category under the regulations
1	JNU	3.77	I
2	University of Hyderabad, Hyderabad	3.72	I
3	BHU	3.41	II
4	AMU	3.35	II
5	EFLU	3.26	II

STATE UNIVERSITIES

SNO	University	NAAC Score	Category under the regulations
1	Jadavpur University ,Jadavpur, Kolkata	3.68	I
2	Algappa University Karaikudi	3.64	I
3	NALSAR University of Law, Telangana	3.60	I
4	Savitribai Phule Pune University	3.60	I
5	Andhra University, Visakhapatnam	3.60	I
6	National Law University Delhi, Dwarka	3.59	I
7	Utkal University, Bhubaneswar	3.53	I
8	Kurukshetra University, Kurukshetra	3.52	I
9	Sri Venkateswara University, Tirupati	3.52	I

10	Osmania University, Hyderabad	3.52	I
11	Guru Nanak Dev University, Amritsar	3.51	I
12	University of Jammu, Jammu	3.51	I
13	University of Mysore, Mysuru	3.47	II
14	Anna University, Chennai	3.46	II
15	Punjab University, Chandigarh	3.35	II
16	Kakatiya University, Warangal	3.35	II
17	Punjabi University, Patiala	3.34	II
18	Rajiv Gandhi University of Law, Patiala	3.32	II
19	National Law University Odisha, Cuttack	3.32	II
20	University of Madras, Chennai	3.32	II
21	Guru Jambheshwar University of Science & Technology, Hisar	3.28	II

INSTITUTIONS DEEMED TO BE UNIVERSITIES (Category I)

SNO	Institution	NAAC Score	Category under the regulations
1	Homi Bhabha National Institute Mumbai, Maharashtra.	A+ (3.53) 11.05.2015 to 10.05.2020	I
2	Rashtriya Sanskrit Vidyapeetha Tirupati, Andhra Pradesh.	A +(3.71) 15.11.2015 to 14.11.2020	I
3	Gandhi Institute of Technology and Management (GITAM) Visakhapatnam, AP.	A +(3.53) 28.03.2017 to 27.03.2022	I
4	Narsee Monjee Institute of Studies Mumbai, Maharashtra.	A +(3.59) 12.09.2017 to 11.09.2024	I
5	Sri Ramachandra Medical College and Research Institute Chennai, Tamil Nadu.	A +(3.62) 24.09.2014 to 23.09.2019	I

6	Dr. D.Y. Patil Vidyapeeth Pune, Maharashtra	A +(3.62) 03.03.2015 to 02.03.2020	I
7	Shanmugha Arts, Science, Technology & Research Academy (SASTRA)Thanjavur, Tamil Nadu.	A +(3.54) 11.05.2015 to 10.05.2020	I
8	Symbiosis International Pune, Maharashtra.	A +(3.58) 19.01.2016 to 18.01.2021	I
9	Institute of Chemical Technology, Mumbai, Maharashtra.	A ++(3.77) 27.11.2017 to 26.11.2022	I
10	Datta Meghe Institute of Medical Sciences Wardha, Maharashtra.	A +(3.53) 30.10.2017 to 29.10.2024	I
11	Tata Institute of Social Sciences Mumbai, Maharashtra.	A ++(3.89) 19.02.2016 to 18.02.2021	I

INSTITUTIONS DEEMED TO BE UNIVERSITIES (Category II)

SNO	Institution	NAAC Score	Category under the regulations
1	TERI School of Advanced Studies New Delhi.	A (3.26) 23.03.2013 to 22.03.2018	II
2	Jain University Bangalore, Karnataka.	A (3.31) 19.07.2017 to 18.07.2022	II
3	Vellore Institute of Technology Vellore, Tamil Nadu.	A (3.42) 03.03.2015 to 02.03.2020	II

4	Manipal Academy of Higher Education	A (3.30) 11.07.2016 to 10.07.2021	II
5	KLE Academy of Higher Education and Research Belgaum, Karnataka.	A (3.34) 19.01.2016 to 18.01.2021	II
6	Amrita Vishwa Vidyapeetham Coimbatore, Tamil Nadu	A (3.40) 24.09.2014 to 23.09.2019	II
7	Kalinga Institute of Industrial Technology (KIIT) Bhubaneswar, Odisha.	A (3.48) 25.05.2016 to 24.05.2021	II
8	JSS Academy of Higher Education & Research Mysore, Karnataka.	A (3.34) 08.07.2013 to 07.07.2018	II
9	ICFAI Foundation for Higher Education and Research, Hyderabad, Telangana.	A (3.43) 26.05.2015 to 25.05.2020	II
10	Dr. M.G.R. Educational and Research Institute Chennai, Tamil Nadu.	A (3.31) 02.12.2016 to 01.12.202	II
11	Padmashree Dr. D.Y. Patil Vidyapeeth Navi Mumbai, Maharashtra.	A (3.40) 10.12.2014 to 09.12.2019	II
12	The Indian Law Institute New Delhi.	A (3.35) 28.03.2017 to 27.03.2022	II
13	Siksha 'O' Anusandhan Bhubaneswar, Odisha.	A (3.35) 16.11.2015 to 15.11.2020	II

Private Universities

SNO	University	NAAC Score	Category under the regulation
1	O.P. Jindal Global University Sonipat, Haryana	A (3.26) 17.03.2016 to 16.03.2021	II
2	Pandit Deendayal Petroleum University Gandhinagar Gujarat	A (3.39) 16.12.2016 to 15.12.2021	II

List of Colleges conferred autonomous status by the UGC:

SNO	Name of the College & Affiliating University
1	G. Narayanamma Institute of Technology & Science (For Women), 8-1-297/2/I, Shaikpet, Hyderabad-500 104 Telangana affiliated to JNTU Hyderabad, Telangana
2	Vivekanand College, 2130/E, Tarabai Park, Kolhapur-416 003 (Maharashtra) affiliated to Shivaji University, Kolhapur
3	Sri Vasavi Engineering College, Pedatadepalli, Tadepalligudem-534 101 (West Godavari Dist..) (Andhra Pradesh) affiliated to Jawaharlal Nehru Technological University, Kakinada
4	Bonam Venkata Chalamayya Engineering College, Odalarevu-553 210, Allavaram Mandal, East Godavari Dist., Andhra Pradesh affiliated to Jawaharlal Nehru Technological University, Kakinada, Andhra Pradesh
5	Jai Hind College Basantsing Institute of Science & J.T. Lalvani College of Commerce, 23-24 Backbay Reclamation, A-Road, Churchgate, Mumbai-400 020 affiliated to University of Mumbai, Mumbai-400 032
6	Shri Vile Parle Kelavani Mandal's Mithibai College of Arts, Chauhan Institute of Amrutben Jivanlal College of Commerce and Economics, Vile Parle (West), Mumbai-400 056 affiliated to University of Mumbai

**Times World University Ranking 2019 and Universities for Grant of Graded
Autonomy on the basis of the NAAC Assessment & Accreditation**

It is encouraging to find that in the Times World University Ranking 2019, 7 more Indian Universities have made it to the list in comparison to last year and new institutes have outranked the older ones.

It is evident from the above tables of list of Indian Universities in Times World University Ranking 2019 and Universities for Grant of Graded Autonomy on the basis of the NAAC assessment & accreditation that there are significant differences in the Times World University Ranking 2019 and NAAC Grading and autonomy thereof. For example three of the central universities, namely, JNU, University of Hyderabad, Hyderabad and EFLU which have been identified by the MHRD as Universities for Grant of Graded Autonomy do not appear in the top 49 Higher Education Institutions in the Times World University Ranking 2019, whereas, the others which appear in the Times World University Ranking 2019 have not been identified for grant of Graded Autonomy.

61.90% (13/21) of the State Universities for Grant of Graded Autonomy on the basis of NAAC Assessment and Accreditation find no place in the Times World University Ranking 2019..

81.82% (9/11) of the Institutions deemed to be universities (category-1) for Grant of Graded Autonomy on the basis of NAAC Assessment and Accreditation find no place , whereas, 19.18% namely GITAM & SASTRA find place in the Times World University Ranking 2019.

69.23% (9/13) of the Institutions deemed to be universities (category-1) for Grant of Graded Autonomy on the basis of NAAC Assessment and Accreditation find no place , whereas, 30.77% namely Manipal Academy, Amrita University, KIIT Bhubaneswar Odisha, and JSS Academy of Higher Education & Research, Mysore find place in the Times World University Ranking 2019.

None of the two private universities and six colleges for grant of Academic Autonomy find place in the Times World University Ranking 2019.

Status of Higher Education Institutions & Concerns

There is evident degeneration in the status of some of the Higher Education Institutions in India, whereas, up-gradation in the status of some of the Higher Education institutions. There is a need to find out the causes of degeneration & up-gradation, both. There is consistency in the Times World University Ranking 2019 and the NAAC Assessment & Accreditation in some of the institutions, whereas, there is inconsistency in a sizable number of institutions. What could it be attributed to?

It is very promising to find that eight of the State Universities Jadavpur University, Jadavpur, Kolkata, Savitribai Phule University, Pune, Andhra University Visakhapatnam, Sri Venkateswara University, Tirupati, Osmania University, Hyderabad, University of Mysore, Mysuru, Anna University, Chennai, and Punjab University Chandigarh have made it to the list of selected 49 Higher Education Institutions of India. GITAM, SASTRA, Manipal Academy, Amrita University, Kalinga Institute of Industrial Technology (KIIT) Bhubaneswar Odisha, JSS Academy of Higher Education & Research are the deemed to be universities which find place in the selected 49 institutions.

Some Reflections on Autonomy & Quality

- 1. Autonomy is an enabler of quality. Greater is the autonomy better is the quality.**
- 2. There is a need to conduct the case studies of some of the institutions which have degenerated, whereas, also that of those who have upgraded.**
- 3. Only such institutions which have demonstrated scholarship at the functional level should be considered for Academic & Functional Autonomy.**
- 4. Bureaucratic , conservative, hierarchical, Table to Table Approach, Super ordinate & Sub-ordinate Model of higher Education is self killing. It is curbing the autonomy & curbing it significantly. As a result Indian higher**

education is degenerating. Could we have a liberated & innovative model of Higher Education?

5. **Reality is out there & it is independent of the researchers who investigate it. So, there should be no significant differences in the rating or ranking of a Higher Education Institution by various agencies.**
6. **The focus of Higher Education Institutions should be on the Universe Development Index (UDI) rather than merely on Human Development Index (HDI).**
7. **Various faculties & departments of the universities, together, ought to be amply representative of the universe. These have to be innovative, constructive and connective.**
8. **Open Education Resources and Massive Open Online Courses are on the fore in Higher Education. There ought to be ample choice in Higher Education.**
9. **There is a need to renew the criteria for assessment accreditation and ranking of the Higher Education Institutions. In addition to infrastructure, teaching-learning-evaluation, student support & Progression, Internal Quality Assessment, Total quality Management, Research & Development, Publication & Extension, there ought to be due focus on innovations, creation, construction, production and placement.**
11. **At times there are in-equations between the universities and University Grants Commission. Many such imbalances are on the fore. Long back a B.Ed. & M.Ed. Integrated Program Proposal by an established College of Education in Haryana was approved by the UGC, but, it was not permitted by the University.**
12. **During Ninety's two degree programs, namely, B.C.Ed. and M.C.Ed. were offered successfully by the DAVV, Indore, but, these were neither recognized by the UGC nor by the NCTE. UGC was of the view that we brand these as B.Ed. (Computer) and M.Ed. (Computer), whereas, the NCTE was of the view that these are not under NCTE purview. The products of these programs are domain leaders worldwide. But, progressively these**

programs were discontinued due to inertia of the apex bodies in appreciating the innovative programs duly & timely.

13. New chemical entities have been produced by the universities. But, many of these could not be patented. The researchers have not been provided grants to get these patented. It incurs a lot of expenditure. The new chemical entities discovered by India are not reaching the end users. So, our markets are full of western drugs.
14. We exercise autonomy where we ought not to and vice-versa. Politicians have become educationists, whereas, educationists politicians. The Two in One is highly desirable, but rarely found.
15. Higher Education by virtue of being branded higher has to be innovative, creative, constructive and connective. To be innovative & constructive the higher education has to be autonomous. The innovative programs ought to be carefully considered by the apex bodies in the field.
16. Adhocism has become a salient feature of many a universities. The novice assistant professors are branded as Temporary Teaching Assistants. At times they continue as Temporary Teaching Assistants for years together. The Permanent faculty is treated as autonomous, whereas, adhoc casual. **There is evident degeneration in a large number of the State Universities in India. Adhocism has become their common feature. The positions of VC, Registrar, Chief Account Officer, Auditor, Teaching Faculties and Support Staff ought to be filled in time.**
17. We have Internal Quality Assurance Cells (IQAC) in the Higher Education Institutions. IQAC assures quality, but, who will ensure quality. Someone has very well voiced-“Honour or Shame from no condition rise, act well your part, there all the honour lies”. TQM demands autonomy. Quality breeds when everyone feels empowered, when everyone feels accountable, when everyone is respectful & respected. We owe an

explanation to the self and the rest for every act of ours. Let every act of ours be graceful!

18. There is little say of the stake holders in higher education. Higher Education is being governed and administered arbitrarily. Even the face validity is questionable right from recognition through assessment & accreditation.
19. **There is a need to de-mechanize the entire system of higher education.**

Concluding Remarks

Education by virtue of its nature ought to be autonomous. The educational institutions should have their own discretion to devise the curricula, decide the media, modes & methods of transaction and evolve modes of evaluation. When the excellence of is demonstrated & the quality established then only the formal financial autonomy be provided. More than micro-specialization inter-disciplinarity and wholism should be encouraged for balanced life & living. So, there should be sharing of credits within & between faculties, and also within & between universities. There should be networking amongst all the universities irrespective of whether these are F2F or Distance & Open. 21st century is a century of digital media. Open Education is on the fore through Open Education Resources (OERs), Massive Open Online Courses (MOOCs) and various e-depositories & repositories. The characteristics of all these learning resources should be well established through Technology-Pedagogy-Content Knowledge (TPCK). Autonomy & Excellence are intimately related. Excellence enjoys autonomy, whereas, autonomy nurtures excellence. Now the basic question is how to identify excellence for autonomy. The assessment and accreditation by various agencies, such as, NAAC, NCTE, AICTE and rating & ranking by various agencies ought to be done objectively. There ought to be one to one correspondence between ranking & autonomy. Some of the Higher Education institutions have been found to sustain their grades & ranks consistently. Higher Education ought to sustain its identity as Higher through germination, incubation, creation, construction & connection. Higher Education should have genuine focus on the universe. India has been known for its

Education since ancient period. We need to revive & realize the ethos of Indian Education. Autonomy is not bestowed. Autonomy is earned. Autonomy breeds Excellence and Excellence breeds Autonomy. There is a questionable notion that the bureaucrats can better govern the higher education. The degeneration & dilution of Teacher Education in India is an immediate evidence to it. Earlier the release of grant for higher education by the UGC was on regular bases, but, over the previous one decade it has become casual. Who is accountable? None of us or all of us. Education & only autonomous education can save India. But, there is only one single condition. Come what may the Education ought to sustain its identity & autonomy. Education should find its expression in every act of the nation. Our republic should be the true representative of the democratic & vise- versa!

The Digital Education Scenario in India

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The Digital Age, also commonly known as the Computer Age or Information Age, is a period in human history characterized by the shift from traditional industry that the industrial revolution brought through industrialization, to an economy based on the manipulation of information, i.e., an information society. The onset of the Information Age is associated with Digital Revolution just as the Industrial Revolution marked the onset of the Industrial Age. During the information age individuals gained the ability to transfer information freely, and to have instant access to information that would have been difficult or impossible to find previously. As every good thing comes with a cost, with the increasing use of the Internet the concern on Cyber-security has also grown, on 23rd November 2017 in the Global Conference on Cyberspace (GCCS), Prime Minister of India deliberated in his opening speech, “The global community needs to approach the issue of cyber-security with confidence, as much as with resolve. Cyberspace technologies must remain an enabler for our people. The quest for an open and accessible internet often leads to vulnerability.”(The Indian Express, 24 Nov.2017)

The Digital Age

The Information Age formed by capitalizing on the computer microminiaturization advances, with a transition spanning from the advent of the personal computer in the late 1970s to the internet's reaching a critical mass in the early 1990s, and the adoption of such technology by the public in the two decades after 1990. Bringing about a fast evolution of technology in daily life, as well as of educational life style, the Information Age has allowed rapid global communications and networking to shape modern society.

American engineers began developing digital technology in the mid-twentieth century. Their techniques were based on mathematical concepts suggested by the seventeenth-century German mathematician, Gottfried Wilhelm Leibniz, who proposed a binary computing system. His innovation inspired such numerical codes as American Standard Code for Information Interchange (ASCII) that described objects with digits.

Digital technology is a base two process. Digitized information is recorded in binary code of combinations of the digits 0 and 1, also called bits, which represent words and images. Digital technology enables immense amounts of information to be compressed on small storage devices that can be easily preserved and transported. Digitization also quickens data transmission speeds. Digital technology has transformed how people communicate, learn, and work. Awareness and preparedness for dealing with viruses like *Ransomware* is a must to bring consonance with the present digital scenario.

Telecommunications has relied on digital methods to transmit messages. In the early 1980s, enhanced fiber optics enabled the development of digital communication networks. Digital technology replaced analog signals for many telecommunication forms, particularly cellular telephone and cable systems. Analog-to-digital converters utilized Pulse Code Modulation (PCM) to change analog data into digital signals. Compared to analog transmissions, digitized signals are less distorted and could easily be duplicated.

In 1998, commercial digital television broadcasts premiered in the United States. Communication satellites known as Direct Broadcast Satellite (DBS) transmitted compressed digital signals for viewers to receive several hundred television programming choices. Other forms of digital information, including audio programs, were sent to subscribers via satellite. The Federal Communications Commission ordered all American broadcasts to be digital by 2010.

Digital printing with electro-photographic formatted data technologies have altered how books and magazines are published. The Library of Congress National Digital Library Project has worked to preserve and expand access to rare items.

In the early 2000s, digital computers ranging from laptops to Internet networks came in many sizes and performed various tasks. Supercomputers performed complex mathematical calculations analyzing vast amounts of data. The Digital Data Broadcast System (DDBS) guided air-traffic control. Digital radiography converted analog signals of x-rays to create digital images. Digital information was stored on plastic disks with pitted patterns of 1s and 0s that lasers translated. By the early 2000s, digital cameras had transformed photography by recording color and light intensities with pixels. Also, digital compression of images and video was achieved by Joint Photographic Experts Group (JPEG) and the Moving Picture Experts Group (MPEG) codes. Animation had often been digitized with some films and cartoons being created entirely with computers.

Analogue watches/clocks have a mechanism to indicate time by means of mechanical structures, such as a dial and hands (hand indication type), while digital watches/clocks have a mechanism to indicate time by means of electronic structures, such as a liquid crystal and LED (number display type).

"Digital" ("digit" as a noun), representing a finger, implies a thing that can be counted on fingers, which indicates a number. On the other hand, "analogue" originally means resemblance or similarity, which indicates a continuous quantity, as the antonym of "digital."

Properties of Digital Information

All digital information possesses common properties that distinguish it from analog communications methods:

- **Synchronization:** Since digital information is conveyed by the sequence in which symbols are ordered, all digital schemes have some method for determining the beginning of a sequence. In written or spoken human languages synchronization is typically provided by pauses (spaces), capitalization, and punctuation. Machine communications typically use special synchronization sequences.
- **Language:** All digital communications require a language, which in this context consists of all the information that the sender and receiver of the digital communication must both possess, in advance, in order for the communication to be successful. Languages are generally arbitrary and specify the meaning to be assigned

to particular symbol sequences, the allowed range of values, methods to be used for synchronization, etc.

- **Errors:** Disturbances (noise) in analog communications invariably introduce some, generally small deviation or error between the intended and actual communication. Disturbances in a digital communication do not result in errors unless the disturbance is so large as to result in a symbol being misinterpreted as another symbol or disturb the sequence of symbols. It is therefore generally possible to have an entirely error-free digital communication. Further, techniques such as check codes may be used to detect errors and guarantee error-free communications through redundancy or retransmission. Errors in digital communications can take the form of substitution errors in which a symbol is replaced by another symbol, or insertion/deletion errors in which an extra incorrect symbol is inserted into or deleted from a digital message. Uncorrected errors in digital communications have unpredictable and generally large impact on the information content of the communication.
- **Copying:** Because of the inevitable presence of noise, making many successive copies of an analog communication is infeasible because each generation increases the noise. Because digital communications are generally error-free, copies of copies can be made indefinitely.
- **Granularity:** When a continuously variable analog value is represented in digital form there is always a decision as to the number of symbols to be assigned to that value. The number of symbols determines the precision or resolution of the resulting datum. The difference between the actual analog value and the digital representation is known as quantization error. Example: the actual temperature is 23.234456544453 degrees but if only two digits (23) are assigned to this parameter in a particular digital representation (e.g. digital thermometer or table in a printed report) the quantizing error is: 0.234456544453. This property of digital communication is known as granularity.
- **Compressible:** According to Miller, "Uncompressed digital data is very large, and in its raw form would actually produce a larger signal (therefore be more difficult to transfer) than analog data. However, digital data can be compressed. Compression reduces the amount of bandwidth space needed to send information. Data can be compressed, sent and then decompressed at the site of consumption. This makes it possible to send much more information and result in, for example, digital television signals offering more room on the airwave spectrum for more television channels."

Analog & Digital Information

- In most cases the number of these states is two, and they are represented by two voltage bands: one near a reference value (typically termed as "ground" or zero volts) and a value near the supply voltage, corresponding to the "false" ("0") and "true" ("1") values of the Boolean domain respectively.
- Digital techniques are useful because it is easier to get an electronic device to switch into one of a number of known states than to accurately reproduce a continuous range of values.
- Digital electronic circuits are usually made from large assemblies of logic gates simple electronic representations of Boolean Logic Functions.

- An advantage of digital circuits when compared to analog circuits is that signals represented digitally can be transmitted without degradation due to noise. For example, a continuous audio signal transmitted as a sequence of 1s and 0s, can be reconstructed without error, provided the noise picked up in transmission is not enough to prevent identification of the 1s and 0s. An hour of music can be stored on a compact disc using about 6 billion binary digits.
- In a digital system, a more precise representation of a signal can be obtained by using more binary digits to represent it. While this requires more digital circuits to process the signals, each digit is handled by the same kind of hardware. In an analog system, additional resolution requires fundamental improvements in the linearity and noise characteristics of each step of the signal chain.
- Computer-controlled digital systems can be controlled by software, allowing new functions to be added without changing hardware. Often this can be done outside of the factory by updating the product's software. So, the product's design errors can be corrected after the product is in a customer's hands.

Information storage can be easier in digital systems than in analog ones. The noise-immunity of digital systems permits data to be stored and retrieved without degradation. In an analog system, noise from aging and wear degrade the information stored. In a digital system, as long as the total noise is below a certain level, the information can be recovered perfectly.

Analog Digital Inter-conversion

American Standard Code for Information Interchange (ASCII- 8BIT & 128 Characters), Universal Code (UNI- 16 BIT & 256 Characters) are the standard codes for analog to digital representation, for English and All Languages, respectively. The data are compressed and communicated in a compatible format, such as, JPEG/GIF & MP3/MP4. The name "JPEG" stands for Joint Photographic Experts Group, the name of the committee that created the JPEG standard and also other still picture coding standards. The JPEG compression algorithm is at its best on photographs and paintings of realistic scenes with smooth variations of tone and color. For web usage, where the amount of data used for an image is important, JPEG is very popular. JPEG is also the most common format saved by digital cameras.

On the other hand, JPEG may not be as well suited for line drawings and other textual or iconic graphics, where the sharp contrasts between adjacent pixels can cause noticeable artifacts. Such images may be better saved in a lossless graphics format such as TIFF, GIF, PNG, or a raw image format. The JPEG standard actually includes a lossless coding mode, but that mode is not supported in most products.

As the typical use of JPEG is a glossy compression method, which somewhat reduces the image fidelity, it should not be used in scenarios where the exact reproduction of the data is required (such as some scientific and medical imaging applications and certain technical image processing work).

JPEG is also not well suited to files that will undergo multiple edits, as some image quality will usually be lost each time the image is decompressed and recompressed, particularly if the image is cropped or shifted, or if encoding parameters are changed. To avoid this, an image that is being modified or may be modified in the future can be saved in a lossless format, with a copy exported as JPEG for distribution.

The digital communication very often has High Fidelity, because, there are no losses due to interference and adverse conditions. The data are communicated through point to point connectivity or wireless. Required protocols are observed in communication. We have both analog to digital converters & digital to analog converters. Charge coupled devices are used for digital to analog conversion.

Digital Age Skills

Digital Age Skills have become the basic needs of the present century, such as, Global Awareness Skills- Understanding of how countries, corporations and communities all over the world are interconnected, interrelated and interdependent, Cultural Literacy Skills- Appreciation of diversity of cultures, acculturation, enculturation and trans-creation, ICT Skills- Ability to find, analyze, evaluate and make appropriate use of information, Scientific Literacy Skills- understanding universe through observation, interaction and experimentation and Functional Literacy Skills- Use of Information & Knowledge for living healthy, happy, meaningful and long life.

Humane & Professional Educator in the Digital Age

Teacher Education for preparing humane & professional teachers in the digital age needs to be wholistic. Along with content & methodology there is a need to integrate emotional competencies, such as, self-awareness and self-management, social sensitivity and social management. There is a need to integrate life skills, such as, self-awareness, empathy, interpersonal relationship, effective communication, critical thinking, creative thinking, decision making, problem solving, and coping up with emotions and stress. There is a need to integrate info-savvy skills, such as, asking, accessing, analyzing, applying and assessing. There is a need to integrate techno-pedagogic skills, such as, media-message compatibility, media designing, integration of message media and modes, realizing proximity of message forms, media language proficiency, media choice, message authenticity and media credibility, media automation, media integration and media acculturation. There is a need to integrate human development climate through trust, risk taking, openness, reward, responsibilities, top support, feedback, team spirit and collaboration. There is a need to integrate spiritual intelligence dimensions, such as, knowledge of God, religiosity, soul or inner being, self awareness, quest for life values, convention, commitment and character, happiness and distress, brotherhood, equality of caste, creed, colour and gender, inter-personal relations, acceptance and empathy, love and compassion, flexibility, leadership, life & death. The Teacher Education programs need to integrate numerous skills & competencies.

Digital Shift

The 21st century demands techno-pedagogues who are techno-savvy, digitally cultured content masters and fully situated on the principles of learning & teaching. Technology is the application of sciences artistically in a systemic way. Digital Technology is reasonably fast. The digital flow is with the speed of electro-magnetic waves which travel with the speed of light, that is, 3×10^{10} centimetres per second. Technology is evidently omnipresent reaching & deploying the most recent immediately. Technology is available in various forms. There is an evident shift from scattered media to multimedia, dot to globe and point to morphology. Technology is our extension in many varied forms. Radio is extension of our voice; television is extension of our view composition & expression, motorbikes are extensions of our feet, clothes are extension of our skin, computers are extension of our brain, whereas, multimedia

are our extension. There are many a forms of Digital Educational Technology, such as, Educational Radio, Educational TV, Educational Satellites, Computer Aided & Integrated Education, Web Based Instruction and Social Networking in Education. We have HIFI & WIFI, that is, High Fidelity & Wireless Fidelity Technologies. There are point to point networks and broadcast networks. There are LAN, WAN and www. There are Polar Satellites and Geo-stationary Satellites. There is an evolution from desktops to laptops to tablets. There is a move from technology aided instruction to technology integrated education. Digital Technology is available in both synchronous & asynchronous modes. Progressively there is a move from F2F mode to distance mode through Open Education Resources (OERs) and Massive Open Online Courses (MOOCs).

Omnipresent Technology

It is an age of Technology. Essence of technology is all around us. Technology is here, there and everywhere. It can lower the unit per capita cost of communication; and by and large seems to be driving force. In the area of staff development, technology can provide quality training at a faster speed, at a cheaper rate, at chosen places, at convenient times and for larger masses, with untiring repetitions, and iterations. But we have to be cautious. One cannot use any medium anywhere. Inappropriate use of media can have a backlash effect. One must know the media thoroughly before using. The unreached, the isolated and those who have been ignored for too long must be attended to on a priority basis. We should therefore choose pro-poor technologies. Here the poverty is seen as knowledge poverty.

Nature Friendly Technology

Technology should be designed as nature friendly. There are two discrete ways of seeing things through the eyes of an artist and through the eyes of a technologist. In fact technology is integration of both. Environment can be perceived both as a source & resource. There are people in the universe who see nature as a supply of resources, but there are also those who see the world as one lively beautiful life force. But it is not fair to dichotomize the traditional values and media values as- Honesty and shrewdness, Loyalty to others and lookout for home/family and alternate life style, absolute norms and situational ethics, work hard ethics and I deserve a living, compassion and cruelty, peace and violence, inoffensive speech and vulgarity, conformity and rebellion, personal responsibility and blame anyone and everyone, politeness and insults.

Techno-positivism

We believe in Techno-positivism in all walks of life- health and hygiene, family care and human development, food and nutrition, housekeeping, dress designing, conservation and development of environment, cultural heritage and social fabric, social work, economics, education, management, administration, polity, fine arts and communication. Educational technology has to cut across various sections and levels of society. Technology can cut across all age levels, infant, child, youth, adult and old. Technology can provide inputs for all levels of education and all strata of the society including house maids, labourers,

migrating groups, hawkers, and support staff. Negative thinking for misuse of the strengths of technology should be avoided. Nature and Technology, Man and Machine should supplement each other. No attempts should be made to originate theories of negativity against techno-positivism.

Digital Media in Education

Medium is carrier of message. In this age of electronics & communication there should be added focus on media compatibility and creditability. The messages need to be distributed across various media judiciously. It has been observed that the different media are being used in education casually. Rarely attempts are made to examine message media compatibility. Why should the relevance and quality of a message communicated through electronic media be questionable? Technology and pedagogy seem to function in isolation. There are rare bonds in the form of techno-pedagogy. At times media seem to be more mechanistic than naturalistic. The educational media scripting is significantly wanting. The production variables need to be treated very scientifically. In this age of knowledge explosion and media implosion media literacy should be a must for.

There is a shift from Indian pen to the computer key board, from black board presentation to power point presentation, from paper pen test to computer based test, from interpersonal instruction to mediated instruction, from teacher dependent learning to independent learning. It is a matter of great concern that though we have a media crowd but without media culture. Media are extension to man. But the question is how to realize this extension truly. We have country wide educational radio and educational T.V programmes at various levels of education. But the programmes are either underutilized or not utilized. To what such a state should be attributed? Are the needs of the learners not ascertained prior to designing and production? Are the production variables not duly considered? Are proper feedback mechanisms lacking? Is there a need to enhance the quality and relevance of the mediated programmes? We have not been in a position to develop skills and competencies to deal with the modern media.

There are more powerful learning paradigms available now. There is a shift from linear to hypermedia learning, from instruction to construction and connection, from teacher centred to learner centred education, from absorbing material to learning how to navigate and learn, from school to lifelong learning, from all fit in one to customized learning, from learning as a torture to learning as fun and from the teacher as transmitter to teacher as facilitator.

ICT in Education

Information and Communication Technology (ICT) has become, within a very short time, one of the basic building blocks of modern society. Many countries now regard understanding of ICT and mastering the basic skills as part of the core of education, alongside reading, writing and numeracy. The recent effort of the Government of India (GOI) seeks to deepen the use of ICT in almost every sphere of life. The Digital India Campaign (2015) of GOI strives to transform India into a digitally empowered society and knowledge economy

by focusing on the three vision areas **i.** Digital Infrastructure as core utility to every citizen, **ii.** Governance and Services on Demand and **iii.** Digital literacy and empowerment of citizens. The three cardinal principles of education policy viz., access, equity and quality could be served well by harnessing the huge potential of ICT. Anytime anywhere mode of delivering quality education using ICT is one such implication of technology in education. To motivate teachers to use ICT extensively, many incentives have been instituted by the Government of India. One such incentive for the school teachers is national ICT Award for School Teachers.

Realizing the importance of media and educational technology in India, the national policy on education in its modified document -1992 states that, "Modern communication technologies have the potential to bypass several stages and sequences in the process of development encountered in earlier decades. Both the constraints of time and distance at once become manageable. In order to avoid structural dualism, modern educational technology must reach out to the most distant areas and deprived sections of beneficiaries simultaneously with area of comparative affluence and ready availability". Further it has stated that "Educational Technology will be employed in the spread of useful information, the training and retraining of teachers, to improve quality education, sharpen awareness of art and culture, inculcate abiding values, etc., both in the formal and non-formal sectors. Maximum use will be made of the available infrastructure".

The National Curriculum Framework (NCF) – 2005 also states "Judicious use of technology (Multimedia and ICT) can increase the reach of educational programmes, facilitate management of the system, as well as help address specific learning needs as requirements of young learners, teacher training, facilitate classroom learning, and be used for advocacy. Possibilities of teaching and learning at varied paces, self-learning, dual modes of study could all benefit from the use of technology, particularly ICT. The increasing use of the internet has enabled the sharing of information and provided space for debate and dialogue on diverse issues hitherto unavailable on such a scale. Technological innovations are also necessary for appropriate equipment and aids for meeting the learning requirements of children with special needs. What needs to be underscored is that technology could be integrated with the larger with larger goals and processes of educational programmes rather than viewed in isolation or as add-on. In this context, technological use that turns teachers and children into mere consumers and technology operators needs to be reviewed and discouraged. Interaction and intimacy are the keys to quality education, and this cannot be compromised as a principle in any curricular intervention". In a sense the NCF-2005 emphasises a paradigm shift in respect of the entire process of education. NCF calls for a shift to learner centric ways (primacy of active learner), provide scope for variations in learners needs, multiplicity of learners exposures, and creation of citizens capable of reflective thinking and empowered participation in development.

MHRD Government of India's Initiatives in Spread of ET and ICT in Education

India recognized the importance of ICT in education as early as 1970, when the use of educational TV came into existence, it got further strengthened in 1984- 85 when the computer literacy and studies in schools (CLASS) project was initially introduced as a pilot

with the introduced as a pilot with the introduction of BBC micro-computers. A total of 12,000 such computers were received and distributed to secondary and senior secondary schools through state governments. The project was subsequently adopted as a centrally sponsored scheme during the 8th five year plan, the scheme was widened to provide financial grants to institutions, which were given BBC Micros, and also covered new government aided secondary and senior secondary schools. Assistance included annual maintenance grant for BBC micros and purchase, as well as, maintenance of equipment for new schools.

About 2598 schools having BBC micros were covered under the CLASS scheme during the 8th plan for providing instructors, maintenance of hardware, consumables and text books for students and training of teachers in schools. In addition, 2371 schools were covered with new hardware and services, which included Rs. 1.00 lakh for hardware configuration and Rs. 1.30 lakhs per annum for recurring costs Rs. 0.80 lakh per annum was kept as the recurring costs for schools, which has already been covered under the BBC micros scheme.

NIC was identified as the nodal agency for finalizing the contract for the supply of hardware. The use and supply of software was limited, coverage was confined to senior secondary schools and the students of class XI & XII had to undergo a computer course module.

National task force on information technology and software development (IT task force) – constitute by the Honourable Prime Minister of India – in July, 1998 has made specific recommendations on introduction of IT in the education sector including schools. The relevant paragraphs are reproduced below: VIDYARTHI Computer Scheme, SHIKSHAK Computer Scheme and School Computer Scheme to enable students, teachers or schools respectively, desirous of buying computers to do so under attractive financial packages. These schemes will be supported by a suite of initiatives such as lowering the cost of PCs , easy instalment bank loans, computers by NRI organizations, large-volume bargain price imports, and multi-lateral funding. Computers and Internet were expected to be made accessible to schools, polytechnics, colleges and public hospitals in the country by the year 2003. The concept of SMART schools where the emphasis is not only on information technology in schools, but also on the use of skills and values that will be important in the next millennium, shall be started on a pilot demonstrative basis in each state. The report recommended provision of computer systems to all educational institutions up to secondary/ higher secondary schools by suitable investments (about 1-3%) of the total budget during the next five years. The recommendations of the task force have been approved by the council of ministers.

The 'ICT@schools' scheme is a window of opportunity to the learners in the schools of India to bridge this digital divide. The scheme is not a simple merger of the earlier CLASS (1984-85) and ET schemes (1972: under which Radio – cum – cassette players (RCCPs) and colour television sets (CTVs) were supplied in schools) but is comprehensive and well thought out initiative to open new vistas of learning and to provide a level playing field to school students, whether in rural areas or in the metropolitan cities. The 'ICT@schools' scheme is not a standalone scheme, but actively solicits the partnership of states, union territories & other organizations in a mutual endeavour to bridge the heterogeneous proliferation of ICT

across different socio-economic and geographic segments in the country. This partnership is manifest in the structure of financing the initiative, in encouraging the development of long term computer education plans, the setting up of smart schools in KVS/NVS and in states as technology demonstrates and in providing for supplementing the States efforts in these areas with no attempt being made to supplant the state schemes.

The centrally sponsored scheme of 'Educational Technology' (1972) and 'computer literacy and studies in schools' (1984-85) have been suitably modified keeping in view the past experience, the feedback which has been received and changing needs to form the new scheme of 'Information and Communication Technology in schools'. The component regarding financial assistance to state/UT's for purchase of Radio-cum-cassette players (RCCPs) and colour television sets (CTVs) under the erstwhile educational technology scheme has been weeded out.

ICT @ Schools Scheme Launched by Govt. of India

The centrally sponsored scheme "information and communication technology (ICT) in schools" was launched in December 2004, to provide opportunities to secondary stage students to develop ICT skills and also for ICT aided learning process. The scheme is a major catalyst to bridge the digital divide amongst students of various socio-economic and other geographical barriers. This provides support to States/UTs to establish computer labs on a sustainable basis. It also aims to set up SMART schools in Kendriya Vidyalayas, Navodaya Vidyalayas and schools run by states/UTs to act as "Technology Demonstrates" and to lead in propagating ICT skills among students of neighbourhood schools.

In the recent past Government of India under the patronage of MHRD has taken a lot of initiatives for the purpose of providing digital access to stakeholders of Education in India, in 2013 National Repository of Open Educational Resources (NROER) was launched, which provides a huge list of multiple resources to the audiences as Open Educational Resources. In 2015 ePathshala Website and mobile app was launched, which provided further boost to the Indian Educational scenario. 2017 got a distinctive place in the arena of Indian Education, SWAYAM platform for launching MOOCs and SWAYAM Prabha Consortium of 32 Educational Channels was done in July and in the same year November got commemorated by the launch of UMANG (Unified Mobile Application for New-age Governance) by the Ministry of Electronics and Information Technology and the National e-Governance Division. UMANG is a Central and state government services app which is available both for Android and Apple versions. This app integrates services from several government departments. Some of the services on it include locating CBSE exam centres and getting results, looking up NCERT syllabus, searching for AICTE approved institutions and courses, viewing soil health cards, applying for crop insurance and booking appointments for several hospitals or viewing test reports. This app comprises of 162 services from four State governments and Central ministries for accessing.

Educational Technology: Research Scenario

A sizable number of studies on effectiveness of CAI developed through various computer languages employing either pre-experimental design or quasi experimental design revealed significant mean score gain from pre-test to post-test. Studies on the effectiveness of CAI reveal favorable reactions of students and teachers towards the CAI. (Prabhakar 1989; Himani 1990, Mahapatra 1991, and Adhikari 1992, DAVV, Indore; Khiwadkar 1999, Zyoud 1999, Yadav 2000, Goel Khirwadkar Tomar Das & Joshi, 2000, Macwana 2004, Sharma 2005, Barot 2005, Pradesi 2005, and Rathod 2005, MSU; Suwanna 2004, SGU; Upadhyaya 1999, MJP Rohilkhand University, Bareilly; Sanjana 2001, MDU and Pandian 2004, DU).

There have been found rare studies on the pedagogic/techno-pedagogic analysis of the computer based educational instructional programs. These studies reveal that there should be added focus on production variables, pedagogic principles and spatial and temporal contiguity of various message forms (Patel, 2001, MSU; Chaudhari, 2005, MSU). Computer as a medium has been found to have the potency of addressing the heterogeneity in terms of variables, namely, IQ, Interest, Motivation, Language level (Zyoud, 1999, MSU).

There are rare studies on effectiveness of CALM in various modes, namely, text, graphics, text & graphics, text, graphics & music. It has been found that the composite modes may not always ensure higher level of language learning (Das, 1998, MSU). Very few studies have been conducted on the relative effectiveness of CAI with peer interaction in mono, dyad and triad (Pardesi, 2005, MSU).

Attempts have been made for designing, developing and implementing computer based Learning Resources Management System (LRMS). The automated LRMS has been found definitely more effective than the manual LRMS (Beryah, 1995, DAVV).

A few studies have been conducted on the relative predictivity of various variables with respect to the criterion variable, namely, Educational Proficiency (Mishra, 1993, DAVV; Goel, 2003, MSU).

A study conducted on Time Space Personnel Management System revealed that the computer based TSPM system was found relatively more acceptable and better functional than the manual TSPMS (Biswal, 1995, DAVV).

Though studies have been conducted on the automation of examination system, yet these studies find rare expression at the functional level. Teacher Education Institutions need to promote Choice Based Credit System and on demand examination (Mahajan, 1993, DAVV; Joseph, 1993, DAVV; Shinde, 1993, DAVV; Goel, 1997, MSU).

A sizeable number of teacher education institutions in India have initiated into ICT in Education either as a core course or as optional course. In spite of the impeding factors, namely, limited staff, inadequate laboratories with maintenance problems, sizeable classes, the courses have been found to realize their objectives reasonably (Goel, Das, and Shelat,

2003, MSU). A sizeable number of teacher education institutions have been found lacking facilities, such as, Internet, MS Publisher, Acrobat Reader (Goel, 2005, MSU).

A few studies conducted on the use of Internet in Teacher Education Institutions revealed that the student teachers largely lack in info-savvy skills and techno-pedagogic skills (Joshi, 1999, MSU; Dhodi, 2005, MSU).

Some of the teacher trainees make use of Internet for surfing, e-mail, research, core courses, special areas. But, the Internet is rarely used for web designing, reflective dialogue and outsourcing. Measures of Internet safety are rarely employed. There is a need to develop Net-Savvy Skills in Teacher Educator Trainees (Goel, 2006, MSU). Some Studies have been conducted on bridging the gaps between teaching styles and learning styles. The studies are appreciable but there is a need to conduct many more studies (Rathod, 2005, MSU).

Studies conducted on language instruction through Power Point Presentations on realizing communicative and functional languages have been found to go a great way in establishing the effectiveness of learning various languages (Yadav, 2005, MSU; Rathod, 2005,MSU). There have been rare studies on developing language learning strategies and learner autonomy through weblogs. Blogs not only provide teachers with an exciting new way to approach communicative language learning, these also give students a new reason to enjoy reading and writing.

Nayana Dhodi (2011) demonstrated very well how the info-savvy skills of Asking, Accessing, Analyzing, Applying and Assessing were developed in the Pre-Service Teachers of India through surfing on Cultural Heritage of India and Buddhist Heritage of India and the domains of their respective discipline methods. It is a joyful experience to travel through her doctoral Thesis experiencing various surfing skills, namely, skimming, scanning, authenticating, hyperlinking, switching, skipping culminating into educational immersion for seeking solutions.

Ali Haider (2016) conducted a study of the Effect of Logical Thinking Ability and Computer Based Instruction Using Active Learning Techniques on Students' Achievement of Basic Concepts in Organic Reaction Mechanism. The treatment was found to be effective, but, Despite appreciation for the package, there was a demand of teachers' involvement for regular chemistry instruction.

Anu Singh (2015) conducted a study - Science Teachers 'Current Pedagogies, Their Context and Their Pedagogical Experiences with an ICT Intervention.

Mohd. Mamur Ali (2017) conducted a study on Identifying Problems in Students' Understanding of Linear Equations and Transcending them with the Use of Computers. The National Library of Virtual Manipulative (NLVM) Software could enhance the understanding of equality operator, arithmetic operators, variables & structure of equation. The computer could transcend the learners to have thorough understanding of linear equations bidirectional.

Rakshak Jain (2016) conducted a study- Impact of Developed E-Content, Media and Study Habits on Perception Towards E-Content Based Learning Amongst Undergraduate Students. The study has definitely contributed to the knowledge base in the realm of Electronic Media and e-learning system.

Educational Technology and ICT in Education have demonstrated their values. But, Technology in Education is not yet fully integrated. Technology in Education is still underutilized. There is a need to evolve & interweave the Techno-Pedagogic principles as follows:

Pedagogic Principles

The entire education ought to have scientific bases. Every educational input has to be based on scientific principles. There are various principles of teaching. While teaching every teacher should move from:

1. Concrete to abstract
2. Simple to complex
3. Easy to difficult
4. Whole to parts
5. Induction to deduction
6. Progressive differentiation to integrative reconciliation
7. Impersonal to personal
8. Differentiated to differential
9. Building blocks to structure
10. Learning Styles to Teaching Styles

Basic Model of Communication

Every teacher while teaching should employ Lass well's basic model of communication as follows:

Who – Sender analysis

Says what- Message analysis

To whom- Audience analysis

Through which channel- Medium analysis

With what effect- Communication analysis

Features of Communication

1. We cannot not communicate
2. Communication is irreversible
3. Communication is circular
4. Communication is helical
5. Communication is endless

The basic organisational principle flowing through this model of communication is that any communication is a function of the correspondence amongst sender, message, medium and the receiver.

Principles of Digital-Pedagogy

There are numerous principles of Techno-pedagogy such as follows:

1. Medium is Message - The message should be Mediagenic. There should be medium & message compatibility. In no case medium should try to dictate the message. Medium should be neutral to carry or pass the message. Every message does not go with every medium. The messages should be judiciously distributed against various media
2. Spatial & Temporal Contiguity of Various Message Forms - Various message forms should be in the geographic proximity. Visual & its corresponding audio, picture & its commentary should run together. There should not be temporal or spatial gaps. More is the contiguity of various message forms, better is the reach.
3. Media Language Proficiency - Every medium has its own language. Radio has its own language, TV has its own language, and Computer has its own language. We the teachers, scripter, presenters, ought to have media language proficiency, in terms of size of the message, intonation, modulation, lip-sync, pitch & volume and the speed of delivery.
4. Message Credibility & Media Fidelity - We ought to establish the testimony of the message- text and or visual prior to it is mediated. It should be factual, that is, flawless. There should be no message dilution, distortion or loss when it is mediated. Media should have very high fidelity. These days we have WiFi & HiFi, that is, Wireless Fidelity & High Fidelity. Any medium should cross validate any message before it is carried & delivered.
5. Balanced View Composition - The entire view composition needs to be configured very carefully. The relative position of various subjects & objects, their relative colours, hue, saturation, reflection, background, foreground matter a lot. The view composition has to be plot compatible.
6. Message Irreversibility - Communication is irreversible. E-messages travel with the speed of light, that is, 3×10^{10} cm/sec which is seven times the circumference of the earth. We need to exercise psychomotor control. The testimony of the message needs to be fully established before we touch 'SEND'. A soft touch sends a message far & wide destined. To rectify an erratic message post- communication is a figment of imagination.
7. Projection Time Determination - Screen time of a message varies from culture to culture. Some are fast viewers, whereas, others are slow viewers. The on screen time needs to be decided very judiciously.
8. Correspondence amongst Sender, Message, Medium & Receiver - Any communication is a function of the correspondence amongst sender, message, medium and receiver. There is a need to do thorough analysis of the sender, message, medium & receiver. All these should be perfectly matching. The message should be mediagenic, as well as, receivergenic. There is a need to do thorough content analysis, medium analysis, as well as, viewer analysis, so that all of these are in tune.
9. Wave Lengths of Scripter, Presenter, Producer & Cameramen - All the stake holders of designing & production should be at the same wave length. There has to be perfect interrelation, interdependence and understanding amongst all the elements Electronic

Media. It has to be a perfect systemic approach. The entire View Composition, Camera density & Presenter Profile, Zoom Out & Zoom In, Background & Foreground, the content & modulation, the Receiver & Speed of delivery have to be in tune.

10. Quality, Demand & Supply of the Digital Products - The quality of the digital products ought to be established very carefully, right from germination through incubation, creation, construction & connection. Any digital product demands fully scientific bases, which need to be observed very analytically.
11. Natural Production - Voices should be directly recorded from the field be it, Rain Falls, Rivers, Birds, Thunders or VOX POLO, that is, own voices of the People, and onomatopoeia, that is, action sounding words. We should try to reproduce the reality as it is to the extent possible. Real is real & artificial is artificial. Let us try to be natural, if not, and then tend to be natural. Let us recreate the real, the original, the natural.
12. Compatible Format - The format of the program should be reality compatible. We need to decide the most compatible format amicably, such as, talk, documentary, drama, Feature, Narration, Experimentation very carefully.
13. Innovative & Interesting - Techno-pedagogy is expected to be innovative & interesting. Everyone likes to meet the Pioneers. It demands constructivist & connectionist approaches. Germination, incubation, creation, construction & connection are the salient phases of Innovative & Interesting Techno-pedagogy. Research & Renew, Explore & Expose, Innovate & Create.
14. Differentiated & Differential - The strength of Techno-pedagogy lies in becoming differentiated differential. It should be in a position to serve all as per their tastes. Technology demands variety.
15. Wholistic Techno-pedagogy - Techno-pedagogy is where ideas spring, feelings flow, motor creates, the soul reigns & the self resonates with the environment.
16. Communicative Techno-pedagogy - We cannot not communicate. At the same time communication is circular & irreversible. Techno-pedagogy should strictly observe the principles of communication.
17. Healthy Techno-pedagogy - Techno-pedagogy should be healthy. For that even the most quality Technology-Pedagogy-Content trio demands proper management & maintenance. There should be compatible management- centralisation, de-centralisation, delegation and devolution. There should be proper maintenance, such as, preventive, corrective, adaptive and perfective.
18. Symbiotic & Cybernetic - Content, Pedagogy & Technology should have symbiotic relationship. All these should learn to live together. Content Masters may not be pedagogues and vice-versa. Pedagogues may not be Technocrats & vice-versa. All in one is an idealistic expectation. But very often there are gaps between idealism & realism. TPCK demands automatic control systems.
19. Teleprompting & Presentation - The services of teleprompter should be utilised as a prompter not dictator. The teleprompter may prompt, but, the innovation, creation & construction should be left to the discretion of the presenter. In no case the teleprompter should contain and present the entire script.

20. Aspect Ratio of the Presenter, Graphics, Video & Animation - The presenter may verbalise 25 to 30% of the text, rest of the share should be that of graphics, videos and animation. The presenter may exercise kind gestures, so that, even the silent graphs & graphics speak.
21. Constructivist & Connectionist TPCK - Any Educational Technology Program, irrespective of the form it obtains, such as, Educational Radio, ETV, Computer Assisted Learning Material, Twitter, Watts-app, Mobile-app, WBI, e-Program should be innovative, creative, constructive & connective having novel, decent and cultured serve.
22. F2F Type Techno-pedagogy - F2F type Techno-pedagogy facilitates the front view of the Teacher & Video Presentation, both, F2F with the class through the png conversion, say, a virtual graph or a diagram in front of the teacher or the front view of an experimenter experimenting.
23. Culture Compatible Techno-pedagogy - Though the Techno-pedagogy is fast evolving, but, at the same time it has to be culture compatible.
24. Coherent Composition – People learn better when extraneous material is excluded rather than included. The Technology, Pedagogy and Contents need to be coherently & precisely interwoven.
25. Prompting Techno-pedagogy - People learn better when cues that highlight the organization of the Technology, Pedagogy & essential material are added.
26. Redundancy Principle – People learn better from graphics and narration than from graphics, narration and printed text. It is a fact that composite are the media & modes better & joyful is the reach. But, the media redundancy ought to be avoided.
27. Segmenting Presentation – People learn better when a Techno-pedagogy lesson is presented in user – paced segments rather than as a continuous unit.
28. Pre-training Principle – People learn more deeply from a multimedia message when they receive pre- training in the names and characteristics of key components.
29. Modality Principle – People learn better from graphics and narration than from graphics printed text. Narratives have been found to have better reach than prints.
30. Multimedia Principle- People learn better from words and pictures than from words alone. The messages need to be judiciously distributed against various senses.
31. Personalization Principle – People learn better from a techno-pedagogic presentation when the words are in conversational style rather than in formal style. Even in a class setting we ought to be impersonally personal.
32. Voice Principle – People learn better when the words in multimedia message are spoken by a friendly human voice rather than a machine voice. Humanistic reach is better than mechanistic throw.
33. Object Principle- People do learn more deeply from multimedia presentation when the speaker is on the screen. Objects have their own reach.
34. Natural View Composition- The view configuration & composition ought to be natural. The natural view composition has its own reach.

Concluding Remarks

There is a rapid evolution of Technology Pedagogy Content Knowledge. There is a move from dot to globe and point to morphology. But techno-pedagogic culture & quality are wanting. There is an ocean of OERs, MOOCs & All Digital, but, digital culture is wanting. We need to evolve & employ techno-pedagogic principles for e-communication. Rather than duplication & replication we need to enter into the realm of innovations & novel productions. Investing Public Exchequer in infinite volumes on digital technology may not have expected returns until we develop digital culture. Digital technology has its own ethos & culture which need to be developed. A large number of Educational Institutions are facing the problem of technology integration & maintenance. There are problems of management & maintenance-preventive, corrective, adaptive and perfective. Returns on investment are very rare.

There is an immediate need to observe techno-pedagogy, rather than producing the programs arbitrarily. The scripter, director, producer, cameramen and the presenter ought to have a lot of understanding. The teleprompter ought to be used as a prompter, rather, than dictator. There ought to be compatible correspondence amongst sender, message, medium & receiver for healthy reach. There is a need to modernise technology in India. TPCK demands our Education System to be Techno-savvy, Pedagogy Expert & Content Master. Techno-Pedagogic Skills should find expression at the operational level.

A large number of the teachers feel alienated and alone in this digital age of networking & globalization. We, the 21st Century Teachers are lost in the realm of technology. We are neither techno-savvy nor info-savvy. We travel through the media crowd without being sensitive to it. We need to modernize temporally, spatially, logically, epistemologically, and technologically. Technology can facilitate our transition from dot to globe and point to morphology. Radio is extension of our voice, TV is extension of our Views, Computer is extension of our brains, motorbike is extension of our feet, clothes are extension of our skin, cell phones, i-phones, multimedia, i-Pads & e-Books & all other forms of technology are our extension. Technology can multiply the speed & life span. It can facilitate fast, full, meaningful life & living. At the same time, to overpower technological disease & discomfort we need to be sensitive to our basic values. If we fly high speed & high, then we need to learn cybernetic ally when to & how to exercise breaks.

Technology is well woven in almost all walks of life. But Education is relatively technologically backward. Every teacher should put in efforts to be techno-savvy, because it is Education and Education only which can deploy and integrate technology faithfully with a service motive. Indian Teachers are highly adaptive & highly innovative. Very willingly, and passionately they are living the technological era of information explosion & media implosion.

How can life be a network of arrays of innumerable skills, where, ideas spring, feelings flow, motor creates, spirit reins, and the self resonates with the sphere in this digital age? We teachers need to learn what to tweet, whom to tweet, how to tweet, when to tweet. How do I value face book? How should I construct my face book? Which messages should I yahoo via messenger? What should I SKYPE? What should I email? What should I Blog? Less Well's

Model- Who, Says What, To Whom, Through Which Channel, and With What Effect needs to be employed in each communication. The communication has become very fast through email & g-mail. We need to exercise instantaneous communication control, because, we cannot not communicate & communication is circular & irreversible. Internet- the World Wide Web is a universal network. Innovators & Creators, Crackers & Hackers all reside here. The 21st Century Teacher has to be really perfectly fully complete, otherwise, how to teach the innocent, dedicated, cultured, but, bewildered challenging learners. More so, because the present day globe is in the grip of self invited problems. No evidence is required to the effects that the entire globe is facing cyber changes & challenges, Problems & Issues. All the Lockers, Prisons, Viruses, Bio-meters, CCTVs, Tablets, Capsules and Problems are self invited. We have more of digital crowd than digital culture. Too much of everything is bad. So the need of the hour is to bring about a healthy equilibrium between the conventional and the digital for the betterment of the society.

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Disruptive Innovation in Higher Education & Value Inculcation

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Higher Education is being governed by Neo-liberalism, Neo-capitalism & Neo-colonialism. Along with it there is advent of disruptive innovations. There is initial resistance, but, progressive acceptance with respect to almost every innovation, such as, Online Admission, Computer based Time Space Personnel Management, Computer based Learning Resources Management , Open & Distance Learning & Evaluation, Sharing of Credits & Cross Border Education. The Type-Writers changed the combination of TAKHTI, KALAM & DWAT. The ball point pen changed the Indian Pen. The personal computer displaced the type writer. The LCD Projector displaced the OHP. The Window Operating System displaced the DOS. There is a sudden shift from Telecast to WEBCAST. There is a shift from CRT to CCD. Email transformed the ways we communicated through postal manual roadways railways airways mails. Cell phones made it possible to call anyone, anywhere, anytime. The laptops and mobile computing facilitated mobile workforce. Laptops replaced desktops. Smart phones replaced cell phones and the available apps disrupted pocket cameras, MP3 Players, Calculators and GPS devices. Smart phone users even left laptops. Some prefer a Tablet. Cloud computing has been a hugely disruptive technology in Education, in both, Public & Private sectors. Social networking has disrupted telephone & email.

Neo- liberalism

The Private Sector is replacing Public Sector. Private Colleges and Universities are being opened. Foreign Universities are offering Programs in India. Indian Universities are offering Programs abroad. There is borderless reach for the students of various countries. But, *the Question is that of authenticity & invocation.*

Neo-Capitalism

Earlier the Society was governing the Society. Then the State started governing the Society. Now Economy is overarching both the Society & State. Our Society, Culture, Polity, Education all are being governed by capitalism.

Neo- Colonialism

There is intrusion of non-native imperialism. Physically the foreign colonies have gone, but, not logically. McCauley still finds expression in India. Foreign Degrees, fair or foul, are being offered in India.

Booming Modernization

The whole world is being virtually re-constructed as an electronic timeless, space-less, and sophisticated technical sphere, expecting, spatial mobility, temporal mobility, social mobility and logical mobility. But, modernization may not be civilization. With the booming modernization there are roaring problems.

Technological Disruptions

There have been many a technological disruptions, such as, follows:

1. Smart phones (based on Apple Platform IOS, MS Office Windows, Android, Oxygen, Symbian) have taken over Mobiles and Telephones. The frequencies of Face-book, Watts-app, and Twitter are very high. Also the PHABLETS (Smart Phone+ Tablet) have appearance.
2. MS Office has almost become a need & necessity. It has many utilities, namely, MS Word, ACCESS, EXCEL, PPT and MS PUB.
3. Progressively there is a move from DBMS to RDBMS to Big Data (No SQL).
4. There is a conversion from Manual Learning Resources Management System to Computer Based LRMS. In addition to Computer Based LRMS we have Information Library Network (INFLIBNET).
5. Evidently it is an era of OERs and MOOCs and now to MOLEs (Massive Open Online Learning Experiences).
6. F2F degrees to Nano virtual degrees.
7. In addition to manual Time Tabling we have computer based Time Space Personnel Management System (TSPMS).
8. We have an entire Management Information System Series from Online admissions through TSPM, Digital Education, On Demand Examination, Automated Evaluation,

Examination Result Declaration & Degrees & Certification. Also, there are digital facilities to pick, place and promote the Graduates and to keep track of the Alumni.

9. There is a perceptible shift from Desk Top to Lap Top to IPADs & Tablets.
10. There is a move from point to point network to Wi-Fi.
11. There is a move from telecast to webcast.
12. There is an evident shift from Chalk Board to White Board to Smart Board.
13. There is a shift from OHP to LCD.
14. There is an evident focus on info-savvy skills.
15. A big volume of Learning Resources is available on WWW & U Tubes.
16. Progressively there is shift from Face to Face Research & Training to Online Research & Training.
17. There is a shift from F2F Education to Online Education.
18. There is a shift from F2F GURUKUL to VIRTUAL GURUKUL.
19. There are fully interconnecting Social Networks.
20. There is live digital transmission of various Educational Events, such as, Folk Dance, Role Play, Educational Film Festival.
21. There is an instant data & information flow through digital clouding.
22. There is realization of omnipresence, recency & immediacy through ICT with tremendous speed of electromagnetic waves (3×10^{10} cm/second).
23. There is an immediate shift to e-Publication, deployment & dissemination.
24. There is an evident shift to digital citizenship.
25. Flipped Classrooms.
26. Data Clouding.
27. Virtual Classrooms.
28. Digital Degrees.
29. World on Wheels: Digital Inclusion & Learning Labs.
30. Common Service Lab: Offgrid Citizen Assistance Lab.
31. Future Classroom 2.0: Offgrid Digital Learning Lab.
32. Curricula for ICT in Education & its transaction for Teachers & Learners.
33. e-PGPathshala: It is an initiative of the MHRD under National Mission on Education through ICT (NME-ICT). The modules for M.Ed. and M.A. Education are being developed jointly by the University of Allahabad and CIET-NCERT. These modules will be available on the following web sites:
<http://epgp.inflibnet.ac.in>
<http://eacharya.inflibnet.ac.in>
<http://nroer.gov.in>
34. MOOCs for PG Students
UGC is the National Coordinator for development of MOOCs for non-technical post-graduate degree programs. CIET, NCERT is developing MOOCs for the subject of

Education. The courses developed so far have been hosted on SWAYAM. A learner can earn certificate/credits on successful completion of any course on SWAYAM.

35. Technological Support for Learners without Eye Vision

- Job Access With Speech (JAWS)
- Open Book Software
- Talkback
- E- Braille
- Language Software
- Screen Readers
- Voice Recognition
- DAISY (Digital Accessible Information System)
- Non-Visual Desktop Access (NVDA)

➤ **Devices for Assisting in Receiving and Responding**

1. The TLM should be provided in the e-form/ digital format.
2. Screen Reader for recording aloud the text format and picture description narration.
3. Audio Recording
 - Basic phone
 - Smart phone
 - Stand alone sound recorder
4. Devices for recording the responses in examination hall.
 - The audio message given by the examinee can be captured by a LMS/Exam system as it is in audio form which can be later evaluated by an evaluator.
 - The audio signals can be converted into the digital text form by LMS/ ES.
 - In addition the audio responses can be registered and automatically converted into a digital format by detecting the segments given by the candidate in an interactive 3D virtual reality system.

Escalating Problems

- Cyber Safety & Security.
- Massive & individualized e-Education than personalized.
- Information explosion & knowledge poverty.
- Degeneration of values & institutions rather than rejuvenation. Nalanda & Takshila – our ancient universities were much higher than the present day so called world class universities. Escola Normal- our ancient College of Education during Portuguese Period at Goa was much higher than the present day Integrated Colleges of Education without integrity. Then the Performance Indicators were more satisfying than the present day

Performance Indicators. Assessment & Accreditation criteria were more valid than the present day arrays of indicators.

- Problems of Health & Environment. Neither we observe Human Development Index nor Nature Development Index.
- Most of us are suffering from Heart & Brain Entrainment Ratios.
- Ultra modernization & value clashes. We have become more of smart than cultured.
- Problems of liberalization, privatization, globalization and commercialization.
- Problems of Access, Equity and Equality.
- Accommodators and assimilators, rather than reflective, critical & constructive thinkers.
- Alienated research & teaching at the cost of each other.
- Digital World largely producing culturally alienated masses.

Technological Disruptions through Research

A sizable number of studies on effectiveness of CAI developed through various computer languages employing either pre-experimental design or quasi experimental design revealed significant mean score gain from pre-test to post-test. Studies on the effectiveness of CAI reveal favorable reactions of students and teachers towards the CAI. (Prabhakar 1989; Himani 1990, Mahapatra 1991, and Adhikari 1992, DAVV, Indore; Khiwadkar 1999, Zyoud 1999, Yadav 2000, Goel Khirwadkar Tomar Das & Joshi, 2000, Macwana 2004, Sharma 2005, Barot 2005, Pradesi 2005, and Rathod 2005, MSU; Suwanna 2004, SGU; Upadhyaya 1999, MJP Rohilkhand University, Bareilly; Sanjana 2001, MDU and Pandian 2004, DU).

There have been found rare studies on the pedagogic/techno-pedagogic analysis of the computer based educational instructional programs. These studies reveal that there should be added focus on production variables, pedagogic principles and spatial and temporal contiguity of various message forms (Patel, 2001, MSU; Chaudhari, 2005, MSU).

Computer as a medium has been found to have the potency of addressing the heterogeneity in terms of variables, namely, IQ, Interest, Motivation, Language level (Zyoud, 1999, MSU).

There are rare studies on effectiveness of CALM in various modes, namely, text, graphics, text & graphics, text, graphics & music. It has been found that the composite modes may not always ensure higher level of language learning (Das, 1998, MSU).

Very few studies have been conducted on the relative effectiveness of CAI with peer interaction in mono, dyad and triad (Pardesi, 2005, MSU).

Attempts have been made for designing, developing and implementing computer based Learning Resources Management System (LRMS). The automated LRMS has been found definitely more effective than the manual LRMS (Beryah, 1995, DAVV).

A few studies have been conducted on the relative predictivity of various variables with respect to the criterion variable, namely, Educational Proficiency (Mishra, 1993, DAVV; Goel, 2003, MSU).

A study conducted on Time Space Personnel Management System revealed that the computer based TSPM system was found relatively more acceptable and better functional than the manual TSPMS (Biswal, 1995, DAVV).

Though studies have been conducted on the automation of examination system, yet these studies find rare expression at the functional level. Teacher Education Institutions need to promote Choice Based Credit System and on demand examination (Mahajan, 1993, DAVV; Joseph, 1993, DAVV; Shinde, 1993, DAVV; Goel, 1997, MSU).

A sizeable number of teacher education institutions in India have initiated into ICT in Education either as a core course or as optional course. In spite of the impeding factors, namely, limited staff, inadequate laboratories with maintenance problems, sizeable classes, the courses have been found to realize their objectives reasonably (Goel, Das, and Shelat, 2003, MSU).

A sizeable number of teacher education institutions have been found lacking facilities, such as, Internet, MS Publisher, Acrobat Reader Goel, 2005, MSU).

A few studies conducted on the use of Internet in Teacher Education Institutions revealed that the student teachers largely lack in info-savvy skills and techno-pedagogic skills (Joshi, 1999, MSU; Dhodi, 2005, MSU).

Some of the teacher trainees make use of Internet for surfing, e-mail, research, core courses, special areas. But, the Internet is rarely used for web designing, reflective dialogue and outsourcing. Measures of Internet safety are rarely employed. There is a need to develop Net-Savvy Skills in Teacher Educator Trainees (Goel, 2006, MSU). Some Studies have been conducted on bridging the gaps between teaching styles and learning styles. The studies are appreciable but there is a need to conduct many more studies (Rathod, 2005, MSU).

Studies conducted on language instruction through Power Point Presentations on realizing communicative and functional languages have been found to go a great way in establishing the

effectiveness of learning various languages (Yadav, 2005, MSU; Rathod, 2005, MSU). There have been rare studies on developing language learning strategies and learner autonomy through weblogs. Blogs not only provide teachers with an exciting new way to approach communicative language learning, these also give students a new reason to enjoy reading and writing.

Nayana Dhodi (2011) demonstrated very well how the info-savvy skills of Asking, Accessing, Analyzing, Applying and Assessing were developed in the Pre-Service Teachers of India through surfing on Cultural Heritage of India and Buddhist Heritage of India and the domains of their respective discipline methods. It is a joyful experience to travel through her doctoral Thesis experiencing various surfing skills, namely, skimming, scanning, authenticating, hyper-linking, switching, skipping culminating into educational immersion for seeking solutions.

Ali Haider (2016) conducted a study **of the Effect of Logical Thinking Ability and Computer Based Instruction Using Active Learning Techniques on Students' Achievement of Basic Concepts in Organic Reaction Mechanism. The treatment was found to be effective, but, Despite appreciation for the package, there was a demand of teachers' involvement for regular chemistry instruction.**

Anu Singh (2015) conducted a study - *Science Teachers 'Current Pedagogies, Their Context and Their Pedagogical Experiences with an ICT Intervention.*

Mishra Sanjay (2017) conducted a study on Promoting Use and Contribution of Open Education Resources. The emerging theses of the study & reflections are as follows:

1. The teachers were found to have positive attitude towards OER and their attitude did not vary significantly across demographic variables. However, their attitude towards sharing was stronger than towards adapting materials developed by others. Non-adaptation by the natives has been attributed to the "non-invented-here" syndrome. *Such a theory of properties formulated by the investigator(s) needs to be re-examined. What are the attributes of such repositories to be identified as OER. To what extent the OERS, native or non-invented are innovative, interactive, self contained, media genic and nature friendly. Information ought to be valued by the essence than by the labels. OER has to be independent of IPR & any Licence. Have we, the technocrats acknowledged the creator, whose creation is the object of our investigation?*
2. The teachers were more motivated by intrinsic factors than by extrinsic factors, which has been reported to be aligns with their attitude towards sharing. There is an evident paradox in the finding-" younger teachers were more motivated than older teachers, and Ph.D. holders were more motivated than those holding simply a Master's Degree."
3. Quality is a construct, independent of the self & rest. It is a composite construct of various attributes & their values. Source, media and message cannot be separated. An

open licence is a representative of universal quality. Any OER cannot be called Open unless it is compatible or open.

4. Lack of understanding about licensing and copyright issues were found to be major barriers to using OER. Moreover, the OERs have not been integrated in Education System. Other barriers include lack of technical support, lack of OER policy and poor Internet bandwidth in the institutions. Also, there is a lack of recognition & rewards after full devotion into the OERs.
5. The study results do not indicate overall correlations amongst teachers' attitude, motivations and perceptions of the OER quality. However, the regression model predicts 82.4% of variance in the means attitude towards OER due to several motivation items, including opportunities for partnership, affordances to learn, recognition, receiving feedback, knowledge of licensing and copyright and reaching the unreached in the developing countries.

Mohd. Mamur Ali (2017) conducted a study on **Identifying Problems in Students' Understanding of Linear Equations and Transcending Them With the Use of Computers**. The National Library of Virtual Manipulative (NLVM) Software could enhance the understanding of equality operator, arithmetic operators, variables & structure of equation. The computer could transcend the learners to have thorough understanding of linear equations bidirectional.

Rakshak Jain (2016) conducted a study- **Impact of Developed E-Content, Media and Study Habits on Perception Towards E-Content Based Learning Amongst Undergraduate Students**. The study has definitely contributed to the knowledge base in the realm of Electronic Media and e-learning system.

Shalini Gakhwe (2018, DTU) is pursuing her doctoral study- Detection and Identification of Engineered Surfaces and Engineered Objects Using Hyper-Spectral Remote Sensing Imagery. The intent of the study is to bridge the gaps between image processing through satellites & the objective reality.

Jitesh Bhardwaj (2018, DTU) is pursuing his doctoral study- Application of Human Factor Analysis & Codification System (HFACS) in Reducing Maintenance Errors in Aircrafts. The intent is to maintain the Aircrafts efficiently.

Subodh K. Jaikar (2018, DTU) is conducting his doctoral study- Application of Nano Particles in Packaging to Enhance Shelf Life & Strength.

Value Inculcation through Higher Education

Life Skills

There is a need to develop Self Awareness, Empathy, Interpersonal relationship, Effective Communication, Critical Thinking, Creative Thinking, Decision Making & Problem Solving, and Coping up with Emotions & Stress. Our Higher Education is preparing us mostly for PRVARTI & least for NIVRATI. Neither we are aware of our strengths nor weaknesses. Creative & Critical thinking, two in one, are rarely found. A large majority of us are in stress & strain round the clock. Our Higher Education provides us more of data, information & knowledge and less of wisdom. Our modern higher education is grossly failing inculcation of values for full, meaningful, healthy, and resonating life. Along with digital we are becoming more & more mechanistic. More & more power we have more & more powerless we feel. There is a need to integrate emotional competencies, such as, Self Awareness, Self Management, Social Awareness and Social Management. The digital era demands identification with the self & the rest. Emotional maturity demands harmonious living.

Info-Savvy Skills

Skills of Asking, Accessing, Analyzing, Applying and Assessing need to be developed to become info-savvy. Digital Society is automatically becoming info-savvy through day to day experiential learning. Education is becoming more & more information loaded than innovative. We ought to learn how to access information skillfully & how to store & retrieve it efficiently. More than storage of information we ought to find essence of information. Because, it is better to be than merely to have.

Techno-Pedagogic Skills

There is a need to develop Techno- Pedagogic Skills, such as, Media-Message Compatibility, Message, Media, Modes integration, Proximity of Message Forms, Media Language Proficiency and Media Integration & Acculturation. We ought to have Wireless Fidelity & High Fidelity. We should value both the technology principles & pedagogy principles & integrate both judiciously.

Human Development Climate

We ought to develop Trust, Risk Taking, Openness, Reward, Responsibilities, Support & Team Spirit & Collaboration. Use of Technology is our discretion. We can be creative, constructive and connective or we can be destructive and devastating. Choice is ours!

Integration of Spiritual Intelligence

There is a need to integrate Religiosity, Soul or inner being, Self Awareness, Quest for Life Values, Convention, commitment & Character, Happiness & Distress, Brotherhood, Equality of Caste, Creed, Colour & Gender, Inter-personal Relations, Acceptance & Empathy, Love & Compassion, Flexibility and leadership.

Need to Integrate Values

There is a need to integrate values, such as, Cleanliness, Punctuality, Equality, Truthfulness, Duty Fullness, Global Identity, Perseverance, Responsibility, Cooperation, Honesty, Loyalty to Self & Others, Love & Affection, Absolute Norms, Work Hard Ethics, Compassion, Peace, Inoffensive Speech, and Politeness.

Choice Based Credit System

We cannot afford to be Choice-less, Law-less and Value-less. CBCS ought to be the essential feature of Higher Education. It demands a Freedom Movement of Higher Education.

Value Integrated Higher Education

- There should be focus on Academic Freedom, Transparency, Knowledge Sharing, Collegiality, Civic Behaviour, Global Values and Sustaining Development Globally.
- There should be sharing of programs, courses and credits intra Faculty and inter faculties within a university.
- There should be sharing of programs, courses and credits between universities through various modes, that is, between conventional & conventional, open & conventional, open & open.
- Inter-disciplinarity and multi-disciplinarity need to be realized judiciously, admitting that various disciplines, though, seemingly different have significant co-relational and interactive effects.
- Choice Based Credit System should be offered more rigorously in the institutes of Higher Education.
- There should be Inter University Consortiums region-wise to begin with, and State-wise progressively in a phased manner.
- Grade Sheets issued to the graduates should be comprehensive of all the domains, such as, cognitive, affective & psychomotor.

- There should be Academic and Cultural exchange programs within country and between countries.
- Higher Education ought to be higher, as well as, wholistic.
- There should be easily accessible higher education Learning Resources Centres.
- Higher Education should be governed by human relations model, rather than by traditional hierarchical bureaucratic model.
- Higher Education should develop zest for knowledge and academic excellence.
- Higher Education should create global communities for sharing their states through reflective dialogues.
- Higher Education should be socially relevant and useful.
- There should be immediate renewal of curricula of higher education.
- Higher Education should be self supportive, innovative and creative.
- Higher Education should realize professional competencies, as well as, professional ethics.
- There should be networking amongst higher education institutions.
- There should be technology integrated higher education for wider reach.
- There should be international intake of students & faculty and sharing of resources.
- There should be partnership for online or web courses.
- Life issues and concerns have become globalized. This requires common higher education curricula with common core elements.
- Science & Technology which are universal, are facilitating transcreation and acculturation. Higher Education should harness the power of Science & Technology for realizing cultural excellence.
- Higher Education should identify common global problems, such as, environmental pollution, economic poverty, degeneration of values and address these.
- Higher Education should review socio-cultural aspects understanding patterns of life, the world of production and marketing.

- Higher Education should realize borderless human mobility and harmonious existence.
- Higher Education needs to realize Generalization the link between Specialization & Globalization.
- Convocations without invocations are useless. Higher Education should realize its value.
- There is need to inculcate human values in the Higher Education Students, like, quest for truth, peace & harmony, righteousness, passion & compassion, tolerance, love for all entities, cultural ethos, social sensitivity and responsible citizenship.
- Human values should permeate and form part of all the activities, curricular and co-curricular.
- Higher Education should be governed by Human Relations Model, rather than by hierarchical, bureaucratic, conservative Model.

Here are a few suggestions:

- There should be added focus on Learner Driven Pedagogy- Germination, Incubation, Creation, Construction & Connection.
- Identity of each & every Individual entity & Institution deserves recognition, otherwise, we cease to be. While being in greater power, it takes no time to delete, but, it takes life time to construct & connect. Any deletion has to be done more carefully, sensitively & sensibly. History has its own essence. It is not all gone.
- Courses, such as, Corporate Social Responsibility & Education, Health Education in India, Taxonomy of Educational Skills, Technology Integrated Education, Inclusive Education ought to be introduced.
- There should be added focus on Yoga Education, Health Education, Peace Education, & Humanity Education.
- Digital Culture should be developed right from Elementary through Higher Education.
- New Education Policy should ban Parallel Private Tuition Classes. The beauties of learning need to be respected. We cannot afford to mechanize learning.

- There should be due focus on both the hard skills and soft skills in our Professional Programs.
- ICT ought to be fully utilized for sustainable development, that is, Socio-Economic-Environmental development.
- Media culture should emerge out of the media crowd. Due measures have to be taken to control media addiction. There is a need to develop e-civilization.
- Education should develop liberation capabilities through reason, religion and rapport, where, reason is re-as-on knowledge, feelings and skills, because, there is no ultimacy of knowledge, feeling and skills. Religion is to be one with the creator and Rapport is unconditional love for all.
- The Inter University Consortium in Teacher Education should be fully functional.
- The e-consortium of Cross Border Teacher Education for the Common Wealth Countries should be established at the earliest.
- NCTE- the regulatory body in Teacher Education should be revived without further loss of time.
- The New Education Policy should be formulated without further loss of time.
- India should have immediate focus on Human Development Index & Nature Development Index. Our innovative ideas should have free springs, feelings swift & skillfully flow with universal scale & speed, spirit should command wholistically and India should resonate with all with full zeal & will. Our digital technologies should cloud, but, with a sensitivity to the delicate birds on the trees.
- All the models like, BOOT(Build-Own-Operate-Transfer), BOO, BOT have reasonably failed. There should be systematic efforts for integration of Technology in Education. Digital Culture should be developed more carefully. We should have immediate focus on foundations, as well as, maintenance of all sorts; preventive, corrective, adaptive & perfective.

- Educational Technology has the potency & power to disrupt wholistically. We ought to be systemic rather than piecemeal. Only money & machines cannot integrate ICT in Education.
- Our graduates should have vision & mission. Convocations without Invocation are baseless & useless.
- Some vocations should be mandatory with all the courses- liberal or professional.
- Higher Education has to justify its name as higher. Higher Education by virtue of its identity has to be Innovative. India is full of pioneers, but for, expression. Our innovative faculties can find germination & expression, abroad, why not in India.
- Digital Wave demands immediate Cyber Security. It is ideally desirable to be digital in all areas, but, such a wish & will demands immediate controls. Along with, constructors & connectors the world is full of hackers & crackers.
- There should be immediate focus on Bipolarity in Indian Education. Along with Education our vigilance should be fully awakened, conscious & active.
- The NEETs should be more humanistic, both, in taking & organization. What could be the ways out
 - Fair candidates.
 - Bio-meters & CCTV
 - Vigilant entrance.
 - A large number of invigilators.
 - Decentralized Test
 - Digital Testing
 - Open Book Test
- The UGC is a University Grants Commission. Instead of segregation into academic & financial divisions, we ought to expand & integrate the UGC.

- We cannot always afford to have direct system conversion from F2F to digital. We should employ suitable system conversion designs, such as, modular, phased, parallel and direct. The conversion has to be done very carefully.

Digital Citizenship Scenario

Digital Citizenship demands digital knowledge, skills and attitude. Strings of zeros and ones represent the entire universe through Kilo- Mega-Giga-Tera-Peta- Exa- Zetta Bytes. Big databases are created & managed. The nature of reality demands compatible forms; Audio-Video- Graphics, Doc & Post Doc Formats, Editing on Timeline, Rendering All File Formats, Exporting into and Deploying suitable file formats. Electromagnetic waves travel with the speed of light and can carry a message anywhere anytime. There is digital crowd everywhere, but digital culture is very rare. Almost everywhere we find Skype & Twitter, Face book & Watts App, Tablets & Laptops, Smartphone & Smart boards. More than need there is addiction. No Play no Sports No Food, Every moment digital! Almost everywhere there is stereotyping & plagiarism, rarely any novelty, rarely any innovation, rarely any Pioneer and rarely any quintessential recluse. Where to dump the digital waste, iPods iPads & Hard Disks, Tablets & Memory Sticks is the immediate problem. There is biometric in every corridor. No need to worry about soul, head & heart, we are expected to keep smart phones alert, because, it is required for fully connected GPS. We are expected to keep guard against hackers & crackers and celebrate vigilance week, because, digital technology is prime. We are expected to link our AADHAR with every entity to realize instant complete networking through any network topology. We have to be digital, but ought to be vigilant. Digital Citizenship demands digital attitude, skills, knowledge and above all evolving & observing digital protocols. Big data analysis, mal-ware & mal-intentions and victorious powerful do not require any evidence. Self evident antitheses, in their readymade rhetoric leads the global civilization but nowhere! What use is the digital wave, what use is the digital will, when there is no digital culture, no digital citizenship?

Concluding Remarks

The ultimate aim of Education is development of Universal beings. It deals in full, meaningful, happy, healthy, resonating and sustainable life of every organism & entity. There is need to move from Human Development Index to Universe Development Index. There is a caution that progressively we are becoming market oriented than society oriented, profit oriented than service oriented, resource oriented than source oriented. Technology quotient is trying to superimpose intelligence quotient, emotional quotient, spiritual quotient, health quotient, and environment quotient.

There is evident degeneration of Values & Educational Institutions rather than rejuvenation. We have media crowd but not media culture. We have more of modernization and less of civilization. We have more of plagiarism & stereotyping & less of innovation & creation. We have more of BHASHAN than Action.

We have become store houses of information than knowledgeable. It is better to be than merely to have. We need to research every essence of information. Let us be sensitive to that our life is defined by our feelings, choices and actions than degrees, designations & positions. How can Higher Education be Higher without being innovative, constructive, connective and sensitive? The ultimate aim of Education is development of universal beings through Research & Innovation.

The following Poem on Entity & Identity tries to converge on the essence of the above expression:



Education: Entity & Identity

Degrees & Designations

Titles & Positions

Medals & Shields

Ornaments & Honours

Credits & Labels

Have Their Own Value

Have Their Own Worth!

But we are identified by

Our Choices & Actions

Identification & Dedication

Truth & Ruth

Compassion & Forbearance

Giving & Forgiving

Love & Affection!

Our Education Is

Germination & Innovation

Creation & Construction

Connection & Integration

Interrelation & Interdependence

A Decent Discipline

For Healthy Coexistence!

University represents

Examples & Concepts

Principles & Theories

Structures & Functions

Causes & Effects

Research & Reason

For Full & Meaningful Living & Renunciation!

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Education in Quest of Peace

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Abstract

Throughout life we are in quest of peace which is the state of full immersion & bliss. The reflections begin with evident & real dichotomy & its resolution. The validity of the cause & effect relationship knowledge has been questioned. An attempt has been made to find peace through symbiosis, education, sacrifice, resilience, giving & forgiving, unconditional love & affection, becoming & de-becoming, justice, happiness, laughter & tears, search & research. An illustration has been made on Pig Predators & Savor & some poems presented to revive peace.

Peace is a state where Gardner, Flower, Fragrance, Fluorescence, Essence become one, Piper, Pipe, Piped, Nature become one, Sufferer- Suffering-Suffer-Village-Globe & rest of the universe become one, Wick- Oil-Air-Fire-Light-Lighted & Darkness become one, Teacher- Teaching-Taught- Structure- Infrastructure & Environ become one, Saint & scoundrel, Nectar & Poison, Predator & Prey, RAJA & PRAJA become one. But, the emerging question is what peace is! Peace is a state of being, where we have full complete wholistic immersion in a calm environment. But, how to be calm, quite & in peaceful state? When we develop the ability to listen to negative or positive comments without being affected, we are becoming mature, peaceful & educated.

But, very often the problem is that whatsoever is real is not evident and whatsoever is evident is not real. We go on attributing our diseased states to invalid causes. Why so? It is because, despite sea research we do not have perfect knowledge base. Very often our reason fails us, because, our quest is not dedicated. Our reason is illogical. The perceived cause & effect relations are faulty, in fact, very often misleading. What is the resolve? We ought to reason continuously, that is, re-as-on our knowledge, precision & ease, of course, with deeply touching feelings. Not only cause & effect analysis, we ought to do marginal analysis and finally

operational functional analysis till we are in a position to test the truth & falsehood of our propositions & hypotheses.

Peace: What & Where

- a. Is it the state of wholistic sound health?*
- b. Is it the state of Yoga, where we cease to be?*
- c. Is it the state when one is oneself?*
- d. Is it the state of a universal being- one with everyone in unison?*
- e. Is it the equilibrated integrated state with the momentary disappearance of bipolarity?*
- f. Is it the state of silence with no internal & external noise?*
- g. Is it the state of gently channelized booming energy?*
- h. Is it the state of Truthfulness, Compassion & Forbearance?*
- i. Is it the post-chaos state where the highest orders emerge?*
- j. Is it by realizing which only we know every one?*
- k. Is it entrainment of Heart & Brain- an equation of Dopamine & Adrenaline?*

Some Reflections on Peace

➤ Peace & Thinking Patterns

Mind has a tendency of wandering. Control on the mind demands inner control, not to be swayed away by any attraction or passion. Nothing can deviate a person with full inner control. We ought to be serene rather than turbulent, calm rather than stormy, expressive & booming rather than depressive & repressive, positive than negative, final & decisive rather than recursive & lurking, neutral rather than polar, modern rather than primitive, cultured rather than ultramodern, socio- centric & ethnocentric rather than self centric & ego centric, sharp & decisive rather than blunt & obsessive, wholistic rather than patristic, optimistic rather than pessimistic, happy rather than sad, simple rather than complex, considerate rather than rigid, social rather than unsocial, independent rather than dependent, broad minded rather than conservative, determined & active rather than idealistic & passive, logical rather than irrational, factual & theoretical rather than propositional & hypothetical, creative rather than stereotyped, pioneer than conservative & copier, confident rather than diffident, relaxed rather than stressful, focused rather than deviant, flexible rather than rigid, open rather than closed, resonating rather than stagnant & isolated, constructive & connective rather than destructive & disruptive, innovative rather than customary, resolved rather than engrossed, peaceful rather than disturbed, free rather than confined, striving rather than starving, resolved rather than recursive, final rather than obsessed, normal rather than psychoneurotic, lucid than ambiguous,

fruitful than futile, innocent rather than cunning, intuitive rather than peripheral. But how to realize such a state? Thinking regulators demand healthy neurons and their interconnections, mental control, spiritual control, control on the motor muscles, simple living & high thinking. Thinking is the cause of both, peace & chaos. Thinking is trainable.

➤ **Peace: Real & Evident**

Whatsoever is evident is not real, whereas, whatsoever is real is not evident. How to resolve the real & evident dichotomy to be in peace?

➤ **Peace: Cause- Effect & Reason**

Reason between cause and effect is rarely perfect. Reasoning is never ever ultimate. So the cause and effect gaps. It is a never ending quest in search of truth. How to reach the truth for the realization of peace?

➤ **Peace & symbiosis**

We ought to learn to live together. Rather than treating mother nature as a source we have started resourcing her. Rather than adoring nature, we have started exploiting her. Rather than being friendly with the nature we are becoming more & more hostile. We have moved away from naturalism to existentialism, from realism to idealism, from civilization to modernization. We have almost lost our cultural heritage & are becoming mad after modernization. Rather than being symbiotic we have become more and more alienated. Rather than being united we are becoming more & more fragmented. Rather than uniting into peaceful immersion we have shattered into chaos & fragmentation. The emerging question is how to revive peace?

➤ **Peace & Education**

There is identity crisis of Education:

Where the bio-meters
Mark the presence of teachers
Wonderful mechanical digital culture
Is this the ethos of our Education?

Where very often
Who so ever comes
Flags baseless dictation
Is this the identity of our Education?

Education is the highest priority

Echoes Re-Echoes Every Forum
Really Fully Grossly Neglected
Is this the state of our Education?

Let us submit peacefully
Education has its Culture
Education has its Ethos
Decency Decorum & Discipline!

Let us revive
Our Grace Through Education
Our Heritage Through Education
Our Peace Through Education!

We have TET & TAT over Education Degrees conferred to the Education Graduates. We have SLETs & NET over the doctoral degrees. These are the measures for quality control. Why do not we improve upon the input, process, throughput parameters of Education, so that, the prevailing chaos is controlled and our convocations have real invocation and outcome is fully useful?

➤ **Peace & Learning**

Peace is the prerequisite for learning. Unless we are noise free we cannot receive. Without receiving there is no assimilation, reflection and learning. While receiving any stimulus there should be no noise- internal or external. Hence peaceful state is a must for learning & learning outcome.

➤ **Peace & Sacrifice**

Let us look at any entity in this universe and how much devotion, dedication and SMARPAN these have. Be it silken cotton of the Silent Doctor SEMAL, KHAS KHAS & Nectar of POPPY, GULKAND of Rose, Essence & Fragrance of CHMPA & CHMELI, Medicine of AMALTASH, NIMBOLI of NEEM, Turpentine Oil of PINE, plight of honey bees, glow of glow worms, functions of insects & beetles. Secret of the universe lies in interrelation, interdependence, SAMPARPAN & healthy coexistence.

➤ **Peace & Resilience.**

Variability & Central Tendency or deviation & regression are the realities. It is always desirable that we realize resilience & normal state at the earliest. Sooner it is realized less damaging it is. This is an age of stress & strain. But the state of peace demands instant resilience. There are numerous pressures these days, such as, high blood pressure- low blood pressure, compulsive obsessive neurosis, depression & hypertension, which could be both self invited & environment offered. We ought to be strong enough not to deviate, if at all we deviate then there must be most efficient resilience.

➤ **Peace & giving & forgiving.**

Even in prayers we should make it a habit to report our achievement & contribution, rather than seeking grace. Peace rests in giving and forgiving. Nature is the best teacher who teaches us what to give, when to give, and how to give. We should realize the strength of giving & power of forgiving.

➤ **Peace & unconditional love & affection.**

Peace lies in unconditional love & affection for all. Unconditional love & affection demand thorough knowledge of all. Knowledge base of all demands continuous quest for reality- search & research. Cause & effect relationship demands thorough reasoning. Reasoning is always limited. Even then we can realize unconditional love & affection which peace demands. Reasoning is a continuous, infinite, never ending chain. We ought to transcend time- space & reason to realize our quest for vision.

➤ **Peace & de-becoming**

Peace is a blissful journey through be, becoming, being & de-becoming. What we want to be? What are we becoming? What is our being? Even the highest level of knowledge base & wisdom reveal that our being howsoever rich & comprehensive is too wanting & limited. Functional feelings of our being help us identify & locate ourselves in this indeterminate & little known cosmos.

➤ **Peace & Justice.**

Peace demands truthfulness, compassion, forbearance, forgiveness, equity & equality. India is a sovereign, socialist, secular, & democratic republic. Indian constitution observes justice for all. No one has the right to be partial & unjust, irrespective of who we are, politicians or public, capitalists or below poverty line, doctors or patients, secretaries or open. No gap is permissible between democratic & republic, male & female, high & low.

➤ **Peace & Bipolarity**

Bipolarity is the open secret of the creation & sustenance of the universe. We need to understand the bipolar & their co-existence, such as, male & female, high & low, positive & negative, peace & chaos, hill & valley, heat & cold, Fire & Ice, Desire & Peace, Rich & Poor, Dare & Fear, Azad & Prisoner, Predator & Prey, Aggression & Depression, Repression & Expression, Laughter & Cry, Thief & Spy, Earth & Sky, Desert & Crowd, Hope & Despair, Abuse & Prayer, APRADHI & FARIYADI, GULAMI & AZADI, Devaluation & Neo-valuation, Saints & Scoundrels, Philanthropists & Dacoits, Producers & Takers, SMARPAN & DARPAN, Sordid Drama & Silent Spectators!

➤ **Peace & Happiness**

We do not have sensitivity towards HDI, that is, Human Development Index what to talk of Universe Development Index. Human greed of manipulation, possession & hoarding has converted human beings from sources to resources. Return on investment should find expression in the form of peace & happiness.

➤ **Peace & Laughter**

Laughter sustains & strengthens life by realizing peace. The two main chemicals that are used in when we laugh are Endorphins & Dopamine. Endorphins the natural happy drugs are released from the pituitary glands into the blood, then into the brain & spine. Also Dopamine chemical is released in the brain and then are sent as signals to the other nerves of the body.

➤ **Peace & Tears**

Shedding off the tears, sharing the sad state also relieves us of disease & discomfort & helps in realizing peace. We have basal tears, reflex tears & emotional tears. The cornea is continually kept wet and nourished by basal tears. Tear fluid contains water, mucin, lipids, lysozyme, lactoferrin, lipocalin, lacritin, immunoglobulin, glucose, urea, sodium and potassium. Lysozyme fights against bacterial infection. Reflex tears are released during irritation to the eyes say while

cutting onion or pepper spray. Negative or positive emotions cause psychic tears. Emotional tears have more of protein based hormones.

➤ **Peace & Play**

Arriving in the optimum state of energy keeps us calm & cool. Playing any game – Hockey, Cricket, Football, Bad Minton, Table Tennis, Lawn Tennis keeps us happy & gay. Athletics such as, Jump & race, Disc Throw, Javelin Throw keeps us fit. Climbing up hill & coming down hill helps us sustain momentum. Peace & Play are perfectly interrelated.

➤ **Peace & Yoga**

Peace begins when everything else ceases to be. Peace is complete yoga at the functional level. Yoga is that ultimate state of bliss when we are integrated unit self. Peace demands Gyan Yoga, Bhakti Yoga, Karma Yoga and Raj Yoga. Peace is by realizing which we can DARSHAN entire COSMOS. Yoga is the pre-requisite for peace.

➤ **Peace & Health**

Peace & Health are intimately related. Many a health issues, both, physical & mental are on the fore. How to observe sound health? Health, Happiness & Peace ought to be fully observed.

Illustrations on Peace

A Touching Episode

During 1980s A.D., one day afternoon a Pig started crying, because of suffocation. It was, because, some pig hunters with rope tied bamboos were trying to capture it. The cry was so painful that all the persons of the community, Boarders from the University campus hostels, Residents of the Servant Quarters, came out and the passersby on the hostel road stopped and stood still, and like the silent spectators were experiencing the sordid seen, but, no one acted. Mean while a cow came running towards the spot. The cow fought with the hunters and kept fighting till the time the predators left the pig & place and the Pig was Safe & Secure. We very often hear that “Man is a social animal”. What use are such feelings and wisdom which do not emanate into action?

*“Honour or Shame from no condition rise
Act well your part there all the honour lies!”*

 **Some Poems on Peace**

a. World Class: Peace & Chaos

<p><i>Where anxiety stress tension & aggression Trigger in classrooms blind fire Kill the innocent including self Is this what the World Class Acquires!</i></p>	<p><i>What use are the Saints & Shrines; With indoor & outdoor daily crimes? Is this the Chaos which Peace Aspires Is this what the World Class Acquires!</i></p>
<p><i>What use are Knowledge Societies & Conventions What us are Science Technology & Inventions When the immediate neighbour border fires Is this what the World Class Acquires!</i></p>	<p><i>What use is the Blue LED What use is the Cognitive GPS If it is the darkness which light desires Is this what the World Class Acquires!</i></p>
<p><i>What use is the International Outlook What use is the Global Citizenship If we are bent on War & Fires Is this what the World Class Acquires!</i></p>	<p><i>Criminals find abode in the Grand Hostels Failing the High Intelligence Vigilant Bureaus Is it the intelligence we design & desire Is this what the World Class Acquires!</i></p>
<p><i>Every Brush of a Cobbler that Sings & Shines Is better than State Administration & Daily Crimes This is what the Peace Acquires This is what the World Class Requires!</i></p>	<p><i>Let the Globe Universe Aspire Shedding off the World Class Desire Universal Being - the Ultimate State This is What the World Class Requires!</i></p>



REUNION & RENUNCIATION



Searching for Peace & Trance Behold these two little friends With Vision in their eyes Flying High & High in the Sky!	Enjoy their beauty with grace With gentle looks & silent steps After Day's Long Plight They are in deep full rest!	No flesh of camera disturbs No Noise of the world perturbs Whistles can never wake them No storms can ever shake them!
They are one in two in whole They have fully credible abode Where the cultured friends live In & out peace prevails!	The plant is full of bliss divine Where search & research is practiced With decency decorum & discipline Everyone is respectful & respected!	What is by knowing which We know each & everything else Silence in noise & peace in chaos Realise the state of bliss & bless!

Concluding Remarks

Day & night we are in quest of Peace. Round the clock we are in search of self. But do we ever realize the state of self & state of peace? When we have full immersion we are in peace. When we are fully lost we are in peace. When we are fully awake we are in peace. When we are fully conscious we are in peace. When cause & effect reasoning tends to be perfect we tend to be in peace. When we do not think we are in peace. When we are composed we are in peace. All the germinations, all the incubations, all the innovations, all the creations, all the connections emerge from peace. All the algorithms, all the programs, all the executions emerge from peace. Heart & brain entrainment is in peace. Motor muscle momentum resonance is in peace. The blossom, bloom & fragrance reveal peace. The culmination of chaos is always in peace. The universe itself is the manifestation of peace!

Peace is simple! Let us try to realize our self. It is feasible by sustaining natural cultural heritage by winning over our aspirations, passions, possessions and obsessions. Let us learn to act well our part willingly, easily, precisely, timely, satisfactorily as depicted through a composition by Akash as follows:

An Artist's Woes

Would you like to be pioneer,
But a quintessential recluse?
Or the run of a mill
With name & riches?

Would you like to be the one
Whose wanderings lead him to dystopia
Or be the one
Whose is content with life in a utopia?

Would you like to be the one
Who stands against the vicious, tyrant mind
Or be the one
Who sways like a blade of grass in the prairie wind?

Would you like to be the one
Who fights for a cause by embracing insanity
Or be the one
Who accepts society's norms of sanity?

Would you like to be the one
Whose art is criticized by a lone wolf
Or be the one
Who is appreciated by a mindless flock of sheep?

Would you like to be the one
Who snakes his way to fame by appreciation
Or who stays anonymous
By sacrificing his fame to hold conviction?

In the end you will realize
It was your choice
Rather than your ability
Which truly defined you.

Let us try our level best to define our self truly for realizing peace!

Some Reflections of Peace

1. Let us try our best to be self, recreate & resilient self. No sooner we become the self we realize the state of blissful peace.
2. We ought to have thorough understanding that the ultimate outcome of all the arithmetic operations together is constant.
3. We need to evolve a theory of conservation of biomass.
4. Just as there is theory of conservation of mass, there is theory of conservation of soul.
5. The ultimate aim of Education is the realization of universal being. Peace is directly proportional to the ultimate understanding of the universe & healthy interrelation & interdependence amongst all the entities which constitute the universe.
6. Truthfulness- Compassion- Forbearance- Forgiveness is the pearl of peace.
7. The poorest having richest knowledge is the abode of peace.
8. Full immersion in our pious action is a state of bliss.
9. A person with full inner control cannot be swayed away by any variable, howsoever, powerful.
10. Perfect reasoning of the Cause & Effect Relation leads to Peace.
11. All the Disciplines emerge from Peace & merge into Peace.

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Education in India

(National Education Day: 11.11.2017)

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CASE MSU-VADODARA-GUJARAT-INDIA

There is a need of both revival & modernization of our Education. We need Health Education, Peace Education, Humanity Education, as well as, Digital Education, Physical & Chemical Education, & above all Polity & Economics Education & Mathematics Education, both, differential & Integral. MRI Scanner Education, Aviation Mentoring & Monitoring Education and Image Processing Education are also desirable. Most of us have Psychological Problems right from Public to Politicians and Beggars to Capitalists. Our History is gone, present is chaos & future is uncertain. We need Civilization, as well as, Modernization. We need Innocence, as well as, Vigilance. We have learnt to live with Truthfulness, Compassion & forbearance, come what may. We believe in giving & forgiving, be it Goods & Service Tax or Birth & Death Tax. The Preamble of India is - A sovereign, socialist, secular, democratic republic State.

Recently we have celebrated Vigilance Awakening Week, that is, SATARKTA JAAGROOKTA SAPTAH. A thorough analysis of the theme reveals that had we been vigilant and conscious no power of the universe, howsoever wild could rule us. But, how could they enslave us for centuries? It is a basic question for all of us. The immediate response to this question is that we are negligent rather than vigilant. Our humanistic innocence is misused.

Now India is an independent and Sovereign State. We have our own constitution. We have Hind Swaraj. Even then how there is chaos? It is because we are very poor in History & Philosophy, as well as, Polity & Economics. The ultimate goal of Indian Education is development of universal beings- having healthy interrelation, interdependence & integration with all the entities of the universes, irrespective of their nature & location.

We are trying to meet our predicaments of elementary education, secondary education and higher education through SSA, RMSA and RUSA. There have been many a moves right from facilitating first transition of a child from home to pre-school and from graduation to profession. But the basic question lurking is what after degrees? Let us ask any young graduate, today, that what the fellow is doing. Very often the response is *NOTHING*. *What we intend to do? Do Not Know. Even a sizable number of Engineers who have been serving for more than a decade are*

dislocated. Why? We are blindly adopting the western culture of Hire & Fire. What has gone wrong with us?

Indian Education has been unique. The globe as a whole liked to emulate Indian Education, teachers, and learners. 11th of November is celebrated as National Education Day in India commemorating the Birth Anniversary of Maulana Abul Kalam Azad.

Maulana Abul Kalam Azad was an Indian Scholar and a Senior Political Leader of the Indian independence movement. He was the first Education Minister of independent India. In 1992 he was posthumously awarded India's Highest Civilian Award, the BHARAT RATNA. He is commonly remembered as Maulana Azad. Maulana is an honorary title meaning 'Learned Man'. He had adopted Azad (Free) as his pen name. His contribution to establishing the Education Foundation in India is recognized by celebrating his birthday as "National Education Day" across India. *The emerging question is how many of us have liberated ourselves from Caste, Creed, Region, Religion, and Parties as Maulana Azad? How many of us have transcended ourselves of Time, Space, & Mind? How many of us are universal birds? Let us visit Al-Hilal, the crescent moon, the rare revolt, the rare fire, contributing to AZADI of India of the British regime.*

Historical Perspectives of Indian Education

Historical perspectives of Indian Education can be viewed through the study of the following:

1. Vedic Education
2. Buddhist Education
3. Medieval Period
4. Wood's Dispatch 1854
5. Lord Stanley's Dispatch 1859
6. Indian Education Commission 1882
7. Government of India Resolution on Education Policy 1904
8. Government of India Resolution on Education Policy 1913
9. Calcutta University Commission 1917
10. The Hartog Committee Report 1929
11. The Abbott Wood Report 1937
12. The Sergeant Report 1944
13. The University Education Commission 1948-49
14. The Secondary Education Commission 1952-53
15. The Kothari Commission 1964-66
16. National Education Policy 1968
17. The Curriculum for the Ten Year School, a Framework 1975
18. Chattopadhyaya Committee 1983-85
19. National Policy on Education 1986
20. National Curriculum for Elementary and Secondary Education, a Framework 1988

21. The Acharya Rammurty Committee 1990
22. National Curriculum Framework for School Education 2000
23. NCF 2005
24. NCFTE 2009
25. Justice Verma Commission 2012

All the Committees, Commissions & Curriculum Frameworks over centuries have made fully valuable & functional recommendations, but, where is their expression in Indian Education. It seems Education has no identity of its own.

Developments in Indian Education

Some of the developments in India post-independence are as follows:

- Sarva Shiksha Abhiyan (SSA)
- Right to Education (RTE)
- National Programme for Education of Girls at Elementary Level (NPEGEL)
- Rashtriya Madhyamik Shiksha Abhiyan (RMSA)
- Inclusive Education for the Disable at Secondary Stage (IEDSS)
- Saakshar Bharat/Adult Education
- Rashtriya Uchchar Shiksha Abhiyan (RUSA)
- NROER- National Repository of Open Education Resources: It is an initiative of the MHRD, GoI and CIET-NCERT to bring together all digital and digitisable resources across all stages of School Education & Teacher Education. Resources are available in 29 different languages. E-resources of NROER can also be accessed offline through school server.
- ePathshala website and Mobile App
- e-PGPathshala: It is an initiative of the MHRD under National Mission on Education through ICT (NME-ICT). The modules for M.Ed. and M.A. Education are being developed jointly by the University of Allahabad and CIET-NCERT. These modules will be available on the following web sites:
<http://epgp.inflibnet.ac.in>
<http://eacharya.inflibnet.ac.in>
<http://nroer.gov.in>
- SWAYAM- Study Webs of Active-Learning for Young Aspiring Minds
- SWAYAM PRABHA- The SWAYAM PRABHA has been conceived by the MHRD, GoI as the project for using the two (2)-GSAT-15 transponders to run 32 DTH channels which will telecast high quality educational programs on 24X7 basis. Every day, there is new content of at least 4 hours which is repeated 6 times a day. MHRD has nominated NCERT as the National Coordinator for one such channel. CIET-NCERT is disseminating curriculum based ETV programmes for class IX-X and XI-XII through DTH –TV transmission.

- MOOCs for PG Students
UGC is the National Coordinator for development of MOOCs for non-technical post-graduate degree programs. CIET, NCERT is developing MOOCs for the subject of Education. The courses developed so far have been hosted on SWAYAM. A learner can earn certificate/credits on successful completion of any course on SWAYAM.
- Revision & digitization of all the books of the NCERT
- Elementary Learning Outcome Document of the NCERT

Identity of Education

Some of the Universities in India, both, old and new, such as, University of Guwhati, University of Mumbai, Ravenshaw University are conferring Doctoral Degrees in Education under the Faculty of Arts. Education is not even considered by them an entity and faculty. Education which is unconditional greatest Service in Society has not been recognized by the Service Sector in India. UPSC in India has failed to include Education as a discipline. *Some think that Education has only a little core, but, more of periphery. Education suffers from the missing elements of unique discipline which are non replicable in other disciplines.* It seems that such thinkers have failed to think and appreciate that Education is the core of every discipline. Education is interdisciplinary. All the disciplines emerge from Education and merge into Education. Education does have a unique body of knowledge, a repertoire of unique skills and attitudes and a code of conduct. As the code of conduct of a doctors is –“We will keep serving the humanity without considering our comfort or discomfort.” Similarly, the code of conduct of an Educationist is –“We will strive for Integral Humanism & Universal Being.” Some may use and abuse GURUS, Guardians, Teachers, Masters, recursively, ridiculously; forgiving every misdeed, they will be nurtured, so that, they make Teachers their Patterns to Live & to Die. If we find some people worried about ARTH & KAAM & callous towards DHARM & MOKSH, we will persuade them to initiate correction.” Can we estimate the energy, purity and strength of the Soul of Education? Warriors may win at times physically, it is Education which only through knowledge can bewitch the minds and liberate the souls. We always feel proud of the teachers who taught us and who are teaching us. Their text is its own testimony. They do not require testimonials. The globe strives to emulate Indian Teachers & Learners.

Developmental Challenges of India

We have many a developmental challenges, such as, Assimilating the globalization, Continuous updating of Knowledge & Skills, Creating new age institutions, Balancing materialism and values of orient, Phantom use of Resources, Trans-planet technology stabilization, Working with multiple languages and multiple cultures, Meeting the climatic & environmental challenges, Sustaining development, Collaborative Living, Wholistic development, Developing Vocational Skills, Enhancing Communication Skills, Quality control, Removing Public Private dichotomy, Controlling Rising materialistic values, Realizing even distribution, Controlling Ecological imbalances, Fair Recognition, Valid Accreditation, Sustaining Symbiosis, Respecting Cultural

Heritage, Sustaining sensitivity to the basic values, Convergence of State, Society, Education & Judiciary, Respecting Rights of all, Transcending time, space & mind, India which has had the grace of being contented, peaceful, healthy, happy, beautiful, cultured society is moment by moment losing its natural bliss & beauty, We have become insensitive to our Indian Heritage of peaceful struggle, Each one of us needs to recreate, revive and refresh ourselves wholistically to value our heritage and build a Strong, Powerful, Cultured, Dedicated, Gracious and Pioneer India.

Structure of Education

The Education has become stagnant over years, rather, there is degeneration of Educational Institutions. There is no change in Names, in Structures, in Functions, whereas, there is drastic change in the Society and Environment. When will we start renewing our own selves? Every unit in Education should renew itself. We cannot overthrow Education System overnight. Our Education Policy should resonate with our challenges & strengths, sources & resources, sensitivities & sensibilities, Vision & Mission. Our Education Policy should be guided by the Soul of our Soil.

ICT integrated Education: Some Innovations

- Flipped Classrooms
- Data Clouding
- Virtual Classrooms
- Digital Degrees
- World on Wheels: Digital Inclusion & Learning Labs
- Common Service Lab: Offgrid Citizen Assistance Lab
- Future Classroom 2.0: Offgrid Digital Learning Lab
- Curricula for ICT in Education (For Teachers & Learners)

Features of Some of the Innovative Programs

- **Personalized Teacher Education (DAVV, Indore)**
 - Choice of Volunteers
 - Learner Centered
 - Personalized Classroom Setting
 - Participatory Approach
 - ZLP
 - Freedom for what to study, how to study, when to study, where to study
 - Peer Teaching-Learning-Evaluation
 - Variety in the modes of presentation
 - Successive Discussions
 - Evaluation by Self, Peer & Teacher
 - Emergence of Humanistic & Professional Masters

- **Wholistic Teacher Education (CASE, Vadodara)**

- Subject Knowledge
- Inter-disciplinarity
- Environmental Attitude
- Health development
- Emotional development
- Spiritual development
- Integrated development
- Universe Development Index (UDI)

- **Problem Solving through Participatory Approach (DAVV)**

- The Master of Computer Education class, DAVV, Indore was very often given a problem to be solved through a computer program.
- Number of different programs would emerge from the entire class.
- Each program was presented by one of the programmers to the rest of the class and rated by all the students on different criteria, namely, compactness of source code, fetch and execute cycle size, response time, memory used, programming discipline level and program intelligibility.
- Also, the students developed a program to calculate Kendall's Coefficient of Concordance through 'C' language. They then computed Kendall's coefficient of concordance individual criterion wise and with respect to the comprehensive criteria.
- There is a significant cognitive development through cognitively mapping the algorithms and solution to a problem. This approach cuts across students of varied profiles, simultaneously. Participatory approach may be introduced in various disciplines to enhance learning in all domains. It facilitates creative production and independent thinking. Also, it provides scope to experience and appreciate the cognitive maps of others.

- **Development of Creative Writing Ability Amongst Students Through Participatory Approach (CASE)**

- Recitation of Model Poems by the Teacher in Class Situation
- Appreciation of the poem by the class and identification of the various components of creative composition
- Composition of a variety of poems by the students individually, and in groups
- Recitation of the self composed poems by the classmates and appreciation by rest of the class

Participatory approach of creative writing facilitates expression of the latent creative faculties in terms of original production.

Learner Driven Pedagogy (LDP)

a. A Trainer Trains a Learner on Car Driving, particularly, on ABC, that is,

- Accelerator
- Brake &
- Clutch

A beginner was learning car driving in a motor driving school. The trainer would guide sitting by the side having the parallel ABC controls. The Trainer Designed, Driven and Dependent Pedagogy Failed the Learner, whereas, the Learner Self Driven Pedagogy Passed. Every learner has to experience accelerator, brake and clutch on ones own. Sooner the learner realizes independence better is the learning. Driving demands experiential learning.

But there are many a problems with respect to LDP. Guides are readily available in the markets. Question Banks with solutions are available. It has become customary to copy paste, without mental processing. Drill & Practice are negligible. Children are Programmed Round the Clock. Beauties of the Childhood are Lost. Booming Energy of the Adolescents goes Stray. Vision of the Adults is Lost. There is rare Life in the Institutes of Education, but, added focus on life skills. There are many a ways out to address such problems.

Ways Out

- Technological De-Schooling
- Zero Lecture Program
- Participatory Approach of Problem Solving
- Activity Based learning
- Employing Models of Teaching
- Theory Building & Employing
- Employing Taxonomy of Educational Skills
- Constructivism & Connectivism
- Training Thinking
- Wholistic Learning

Learner Driven Pedagogy with Constructivism

- Here is a poem presenting learner driven pedagogy:

ABC of Learner Driven Pedagogy with Constructivism

Mere Trainer Driven Pedagogy Failed Me Grossly as a Learner Accelerator-Break-Clutch & Gear Was Full of Diffidence & Fear	Fully Learner Driven Pedagogy Passed Me Gracefully as a Learner Driving Easily in Any Direction With Confidence & Conviction
Driving demands knowledge of techniques Driving demands motor muscle skills Driving demands concept of space & time Driving drives both body & mind	Driving tunes with multivariate setting Driving rules with multiple controls Driving has its own methodology Driving has its own Science & Technology
Driving drives Self & Vehicle Driving derives concepts & principles Driving is full of arrays of Skills Slight Negligence Bumps Hurts & Kills	Driving demands a Taxonomy of Skills Compatible Drivers, Ways & Vehicles Whether driving Man or Machine Driving demands Wit Will & Skills
Pedals With or Against Currents Lift Thrust Ailerons & Rudder Pedals Let us Drive Hills-Valleys-Plains all the Ways Up-Down Back-Forth Left-Right All the Days	Replacement of SMPS Insertion of CMOS Fixing of RAM Fabrication of Chips Spring Tide Sun Moon Opposite Side Drive Universe with Wit Might & Delight
Clouds in the Sky Rains & Storms Dew Drops on Petals Sweat of the Workers	Salute to Thee for Thy Grace Resonating Drive Always All Ways Electrons in Orbits Ribosome in DNA All the Entities in Wonderful Constellation!

Here are a few suggestions:

- There should be added focus on Learner Driven Pedagogy- Germination, Incubation, Creation, Construction & Connection.
- Identity of each & every Individual entity & Institution deserves recognition, otherwise, we cease to be. While being in greater power, it takes no time to delete, but, it takes life time to construct & connect. Any deletion has to be done more carefully, sensitively & sensibly. History has its own essence. It is not all gone.

- Any General Body, of any agency of India, if seeks public opinion on any Issue, then the public opinion ought to be duly respected. If public has faith in us, we should also have faith in public. Truthfulness, Compassion & Forbearance are the most beautiful attributes of India. This is how India is known since ages.
- Courses, such as, Corporate Social Responsibility & Education, Health Education in India, Taxonomy of Educational Skills, Technology Integrated Education, Inclusive Education ought to be introduced.
- There should be added focus on Yoga Education, Health Education, Peace Education, & Humanity Education.
- Digital Culture should be developed right through Elementary Education.
- New Education Policy should ban Parallel Private Tuition Classes. The beauties of learning need to be respected. We cannot afford to mechanize learning.
- There should be due focus on both the hard skills and soft skills in our Professional Programs.
- ICT ought to be fully utilized for sustainable development, that is, Socio-Economic-Environmental development.
- Media culture should emerge out of the media crowd. Due measures have to be taken to control media addiction. There is a need to develop e-civilization.
- Education should develop liberation capabilities through reason, religion and rapport, where, reason is re-as-on knowledge, feelings and skills, because there is no ultimacy of knowledge, feeling and skills. Religion is to be one with the creator and Rapport is unconditional love for all.
- The Inter University Consortium in Teacher Education established at the BHU should be fully functional respecting the ethos of the recommendation of the JVC.
- The Mahamana Madan Mohan Malviya Chair for Cross Border Teacher Education at the BHU should find expression at the operational level. The constituent e-consortium of Cross Border Teacher Education for the Common Wealth Countries should be established at the earliest.
- NCTE- the regulatory body in Teacher Education should be revived without further loss of time. The Chairperson of the NCTE should be appointed more carefully. All the Educationists of India are not dead & gone.
- The New Education Policy should be formulated without further loss of time. The State definitely owes an explanation to the nation regarding significant delay in the formulation of New Education Policy.
- India should have immediate focus on Human Development Index & Nature Development Index.
- All the models like, BOOT, BOO, BOT have reasonably failed. There should be systematic efforts for integration of Technology in Education. Digital Culture should be developed more carefully.

- Elementary Education should be Elementary in the true sense. We should try our level best to revive & respect the beauties of childhood. Why should our children look like programmed machines?.
- Some vocations should be mandatory with choice at Secondary & Senior Secondary levels.
- Higher Education has to justify its name as higher. Higher Education by virtue of its identity has to be Innovative. Higher Education should formulate & conduct Research on immediate problems.
- Digital Wave demands immediate Cyber Security. It is ideally desirable to be digital in all areas, but, such a wish & will demands immediate controls. Along with, constructors & connectors the world is full of hackers & crackers.
- There should be immediate focus on Bipolarity in Indian Education. Along with Education our vigilance should be fully awakened, conscious & active. The BABA culture has to be treated more vigilantly & seriously.
- The NEETs should be more humanistic, both, in taking & organization. What could be the ways out
 - Fair candidates.
 - Bio-meters & CCTV
 - Vigilant entrance.
 - A large number of invigilators.
 - Decentralized Test
 - Digital Testing
 - Open Book Test
- The UGC is a University Grants Commission. Instead of segregation into academic & financial divisions, we ought to expand & integrate the UGC.

Concluding Remarks

The ultimate aim of Education is development of Universal beings. It deals in full, meaningful, happy, healthy, resonating and sustainable life of every organism & entity. There is need to move from Human Development Index to Universe Development Index. There is a caution that progressively we are becoming market oriented than society oriented, profit oriented than service oriented, resource oriented than source oriented. Technology quotient is trying to superimpose intelligence quotient, emotional quotient, spiritual quotient, health quotient, and environment quotient.

We are busy with the reviews than views. We are busy with deletion than construction and connection. It is high time that we revive our heritage & culture which is full of truth, compassion and forbearance. It is high time that we realize SHUBH LABH, that is, hard earned Profit through determination & action with full immersion seeking the beauties of life & living. The first & ultimate aim of Indian education is to realize universal beings. India is striving for wholistic development of all, where, each bud blossoms, blooms, and spreads fragrance. We feel

proud being the product of Indian Education, where, we have the right to education. We have been constructed through the persistent patience, competence and struggle of our teachers. Our Educational Institutions have been and are the learning organizations in the prayer, in the classroom, in the corridor, in the library, in the laboratory, in the play fields, in the Health Center, in the community, everywhere. That is why the globe at large aspires to emulate Indian Education. There is an immediate need for Indian Education to strengthen & sustain its Universal Identity.

With all ifs and buts, the Indian Education will continue serving the universe with all dedication, addressing all problems of all. New Age Institutions are being created and old age renewed for continuous updating of knowledge and skills, developing inner power and social ethos. There is progressively phantom use of resources. Symbiosis, peace & harmony, health & hygiene, production & Marketing, Scholarship & Exchange, indigenous creation & trans-creation, research & construction are becoming the salient features of Indian Education. Let us revive & modernize Indian Education. HAPPY NATIONAL EDUCATION DAY! India. Could we aspire for Indian Class Education which is service oriented, society oriented and Life oriented than Profit Oriented & Market Oriented? Indian Education should not be mad after becoming DIGITAL. The biggest challenge of Indian Education is how to revive & sustain the identity of India. Jai Hind! Jai Bharat!

Education in Search of Identity

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Professor Emeritus

CASE **MSU-VADODARA-GUJARAT-INDIA**

Some of the Universities in India, both, old and new, such as, University of Mumbai, Maharashtra and Ravenshaw University in Odisha are conferring Doctoral Degrees in Education under the Faculty of Arts. Education is not even considered by them an entity and faculty. So, there is a question of identity. Education which is unconditional greatest Service in Society has not been recognized by the Service Sector in India. UPSC in India has failed to include Education as a discipline. *There is a false notion that Education has only a little core, but, more of periphery. Education suffers from the missing elements of unique discipline which are non replicable in other disciplines.* It seems that such thinking has failed to appreciate that Education is the core of every discipline. Education is interdisciplinary. All the disciplines emerge from Education and merge into Education. Education does have a unique body of knowledge, a repertoire of unique skills and attitudes and a code of conduct. The code of conduct of doctors is- *servicing the humanity without considering comfort or discomfort*, whereas, the code of conduct of Teachers is- *Eternal Learning & Teaching*. The soul of a gardener resides in the seeds, the soul of philosopher resides in the mind, the soul of piper resides in the pipe, the soul of a singer resides in the voice, the soul of a dancer resides in each & every body cell, the soul of a poet wanders in the nature, the soul of a sculpturist resides in the stone, the soul of a Governor resides with the public, the soul of the creator resides with the universe, the soul of a teacher wanders with the learners. Dancing crops, flowing wisdom, enchanting music, touching songs, resonating dance, immersing verses, speaking sculptures, and enlightened learners are the wonderful springs of nature. Education is a most comprehensive interdisciplinary discipline which educates the universe on what has gone by, where we are, where we want to go, and what we like to create, observing healthy, meaningful and full life.

Can we estimate the energy, purity and strength of the Soul of Education? Warriors may conquer at times physically, geographically, materially, it is only Education which through knowledge can bewitch the minds and liberate the souls. We always feel proud of the teachers who taught us and who are teaching us. Their text is its own testimony. They do not require

testimonials. The globe strives to emulate Indian Teachers & Learners. The following poem tries to depict Indian Teachers.



Teacher Education: Ethos

*We were never interested in B.Ed.
It is B.Ed. which interested us
We opted for wandering wild
But Education captured us;*

*Far from structure of Phenol
Far from synthesis of Cholesterol
Far from super- het Receivers
Far from gold medal achievers;*

*Far from differential & integral Calculus
Far from GeoGebra & Quadratic Equation
Far from Equity & Logical Operators
Far from Mega Projects & Micro Processors;*

*It is Education which eternally accomplished
The DNA structure, core & ethos of Life
More than Knowledge & Epistemology
Transcended us of Mind, Space & Time;*

*GURUS the best Form of GUNA, Still NIRGUNA
Always make our Lives Sublime
No Storms can Shake a Butterfly
on Flower Petals with Nectar Divine!*

*Education facilitates our transition
From atom to nucleus, from dot to globe
One with the universe, the latest version
From self to Self, the blissful immersion!*

Since ages the universe has been concern of Education. All were having access to Education for sharing their states. Teachers and Educationists were universally respected. Now the scenario is changing. Why Education is losing its identity? All of us have largely failed in realizing identity of Education. Rather than others seeking guidance from Education, Education is being invited to

receive dictations from State & Judiciary. Arbitrary policies & Judicial over activism are likely to damage Education. There is evident identity crisis of Education. It is high time for Education to realize its Identity. The question is why the identity crisis?

There is crisis of character. Soul of Education is being killed through ruthless expansion and privatization leading to marketization of Education. Market is being perceived as the arbiter of the morality. Blind ultra modernization has resulted into the corrosion of Eastern Values. We have lost our sensitivity to the basic values & SANSKARAS. The soul provides energy, whereas, the SANSKARAS provide modus operandi, but, the unbridled marketization of Education has reduced Education to a commodity to be brought & sold mechanistically in the market. Expression without essence and laughter without resonance are worthless. Convocation without invocation is useless. Graduates & Post-Graduates, degrees of a degree are of little value. Degrees do not guarantee achievement. Achievement is a function of variety of factors in which Knowledge, not merely Degree, is one of the elements. What use is the humanity degree which does not develop decency, decorum and discipline and fails to process us as human beings? What use is the Science degree which does not reconstruct in us open minded scientific outlook? What use are the law degrees if there is lawlessness. What use are the Political Science Degrees if we fail to develop Statesmen? What use is that Art which fails to manifest thematic creative expression? Mathematical formulas are empty & mechanistic if these fail to represent the reality. Social Science degrees which fail to produce Social & Civic Personalities and Citizens are gross wastage. What use is a Doctor of Philosophy Degree if we fail to philosophize the field? What use are the elections if we fail to find & elect Rajrishis?

“A Person was selling Sweet Orange Candies (SANTRE KEE GOLI) in a ST Bus. While asked what those Slices contained, the fellow was ignorant of the contents.”

“While asked who was – Maulana Abul Klam Azad and what does the name signify, a large majority of the Graduates were silent.”

There are innumerable instances of ignorance & silence. Is this the status of our Education?

Let us recall integral humanism of Sri Aurobindo & Wholistic Man of Vedic Period where the emphasis has been on wholistic education for man making- Physical, Mental, Social, Spiritual, Environmental, and finally universal being. Here we recall the efforts of Prof. T.N. Kapoor Former Vice Chancellor, Punjab University Chandigarh, who insisted that Principles & Philosophies of Education be taught even to the Commerce students.

The altruistic purpose of Teacher Education has been significantly lost. There is a need to strengthen Teacher Education at all levels.

Preface of the NCFTE (2009)

Preface of the NCFTE (2009) by Prof. Mohd. Akhtar Siddiqui former Chairperson NCFTE reads-

“People in this country have been slow to recognize that education is a profession for which intensive preparation is necessary as it is in any other profession”. This concern expressed in the University Education Commission (1948-49) Report is alive in its relevance even today. The Education Commission (1964-66) professed, “The destiny of India is now being shaped in her classrooms”. So did the National Policy on Education 1986 emphasize: “The status of the teacher reflects the socio-cultural ethos of the society; it is said that no people can rise above the level of its teachers”. Such exhortations are indeed an expression of the important role played by the teachers as transmitters, inspirers and promoters of man’s eternal quest for knowledge. Should this role expectation be not taken as a rhetoric, but, as a goal to be constantly striven for, the urgency is to address ourselves seriously to examining the issues related to the preparation of teachers as well as to prune the theory and practice of teacher education. Though verily a professional, the teacher’s personality, in being humane to the learners, is the core foundational issue on which this Framework is based, in order that it has a bearing on transforming the very dynamics of teacher education *per se*. Two significant developments particularly, the National Curriculum Framework 2005 and the Right of Children to Free and Compulsory Education Act 2009, as well as, the fundamental tenets enshrined in the Constitution of India have guided the development of this Framework.

This National Curriculum Framework for Teacher Education (NCFTE, 2009) elaborates the context, concerns and vision underscoring that teacher education and school education have a symbiotic relationship and developments in both these sectors mutually reinforce the concerns necessary for qualitative improvements of the entire spectrum of education including teacher education as well. The new concerns of school curriculum and the expected transactional modalities have been emphasized in designing this Framework for all stages of school education. Issues related to inclusive education, perspectives for equitable and sustainable development, gender perspectives, role of community knowledge in education and ICT in schooling as well as e-learning become the centre-stage in the Framework.

A new approach to curricular areas of teacher education has been highlighted. The curriculum of teacher education is broadly dealt with under foundations of education, curriculum and pedagogy and school internship. The foundations of education include learner studies, contemporary studies, and educational studies. Curriculum and pedagogy deal with curriculum studies, pedagogic studies and assessment and evaluation studies. The school internship is visualized by situating the practice of teaching in the broader context of vision and the role of teacher and sustained engagement with learners and schools. In a departure from the existing approaches, the rationale of each major area along with curricular provisions, both in theory and practicum, have been indicated, leaving scope for individual reflection on the part of the institutions offering teacher education and the academics associated with them. Transaction of the curriculum and evaluating the developing teacher determine the extent to which the ideas conceptualized are put into practice. The focus on process-based teacher education has been attempted as models for practicing teachers to adopt/adapt. The suggestion to

establish Teaching Learning Centers to act as laboratories for the theory and practice of teacher training has been emphasized. An appropriate focus on continuous and comprehensive evaluation of developing teachers has been drawn up through an evaluation protocol and suggestions given for designing instruments for assessment and evaluation. The conventional models of teacher education may continue though the Framework does provide directions towards change in the structural aspects of teacher education at elementary, secondary and post-graduate levels. One reform that could achieve a breakthrough to vitalize teacher education and through it the process of learning and teaching is to break the isolation of teacher education institutions from the university life, from the schools and from one another. The Framework reiterates in unequivocal terms the need for this reform. Pre-service and in-service components of teacher education being inseparable, considerable focus has been given in this Framework on continuing professional development strategies. Since a major area of weakness in the existing teacher preparation programmes is the quality and experience of those who have the responsibility of training young entrants to the profession of teaching, a fresh perspective of preparation of teacher educators is dealt with in detail. This Framework is visualized to act as a catalyst to change the profile of teacher education so that the teacher education institutions become active centers not only of research but also of practical experiments directed to the improvement of educational methods and curricula. It is a matter of conviction that if teacher education institutions could be organized on right lines and become dynamic centers of progressive educational movements, the whole task of educational reconstruction would be greatly facilitated.”

NCFTE (2009) & NCF (2005): Achievement So Far

1. Attempts have been made to enrich the curriculum to provide for overall development of children through CCE. With all ifs and buts, with all Haves and Have Not, the CCE has its own Strength & Power. Continuous Comprehensive Evaluation is a Powerful Regulator. The voices of the Children in this context are- *“Play Way Activities We Play, The Science We Experiment, The Mathematics We Speculate, Stories We Narrate, Games We Play, Musical Notes We Generate, Keep Us Healthy & Gay. The continuous flow of the CCE has made our Studies full of life. The CCE has infused energy in all of us, the Teachers, Learners, Parents and the Society. We may be tired after days work, but, we don’t feel tired. CCE is not a burden. It is a band of Rhythm, Rhyme & Resonance. Along with the learners the innovativeness, creativity and efficiency of the teachers also increase significantly. The whole of Primary School System including Watchmen, Support Staff, Sweepers, Gardeners, Mess Staff, Office Staff, Teachers, Learners, Parents, Society, CBSE, the Primary Section Coordinator, School Management and the Principal Madam function synergetically. The entire Primary School System is fully lively & fruitfully functional due to CCE.”*
2. There is added focus on Multiple Intelligence & Life Skills.
3. Critical Pedagogy has been promoted in various dimensions of the School through Cooperative Learning, Participatory Approach & Action Research.
4. Rarely attempts have been made to motivate children from marginalized sections of society for expression of their knowledge & skills related to work and to have cumulative human experience along with children from other sections.
5. Rare attempts have been made to develop Citizenship Skills. There is evident rejection of the old and acceptance of the new.

6. There are segregated schools on the bases of Public & Private, Medium of Instruction, Religion, Region, and School Boards. All this segregation has resulted into the fragmentation of the Society. There are marked differences between Municipal Corporation Schools & Private Schools, Native Schools & International Baccalaureates.
7. The private school students may have higher academic achievement, but, they may have ethos related limitations. Very often a non-native language is barrier in constructing knowledge.
8. Even now the children are deprived of the learning opportunities that occur in classroom with children from diverse Socio-Economic & Cultural Backgrounds.
9. A large number of Public Schools still suffer from shortage of facility of infrastructure. It affects adversely not only academic learning but also overall health of the children.
10. There are rare teachers who have both teaching competencies & teaching attitude. Humane & Professional Teachers, both, in one are rarely found.
11. There is a need to redesign Teacher Education Curricula and modes of transaction, as well as, approaches to inculcate universal values, namely, truthfulness, compassion & forbearance.
12. Our School Education has to be strong enough to appreciate the preamble of Constitution of India which demands determination & action to constitute, sustain and strengthen India into a Sovereign, Socialistic, Secular, Democratic, Republic State.
13. The sharp disparities between different Social & Economic Groups are everywhere in the perceptible range in India. Even now the children of the disadvantaged groups are educationally most vulnerable.
14. Though we have large number of multi-grade schools based on mechanical principle of Teacher-Pupil Ratio, within 1Kilo Metre of each habitation, yet, we have not been in a position to provide compatible Pedagogy.
15. Child Centered Education is still in infancy.
16. Constructivist Learning Approach has been talked a lot, but, rarely implemented in the Schools.
17. Many a Schools have initiated into Activity Based Approach, but, it needs to be strengthened.
18. Rarely teachers are competent to deal with Inclusive Classes.
19. Diagnosis & Remediation are done rarely.
20. School Stereotypes exist even now, such as, notion of uneducable children, marginalized groups, Gender Type Stereotypes, Children with disabilities, first generation learners.
21. Problems of bridging the home language and school language.
22. A vast array of human vocations, such as, weaving, carpentry, farming and occupations, such as, shop keeping constitute a valuable form of knowledge. These forms of knowledge are of practical nature, tacit, but, often only partially articulated.
23. Neither the curricular nor the co-curricular activities are up to the mark.
 - Many a children in English Medium Schools are not at ease with English, worse is the scenario on vernacular.
 - Mathematics Teaching-Learning is dull & dry
 - History & Civics are gone
 - No sensitivity to cultural heritage & religious heritage & eastern values
 - Social Sciences seize to have normative responsibility
 - Science is loosing Scientific Outlook & In-look
 - Wholism is a figment of imagination

24. Health Education, Human Rights Education, Environmental Education, Art Education, Physical Education, Education for Peace & Harmony have become empty slogans.

Challenges & Reality

- Manpower Planning is relatively absent in Teacher Education. There is remarkable increase in the number of Teacher Education Institutions.
- There are mismatches between the Teaching Degrees & Levels Taught.
- Some of the States filled new vacancies with Para-Teachers, while trained teachers remained unemployed. Honorarium per month of the para teachers appointed in different States ranges from Rs. 1000/= pm (Andhra Pradesh) to Rs. 4500/= pm (MP).
- In some of the States, such as, MP, Gujarat future teachers in the formal system will be “SHIKSHA KARMIS/SHIKSHA SHAYAK” on performance contract.
- Indian Teachers have been teaching in the Schools in West Asia, particularly, the United Arab Emirates. Mathematics, Science & English Teachers are in maximum demand. Thousands of Secondary School Teachers are already employed in foreign schools.
- There are problems of Education right from pre-natal stage to old age.
- Children are losing their beauties of childhood.
- Children are interested in fast & junk food than home made food.
- Children are going far away from nature, because, we have failed in sustaining the beauties of nature.
- The eastern ethos & sensitivity to the basic values are fading.
- The entire School Education- History, Civics, Language, Mathematics, Science are losing their essence.
- The creativity of the children is killed by the schools.
- There are problems of cell phones & face books.
- Only God knows what the children Twit & Skype.
- Adolescents are bewildered. It seems the Sociologists, Psychologists and Counselors have largely gone defunct.
- Educational Institutions have started disowning their own Product. What are the SET, NET, TET, TAT representatives of?
- There is little convergence amongst State, Society, Education & Judiciary.
- More than Solutions, there are Problems of all sorts of Education-School Education, Teacher Education, Medical Education, Engineering Education, Law Education, Art Education, Science Education.

- Education, Research & Development are the least priority as is evident through the investment by the State.
- Apex Institutions, such as, NCERT, NCTE, NUEPA, ICSSR, CIIL, UGC & NAAC have lot of potential but for expression.
- Health Education & Environmental Education are the most neglected areas.
- Public at large is indifferent towards Education.
- Corporate Social responsibility finds rare expression.
- Rather than wholistic, what we have is fragmented Education.
- There is no where dedicated Teacher education in India.
- The identity of Education as highest interdisciplinary is rarely recognized & respected.
- Content-Pedagogy-Technology integrated Education is a big challenge.
- Skill Training is lacking. Education is failing to appreciate innovative courses, such as, Taxonomy of Educational Skills.
- Teacher Education on Life Skills, such as, lateral & critical thinking, innovativeness, problem solving needs to be strengthened.
- With the implementation of SSA there is relatively better state of Education.
- We need thorough preparation for Teacher Education at all levels, from Pre-Primary through Higher.

Teacher Education: Quality Concerns

1. Manpower Planning

Total number of recognized Teacher Education Institutes in India as on 31.03.2013 is 13054 (ERC 944, WRC 3904, NRC 3409 & SRC 4797). Total Teacher Education Courses recognized & intake approved are presented through Table 1.

Table 1: Total Teacher Education Courses Recognized & Intake Approved

SNO	Teacher Education Course	Number Recognized 31.03.2013	Intake Approved 31.03.2011	Intake Approved 31.03.2012	Intake Approved 31.03.2013	Additional Intake Approved during 2012-13
1	Pre-Primary	253	12438	12388	12538	150
2	Elementary	7191	337817	336527	394028	57501
3	B. El. Ed.	17	627	627	627	000
4	D. El. Ed. (Distance Mode)	1	-----	-----	500	500
5	B.Ed. (F2F)	6660	650901	657541	682086	24545
6	B.Ed. (Distance Mode)	37	20450	20450	20850	400
7	M. Ed. (F2F)	928	22805	23255	23680	425
8	M. Ed. (Distance mode)	10	1605	1605	1645	040
9	M.Ed. (Part Time)	7	175	175	175	000
10	C. P. Ed.	145	7347	7297	7287	-010
11	B.P. Ed.	528	29969	29869	30819	950
12	M. P. Ed.	139	3937	4237	4457	220
13	Others	254	18489	18489	18639	150
	Total	16170	1106560	1112460	1197271	84811

It is evident from Table 1 that Total Number of Teacher Education Institutions in India as on 31.03.2013 was 16170, whereas, the approved intake was 1197271. Surveys be conducted by all the States in India to ascertain the Teachers required at various levels. There should be one to one correspondence between School education & Teacher Education. Man Power Planning in Education & Teacher Education ought to be done scientifically.

2. Multi-Mode Teacher Education

It is highly desirable that the first Professional Degrees/Diploma in Teacher Education be offered only in Face to Face (F2F) mode. But, F2F mode of Teacher Education is not that credible as it used to be. Even in the F2F mode, it is publicly evident that there are Teacher Education Degrees, such as, D.El.Ed., B.Ed. , particularly, in the Private Sector with & without attendance. A large number of Teacher Education Institutions are under staffed. Infrastructural facilities are inadequate. There are innumerable problems.

Further, Open & Distance Learning (ODL) mode can also provide very good platform. Many a web 2.0 Tools, Social Networking Sites, like, Edublogs, Blackboard, Twitter, Groups in Facebook, Skype, Whatsapp are very good, where, teachers can interact in synchronous as well as asynchronous mode. It can be blended with F2F mode. Web Portals are required where many a teachers come together. There are many Open Education Resources for Teacher Educators, Teachers & Learners, namely, GeoGebra , Google Earth, Hot Potato, C-map , R-campus, Mahara, Moodle and Wikispaces, Classroom 2.0, Visual Field Trip, In-Service Training Program, Academic Association, Collaboration & Forum, Journals & other Resources, Statistical Tools, and Web Conferencing. There are many a mass media, such as, Educational radio, ETV, along with Satellites.

No mode of Teacher Education, however modern or classical, stand alone, is self contained. There ought to be mutual support. Teacher Education in India ought to be multi-mode. There should be sharing of strengths amongst various modes, namely, F2F, ODL, Electronic, Correspondence.

3. Dedicated Teacher Education Programs

Dedicated Teacher Education Programs ought to be tried at the laboratory level, such as, B.A./B.Sc./B.Tech./B.Com. B.Ed. (10+2+4), M.A./M.Sc./M.Tech./M.Com. M.Ed. (10+2+7), M.A./M.Sc./M.Tech./M.Com. Ph.D. (10+2+7+3). These Programs be offered as Innovative Programs. There is a notion that the duration of Teacher education Programs be increased. Will increase in Time Duration of Teacher Education Programs assure and Ensure Quality Teacher Education? There ought to be added focus on In-Service Professional Development of the Teachers. Rather than issuing life Long Teaching Licenses, these could be renewed periodically.

4. B.Ed. integrated or B.Ed. Sequential

The nation has decided to offer B.A. Ed. in all the Central Universities of India. Though it is an arbitrary National policy decision, but, it does not mean that B.A. Ed. Integrated has supremacy over B.A. B.Ed. Sequential. Both have their due place in the realm of Teacher Education. The face validity of both the programs reveals that both these ought to have separate norms.

5. Innovative Teacher education

Innovative Teacher Education, such as, Personalized Teacher Education, Wholistic Teacher Education, Technology Integrated Teacher education, Bachelor of Computer in Education (B.C.Ed.), Master of Computer in Education (M.C.Ed.), Integrated Teacher Education, e-Teacher Education ought to be promoted.

6. Specialized Teacher Education

Teacher Education ought to specialize in many areas, such as, Art Education, Health Education, CSR & Education, ICT in Education, Yoga Education, Value Education, Inclusive education, Social Networking, Taxonomy of Educational Skills, Taxonomy of Educational Research. There is a need to offer programs, such as, B. El. Ed., M. El. Ed., B.C.Ed., M.C.Ed., Bachelor of Management Education (B. M. Ed.), M. M. Ed.

7. Quality Indicators

- a. Curriculum Design
- b. Curriculum transaction & Evaluation
- c. Research, development & Extension
- d. Infrastructure & Learning resource
- e. Student support & Progression
- f. Organization & Management

How to observe quality ought to be spelt very analytically & comprehensively. There should be Teacher Education Quality Assurance.

8. JNTU, IGNOU and Faculty Development Programs for Teacher Educators

It is a welcome movement that the Nation is thinking of Professional Development of Teacher Educators through the JNTU and IGNOU. It is a happy moment to learn that IGNOU which is ensuring the Compatible and Quality Teacher Education is expected to offer Faculty Development Programs. The JNTU being an established Technology University is also expected to intervene Teacher Education.

The roles expected of these two Universities with respect to Professional Development of Teacher Educators and Teachers need to be delineated scientifically.

9. Capacity Building Courses in Teacher Education

Courses, such as, follows could be offered by the SCERTs, ASCs , RCCs, IASEs, and CTEs:

1. ICT in Education
2. Social Networking
3. Info-Savvy Skills
4. Techno-Pedagogic Skills
5. Teacher in the Digital age
6. Open Education Resources
7. Taxonomy of Educational Skills
8. Taxonomy of Educational Research
9. Educational Research Thrust in India
10. Collective Wisdom of India
11. Researching Pioneer Competency

12. Teacher Competency: Mapping & Management
13. Researcher Competency: Mapping & Management
14. Health Education in India
15. Corporate Social Responsibility & Education
16. Vocational & Occupational Skills
17. Management Skills
18. Life Skills & Attitude
19. Management Skills
20. Adjustment Skills
21. Special Education Skills
22. Human Development Skills
23. Accountability & Adaptability
24. Communication Skills
25. Self Direction Skills
26. Social responsibility Skills
27. Human Relations Skills
28. Emotional Skills
29. Spiritual Intelligence Skills
30. Innovation, Creation & Construction Skills
31. Whoilstic Education Skills
32. Interdisciplinary Skills
33. Value Integrated Education
34. Yoga Education Skills
35. Qualitative Research in Education
36. Employing Mixed Research Methodology
37. Development of Tools & Techniques for Educational Research
38. Shifting Paradigms of Teacher Education
39. Quality Indicators of Teacher Education
40. Ensuring quality of Teacher Education
41. Identity of Education
42. Cultural, Moral & Religious Heritage of India
43. Developmental Challenges & Educational Determinism
44. Status of Educational Predicaments & Constitutional Right To Education
45. Status of Human Development Index in India
46. Universal Happiness Index
47. Status of Teacher Education in India
48. Establishing Equivalence of Teacher Education Modes
49. Formulating Teacher Education Policy
50. Establishing Norms for Teacher Education Parameters
51. Education for the Disadvantaged Groups
52. Inclusive Education
53. Continuous Professional development of Teachers

54. Career Advancement in Teacher Education
55. Re-visiting Teacher Education Curricula
56. Re-Visiting Act, Norms & Regulations of Teacher education
57. Establishment of Inter-University Consortiums in Teacher education
58. Exploring the Possible Roles of State, Society, Education & Judiciary in Teacher Education
59. Research Agenda for Teacher Education
60. Developing Competencies of Teacher Educators for Enhancing Creative Writing Abilities of the Learners
61. ICT Aided Constructivist Approach for Professional Development of Teachers
62. Reflections on the Academic Performance Indicators
63. Indian Consortium of Research in Education & Strengthening Educational Research
64. Action Research as “ My Research”
65. Research Synthesis & Meta Analysis
66. Educational Philosophy of India
67. Quality of Indian Teacher Education
68. Manpower Planning in Teacher Education
69. Digital Lesson Designing & Implementation
70. Developing Professional & Humane Teachers
71. School Curriculum Framework & Teacher Education Curriculum Framework
72. Teacher Education: Public & Private
73. Multiple Intelligence
74. Policies & Programs
75. Assessment through Rubrics
76. Portfolio Assessment
77. Working With Community
78. Symbiosis
79. Participatory Approach of Problem Solving
80. Cooperative Learning
81. E-Learning Packages on various Methods
- 82.** Specialized Teacher Education Programs
- 83.** Pedagogy: Critical, Reflective & Constructive
- 84.** Teacher Education for Disadvantaged & Differently Able Groups
- 85.** Physical Education
- 86.** Education for Skill Development
- 87.** Education for Parenting
- 88.** Development of Skills for Food Processing
- 89.** Psychology of Infant, Child, Adolescent, Young, Adult & Ripe
- 90.** Education of Eastern & Western Values

10. Human Resource Development & Capacity Building Centres (HRDCBC)

The UGC is planning to shape the existing ASCs as HRDCBC. The major change is to create a three-tier highly interactive system consisting of the UGC Bureau, about 7 Advanced Centres in well developed and well equipped universities. The Advanced Centres will provide expertise and share resources with HRDCBCs in their regions. It is envisioned that there will be a lot of networking and knowledge sharing through these places. It will become imperative to develop a network system and Distance Learning can be used to connect the whole country. Effective monitoring system for quality of the programs will also be ensured. Once these systems stabilize more HRDCBCs are likely to be opened. The HRDCBCs have been given added responsibility to train non-academic staff also.

The following four types of programs are proposed to be launched for the Faculty:

- i. Orientation Programs focused on conceptual understanding of allied subjects to promote cross discipline education and research
- ii. Subject specific or group of allied subject specific courses at advanced level
- iii. Advanced level Workshops/Summer schools for emerging trends and areas of research
- iv. Besides the above, need based capacity building programs for non-academic staff are also proposed to be launched mainly by Advanced Centres.

There is a need to enunciate the roles of HRDCBCs and Advanced Centres at operational level, very analytically.

11. Unique ID of Every Teacher Educator & Teacher Education Institution

Time & Again there is a suggestion that the NCTE should provide unique ID to every Teacher Educator and Teacher Education Institution. How can NCTE provide unique identity? If unique identity is a number, certainly a centrally established agency can provide it. But in reality the unique ID is acquired through peer review and evaluation over a period of time. Unique Identity is earned through dedication, innovation, continuous struggle and identification with Education & Teacher Education. Therefore we need to clear which shade of identity we are referring to as a goal.

12. Career Advancement of Teacher Educators

Let the Professionals have Career in Teacher Education. Do not upgrade us or downgrade us through the questionable scales. Career Advancement in Higher Education has become more of a matter of Whims and Fancies of , so called, Expert Committees. There are questions asked , such as, was there a casualty in the Promotion Committee. We need to perfect the APIs. Very often mere nomothetic compliance is promoted than real merit.

13. Teacher Educators for D. El. Ed are not Qualified

Most of the Teacher Educator at the D. El. Ed. are not qualified for the Elementary Level. Most of them have M.Ed. or Masters Degree in any School Teaching Subject & Diploma in Education. M.Ed. (Elementary) or degree & Diploma in Elementary is highly desirable, but, rarely available. A foundation

course in Elementary Education ought to be mandatory for their confirmation as Teacher Educators at the D. El. Ed. level, because, unless they have understanding of the Stages of Social Maturity of the Children how can they educate them. There are many a Stages of Social Maturity, such as, Incorporative, Impulsive, Interpersonal, Institutional, and Inter-Individual. How can they be Teacher Educators at this stage without having comprehensive understanding of the children; their wholistic profile-Physical, Cognitive, Affective, Psychomotor, Spiritual & Environmental?

Summary of Recommendations of Justice Verma Commission

Quality of Pre-service Teacher Education

1. Around 90% of pre-service teacher education institutions are in the non-Government sector, and most of the States of the Eastern and North-Eastern Region of the country are facing acute shortage of institutional capacity of teacher preparation in relation to the demand. The Commission recommends that the Government should increase its investment for establishing teacher education institutions and increase institutional capacity of teacher preparation, especially in the deficit States.
2. Government may explore the possibility of instituting a transparent procedure of pre-entry testing of candidates to the pre-service teacher education programmes, keeping in view the variation in local conditions.
3. Teacher education should be a part of the higher education system. The duration of programme of teacher education needs to be enhanced, in keeping with the recommendations of the Education Commission (1966), the implementation of which is long overdue.
4. It is desirable that new teacher education institutions are located in multi- and inter-disciplinary academic environment. This will have significant implications for the redesigning of norms and standards of various teacher education courses specified by the NCTE. This will also have implications for employment and career progression of prospective teachers. Existing teacher education institutions may be encouraged to take necessary steps towards attaining academic parity with the new institutions.
5. Current teacher education programmes may be re-designed keeping in view the recommendations in the National Curriculum Framework for Teacher Education (NCFTE, 2009) and other relevant material.
6. In keeping with the recommendations of the Education Commission (1966), every pre-service teacher education institution may have a dedicated school attached to it as a laboratory where student teachers get opportunities to experiment with new ideas and hone their capacities and skills to become reflective practitioners.
7. There is a need to establish a national level academic body for continual reflection and analysis of teacher education programmes, their norms and standards, development of reading material and faculty development of teacher educators.
8. As a matter of policy, the first professional degree/diploma in teacher education should be offered only in face-to-face mode. Distance Learning programmes and the use of blended learning material may be developed and used for continuing professional development of school teachers and teacher educators.
9. The institutional capacity should be increased for preparation of teacher educators. There is a need to make the Masters in Education programme of 2 –year duration with the provision to

branch out for specialization in curriculum and pedagogic studies, foundation studies, management, policy and finance, and other areas of emerging concerns in education.

10. The NCTE would need to develop broad-based norms for qualification of teacher educators to enable induction of persons with post graduation degrees in education science, social sciences, languages and mathematics, along with a professional degree in teacher education or a research degree in education, as teacher educators.
11. The idea of creating opportunities for teaching practitioners to teach in teacher education institutions, as visiting faculty, may be explored. Similarly, teacher educators could be considered as visiting faculty in schools.
12. Faculty development programmes for teacher educators should be institutionalized.
13. There is need for enhanced investment in promotion of research in education in general, and in teacher education in particular in the universities; creation of an Inter- University Centre in Teacher Education could play a significant role in this regard.

Quality of In-service Teacher Education

14. The Government is required to appoint an Expert Group to develop a policy framework for in-service teacher education in consultation with national and State level institutions, including institutions of higher education, representatives of the State Governments and teacher organizations, while taking into account the principles suggested in this Report, and also develop a National Action Plan for implementation of the policy and guidelines for formulation of State Action Plans.
15. All existing teacher training institutions imparting in-service teacher education need to be strengthened. In particular, the decentralized structures of BRCs and CRCs be strengthened with provisions for human and physical resources to enable them to perform effectively. Similarly, the DIETs and SCERTs also require strengthening.
16. There is an urgent need to develop comprehensive programmes for continuing professional development of secondary school teachers. Towards this, existing institutional arrangements have to be significantly enhanced, along with strengthening of CTEs and IASEs. Besides, some post-graduate colleges and Department of Universities may also function as training centres, especially for secondary school teachers, as well as for educational planners and administrators.

Teacher Performance and Teacher Audit

17. The Central Government, in consultation with the State Governments and other stakeholders, may develop a framework for assessment of teacher performance, keeping in view the guidelines suggested in this Report.

Strengthening the Regulatory functions of the NCTE

18. The NCTE needs to review the existing norms and standards for the various teacher education programmes and create a Standing Committee for periodic review of curriculum and the norms and standards of the programmes.
19. The NCTE should develop comprehensive guidelines for innovative teacher education programme for grant of recognition.
20. The NCTE should develop a new framework for undertaking inspection of the recognized institutions, with enhanced focus on process parameters, to ascertain the quality of the

institutions, and take appropriate action to improve the overall quality of the teacher education system.

21. The NCTE should formulate appropriate regulations for implementing section 17, of the NCTE Act, 1993 taking into consideration the guidelines incorporated in this Report.
22. The NCTE should set up a Teacher Education Assessment and Accreditation Centre (NEAAC), and constitute a Committee to prepare a comprehensive framework of accreditation, as suggested in this Report.
23. The NCTE should set up an institutional platform in close coordination and collaboration with State Governments, Universities, UGC, Distance Education Council (DEC), etc. and take decisions on standards , procedures and quality parameters, concerning teacher education.
24. The NCTE should notify Regulations to govern inspections of teacher education institutions. These should include eligibility conditions for empanelment as inspection team members, composition of an inspection team, time required for conducting inspection, format for obtaining the required information from the concerned institution and submission of the inspection report.
25. In order to ensure accountability, it is essential to establish a Vigilance Cell in the NCTE, on priority, which would investigate into any act of misbehaviour and misconduct on part of the various functionaries associated with the NCTE.
26. The tenure of the office of the Chairperson and the Vice-Chairperson of the NCTE should be raised from 4 years to 5 years and the upper age limit should be raised from 60 years to 65 years.
27. The Central Government should develop guidelines regarding the manner of appointment of members of the Council. Further, members of the Regional Committee should be appointed by the Council.
28. The Commission examined the implications of the ruling of the Supreme Court in the case of NCTE vs Vaishnav Institute of Technology and Management, dated 12th April, 2012 and the consequent difficulties in causing inspection under section 17 of the NCTE Act. The Commission proposes that section 17 of the NCTE Act be suitably amended to enable inspection of institutions, unless the Supreme Court reconsiders its decision.
29. Appropriate amendments be made in the Act to provide for the following:
 - (i) Empower the Council to issue directions to the Regional Committees on matters of policy and for effective implementation of the Act, which shall Be binding on the Regional Committees;
 - (ii) Empower the Regional Committee to review its order to rectify a mistake apparent from Record; and
 - (iii) Enable the Council to revise an order passed by the Regional Committee under sections 14 and 15 of the Act, either on its own motion or on the basis of information made available, where the Council is satisfied, for reasons to be recorded in writing that the Regional Committee has granted recognition/permission in contravention of the provisions of the Act, or the Rules and Regulations made thereunder, and pass appropriate orders, after affording reasonable opportunity to the institution.

30. The NCTE should appoint a Task Force to undertake organizational restructuring of the NCTE, and to work out its human resource requirement, as suggested in this Report.

Action Plan for Quality Teacher Education

1. The Teacher Educators at any level of Teacher Education should be essentially Master Degree in Education.
2. Teacher Education should be mandatory for Teaching at Higher Education level also in all the disciplines. Education for Teaching Higher Education is gaining momentum globally.
3. The Constitution of the present Council (General Body) of the NCTE needs to be examined.
4. The thinking that Integrated Teacher Education is more effective than the Consecutive Teacher Education needs to be reexamined. There is little evidence of its efficiency and cost effectiveness.
5. Instead of increasing the duration of Teacher Education Programs, the emphasis should be on multi-modes of learning. The nation cannot afford to offer Teacher Education degrees to millions through Face to Face mode only. All the modes of Teacher Education should be strengthened. In-Service Modes of Teacher Education ought to be strengthened.
6. Teacher Education should be offered under the Faculty of Education. All those universities in India which are offering Teacher Education Degrees under the Faculty of Arts should be directed to establish the Faculty of Education.
7. Integrated Teacher Education Programs, such as, B.A.Ed., B. Sc. Ed., B. Com. Ed. (10+2+4), M.A.Ed., M. Sc. Ed., M. Com. Ed. (10+2+5), Ph.D. in Education (10+2+5+minimum 3), be offered in Education.
8. Programs, such as, Bachelor of Educational Management, Master of Educational Management, Bachelor of Computer in Education, Master of Computer in Education, Bachelor of Elementary Education and Master of Elementary Education ought to be introduced.
9. There should be added focus on practicum in all the teaching modalities. There is a wide scope for integration of numerous skills. More complex skills in a variety of learning situations is a need of the hour. Taxonomy of Educational Skills be introduced at the National level.
10. Decision to change the size of an intake Unit at any level of Teacher Education should be taken on scientific bases.
11. ASCs and DIETs should offer dedicated in-service programs for the Professional Development of Teacher Educators & Teachers.
12. Blanket YES or Blanket NO with respect to a Teacher Education Program by any State should not be acceptable by the NCTE. The State Governments be advised to provide

NOC application-wise. Also, applications be invited by the State Governments to establish Teacher Education Institutions as per requirement, area-wise and level-wise.

13. Teacher Education should be open to all the disciplines, such as, Arts, Commerce, Science, Technology, and Inter-disciplinary.
14. Teacher Education should offer areas, such as, Health Education, Corporate Social Responsibility & Education, Constructivism & Connectionism.
15. There has been added focus on Teacher Education at Secondary School level, whereas, Elementary Education has been relatively neglected. We have not yet ventured into Teacher Education at Higher Education level.
16. It is high time for India to revive the NCTE, with full respect, to regulate the Teacher Education.
17. A Central University of Technology Integrated Teacher Education (TITE) ought to be established with satellite campuses in all the regions.
18. All the emerging paradigms of Teacher Education ought to observe their ethos, such as, O & D Teacher Education, Integrated Teacher Education, e-Teacher Education, and of course, the F2F Teacher Education.
19. Content-Pedagogy-Technology integrated modes of Teacher Education need to be strengthened.
20. Innovative Programs offered by some of the Universities ought to be further deployed.
21. Indian Consortium of Research in Education (ICORE) has been launched at CASE, Vadodara, Gujarat, India. It should be further strengthened to share Educational Research all over globe (www.icorecase.org).
22. Programmatic research should be encouraged.
23. Taxonomy of Educational Research ought to be arrived at. There ought to be due focus on positivism & logical positivism, Interpretative & hermeneutic, as well as, critical reality paradigms.
24. The course work made mandatory by the UGC for Ph.D. in various disciplines, including Education has resulted into mechanization of Research in India. Attempts should be made to de-mechanize research leading to innovative, creative and constructive research.
25. There should be dedicated composite PG programs in Education, say, M.Ed. after +2 or dedicated Ph.D. in Education (B.Ed. M.Ed. & Ph.D.).
26. The apex agencies & institutions, such as, CASE, CIIL, HBCSE, ICSSR, NCERT, NCTE, NUEPA, UGC should decide the Research Agenda for the Nation.
27. The NCERT should sustain its Research Heritage of Educational Surveys. The Nation is expecting the next Educational Survey. It is high time that the NCERT brings out the Educational Survey in e-form, also.
28. There should be a Countrywide debate on Teacher Education Policy. We ought to have Teacher Education Policy.

Concluding Remarks

Educationists must think of Education in a wholistic manner and not from the perspective of narrow specialization which obliterates the big picture. Too much of respect for compartmentalized domains of Education defeats the basic goal of developing integrated personality. Perhaps the biggest error of Kothari Commission on Education is to consider the Education in compartmentalized fashion. There is a need of doing thorough functional analysis for realizing the identity of Education & Teacher Education. The NCTE may revisit the Act, Norms and Regulations, which at places, seem to be more idealistic than realistic. The recommendations of Justice Verma Commission ought to be scientifically implemented, where needed & feasible. The Indian Teacher Education calls for revolutionary changes. Content, pedagogy and technology ought to be integrated. There should be open forums and public debates on Teacher Education Policy in India. We ought to have a Comprehensive Teacher Education Policy.

Educational Technology in India

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Introduction

The 21st century demands techno-pedagogues who are techno-savvy, content masters and fully situated on the principles of teaching. Technology is the application of sciences artistically in a systemic way. Technology is evidently omnipresent reaching & deploying the most recent immediately. Technology is available in various forms. There is an evident shift from scattered media to multimedia, dot to globe and point to morphology. Technology is our extension in many varied forms. Radio is extension of our voice; television is extension of our view composition & expression, motorbikes are extensions of our feet, clothes are extension of our skin, computers are extension of our brain, whereas, multimedia are our wholistic extension. There are many a forms of Educational Technology, such as, Educational Radio, Educational TV, Educational Satellites, Computer Aided & Integrated Education, Web Based Instruction and Social Networking in Education. We have HIFI & WIFI, that is, High Fidelity & Wireless Fidelity Technologies. There are point to point networks and broadcast networks. There are LAN, WAN and www. There are Polar Satellites and Geo-stationary Satellites. There is an evolution from desktops to laptops to tablets. There is a move from technology aided instruction to technology integrated education. Technology is available in both synchronous & asynchronous modes. Progressively there is a move from F2F mode to distance mode through Open Education Resources (OERs) and Massive Open Online Courses (MOOCs).

Key words: MOOCs, OERs, educational radio, educational TV, educational satellites, computer aided and integrated education, web based instruction, social networking, Educational Technology

Omnipresent Technology

It is an age of Technology. Essence of technology is all around us. Technology is here, there and everywhere. It can lower the unit per capita cost of communication; and by and large seems to be driving force. In the area of staff development, technology can provide quality training at a faster speed, at a cheaper rate, at chosen places, at convenient times

and for larger masses, with untiring repetitions, and iterations. But we have to be cautious. One cannot use any medium anywhere. Inappropriate use of media can have a backlash effect. One must know the media thoroughly before using. The unreached, the isolated and those who have been ignored for too long must be attended to on a priority basis. We should therefore choose pro-poor technologies. Here the poverty is seen as knowledge poverty.

Nature Friendly Technology

Technology should be designed as nature friendly. There are two discrete ways of seeing things through the eyes of an artist and through the eyes of a technologist. In fact technology is integration of both. Environment can be perceived both as a source & resource. There are people in the universe who see nature as a supply of resources, but there are also those who see the world as one lively beautiful life force. But it is not fair to dichotomize the traditional values and media values as- Honesty and shrewdness, Loyalty to others and lookout for home/family and alternate life style, absolute norms and situational ethics, work hard ethics and I deserve a living, compassion and cruelty, peace and violence, inoffensive speech and vulgarity, conformity and rebellion, personal responsibility and blame anyone and everyone, politeness and insults.

Techno-positivism

We believe in Techno-positivism in all walks of life- health and hygiene, family care and human development, food and nutrition, housekeeping, dress designing, conservation and development of environment, cultural heritage and social fabric, social work, economics, education, management, administration, polity, fine arts and communication. Educational technology has to cut across various sections and levels of society. Technology can cut across all age levels, infant, child, youth, adult and old. Technology can provide inputs for all levels of education and all strata of the society including house maids, labourers, migrating groups, hawkers, and support staff. Negative thinking for misuse of the strengths of technology should be avoided. Nature and Technology, Man and Machine should supplement each other. No attempts should be made to originate theories of negativity against techno-positivism.

Media in Education

Medium is carrier of message. In this age of electronics & communication there should be added focus on media compatibility and creditability. The messages need to be distributed across various media judiciously. It has been observed that the different media are being used in education casually. Rarely attempts are made to examine message media compatibility. Why should the relevance and quality of a message communicated through electronic media be questionable? Technology and pedagogy seem to function in isolation. There are rare bonds in the form of techno-pedagogy. At times media seem to be more mechanistic than naturalistic. The educational media scripting is significantly wanting. The production variables need to be treated very scientifically. In this age of knowledge explosion and media implosion media literacy should be a must for.

There is a shift from Indian pen to the computer key board, from black board presentation to power point presentation, from paper pen test to computer based test, from

interpersonal instruction to mediated instruction, from teacher dependent learning to independent learning. It is a matter of great concern that though we have a media crowd but without media culture. Media are extension to man. But the question is how to realize this extension truly. We have country wide educational radio and educational T.V programmes at various levels of education. But the programmes are either underutilized or not utilized. To what such a state should be attributed? Are the needs of the learners not ascertained prior to designing and production? Are the production variables not duly considered? Are proper feedback mechanisms lacking? Is there a need to enhance the quality and relevance of the mediated programmes? We have not been in a position to develop skills and competencies to deal with the modern media.

There are more powerful learning paradigms available now. There is a shift from linear to hypermedia learning, from instruction to construction and connection, from teacher centred to learner centred education, from absorbing material to learning how to navigate and learn, from school to lifelong learning, from all fit in one to customized learning, from learning as a torture to learning as fun and from the teacher as transmitter to teacher as facilitator.

ICT in Education

Information and Communication Technology (ICT) has become, within a very short time, one of the basic building blocks of modern society. Many countries now regard understanding of ICT and mastering the basic skills as part of the core of education, alongside reading, writing and numeracy. The recent effort of the Government of India (GOI) seeks to deepen the use of ICT in almost every sphere of life. The Digital India Campaign (2015) of GOI strives to transform India into a digitally empowered society and knowledge economy by focusing on the three vision areas **i.** Digital Infrastructure as core utility to every citizen, **ii.** Governance and Services on Demand and **iii.** Digital literacy and empowerment of citizens. The three cardinal principles of education policy viz., access, equity and quality could be served well by harnessing the huge potential of ICT. Anytime anywhere mode of delivering quality education using ICT is one such implication of technology in education. To motivate teachers to use ICT extensively, many incentives have been instituted by the Government of India. One such incentive for the school teachers is national ICT Award for School Teachers.

Realizing the importance of media and educational technology in India, the national policy on education in its modified document -1992 states that, "Modern communication technologies have the potential to bypass several stages and sequences in the process of development encountered in earlier decades. Both the constraints of time and distance at once become manageable. In order to avoid structural dualism, modern educational technology must reach out to the most distant areas and deprived sections of beneficiaries simultaneously with area of comparative affluence and ready availability". Further it has stated that "Educational Technology will be employed in the spread of useful information, the training and retraining of teachers, to improve quality education, sharpen awareness of art and culture, inculcate abiding values, etc., both in the formal and non-formal sectors. Maximum use will be made of the available infrastructure".

The National Curriculum Framework (NCF) – 2005 also states "Judicious use of technology (Multimedia and ICT) can increase the reach of educational programmes, facilitate

management of the system, as well as help address specific learning needs as requirements of young learners, teacher training, facilitate classroom learning, and be used for advocacy. Possibilities of teaching and learning at varied paces, self-learning, dual modes of study could all benefit from the use of technology, particularly ICT. The increasing use of the internet has enabled the sharing of information and provided space for debate and dialogue on diverse issues hitherto unavailable on such a scale. Technological innovations are also necessary for appropriate equipment and aids for meeting the learning requirements of children with special needs. What needs to be underscored is that technology could be integrated with the larger with larger goals and processes of educational programmes rather than viewed in isolation or as add-on. In this context, technological use that turns teachers and children into mere consumers and technology operators needs to be reviewed and discouraged. Interaction and intimacy are the keys to quality education, and this cannot be compromised as a principle in any curricular intervention". In a sense the NCF-2005 emphasises a paradigm shift in respect of the entire process of education. NCF calls for a shift to learner centric ways (primacy of active learner), provide scope for variations in learners needs, multiplicity of learners exposures, and creation of citizens capable of reflective thinking and empowered participation in development.

MHRD Government of India's Initiatives in Spread of ET and ICT in Education

India recognized the importance of ICT in education as early as 1970, when the use of educational TV came into existence, it got further strengthened in 1984- 85 when the computer literacy and studies in schools (CLASS) project was initially introduced as a pilot with the introduced as a pilot with the introduction of BBC micro-computers. A total of 12,000 such computers were received and distributed to secondary and senior secondary schools through state governments. The project was subsequently adopted as a centrally sponsored scheme during the 8th five year plan, the scheme was widened to provide financial grants to institutions, which were given BBC Micros, and also covered new government aided secondary and senior secondary schools. Assistance included annual maintenance grant for BBC micros and purchase, as well as, maintenance of equipment for new schools.

About 2598 schools having BBC micros were covered under the CLASS scheme during the 8th plan for providing instructors, maintenance of hardware, consumables and text books for students and training of teachers in schools. In addition, 2371 schools were covered with new hardware and services, which included Rs. 1.00 lakh for hardware configuration and Rs. 1.30 lakhs per annum for recurring costs Rs. 0.80 lakh per annum was kept as the recurring costs for schools, which has already been covered under the BBC micros scheme.

NIC was identified as the nodal agency for finalizing the contract for the supply of hardware. The use and supply of software was limited, coverage was confined to senior secondary schools and the students of class XI & XII had to undergo a computer course module.

National task force on information technology and software development (IT task force) – constitute by the Honourable Prime Minister of India – in July, 1998 has made specific recommendations on introduction of IT in the education sector including schools. The

relevant paragraphs are reproduced below: VIDYARTHI Computer Scheme, SHIKSHAK Computer Scheme and School Computer Scheme to enable students, teachers or schools respectively, desirous of buying computers to do so under attractive financial packages. These schemes will be supported by a suite of initiatives such as lowering the cost of PCs , easy instalment bank loans, computers by NRI organizations, large-volume bargain price imports, and multi-lateral funding. Computers and Internet were expected to be made accessible to schools, polytechnics, colleges and public hospitals in the country by the year 2003. The concept of SMART schools where the emphasis is not only on information technology in schools, but also on the use of skills and values that will be important in the next millennium, shall be started on a pilot demonstrative basis in each state. The report recommended provision of computer systems to all educational institutions up to secondary/ higher secondary schools by suitable investments (about 1-3%) of the total budget during the next five years. The recommendations of the task force have been approved by the council of ministers.

The 'ICT@schools' scheme is a window of opportunity to the learners in the schools of India to bridge this digital divide. The scheme is not a simple merger of the earlier CLASS (1984-85) and ET schemes (1972: under which Radio – cum – cassette players (RCCPs) and colour television sets (CTVs) were supplied in schools) but is comprehensive and well thought out initiative to open new vistas of learning and to provide a level playing field to school students, whether in rural areas or in the metropolitan cities. The 'ICT@schools' scheme is not a standalone scheme, but actively solicits the partnership of states, union territories & other organizations in a mutual endeavour to bridge the heterogeneous proliferation of ICT across different socio-economic and geographic segments in the country. This partnership is manifest in the structure of financing the initiative, in encouraging the development of long term computer education plans, the setting up of smart schools in KVS/NVS and in states as technology demonstrates and in providing for supplementing the States efforts in these areas with no attempt being made to supplant the state schemes.

In smart schools, the emphasis would not only be on the use of information technology but also on the use of skills and values that will be important in the next millennium. It is hoped that at least one section (of 40 students) in each of the classes IX-XII will be fully computerized. Thus a school having 160 computers @ 40 computers for each IX to XII classes may be called a smart school under the scheme. However, keeping in view the fact that this target cannot be achieved in one go, it is proposed to provide 40 computers to such identified schools.

The centrally sponsored scheme of 'Educational Technology' (1972) and 'computer literacy and studies in schools' (1984-85) have been suitably modified keeping in view the past experience, the feedback which has been received and changing needs to form the new scheme of 'Information and Communication Technology in schools'. The component regarding financial assistance to state/UT's for purchase of Radio-cum-cassette players (RCCPs) and colour television sets (CTVs) under the erstwhile educational technology scheme has been weeded out.

ICT @ Schools Scheme Launched by Govt. of India

The centrally sponsored scheme “information and communication technology (ICT) in schools” was launched in December 2004, to provide opportunities to secondary stage students to develop ICT skills and also for ICT aided learning process. The scheme is a major catalyst to bridge the digital divide amongst students of various socio-economic and other geographical barriers. This provides support to States/UTs to establish computer labs on a sustainable basis. It also aims to set up SMART schools in Kendriya Vidyalayas, Navodaya Vidyalayas and schools run by states/UTs to act as “Technology Demonstrates” and to lead in propagating ICT skills among students of neighbourhood schools.

Educational Technology: Research Scenario

A sizable number of studies on effectiveness of CAI developed through various computer languages employing either pre-experimental design or quasi experimental design revealed significant mean score gain from pre-test to post-test. Studies on the effectiveness of CAI reveal favorable reactions of students and teachers towards the CAI. (Prabhakar 1989; Himani 1990, Mahapatra 1991, and Adhikari 1992, DAVV, Indore; Khiwadkar 1999, Zyoud 1999, Yadav 2000, Goel Khirwadkar Tomar Das & Joshi, 2000, Macwana 2004, Sharma 2005, Barot 2005, Pradesi 2005, and Rathod 2005, MSU; Suwanna 2004, SGU; Upadhyaya 1999, MJP Rohilkhand University, Bareilly; Sanjana 2001, MDU and Pandian 2004, DU).

There have been found rare studies on the pedagogic/techno-pedagogic analysis of the computer based educational instructional programs. These studies reveal that there should be added focus on production variables, pedagogic principles and spatial and temporal contiguity of various message forms (Patel, 2001, MSU; Chaudhari, 2005, MSU).

Computer as a medium has been found to have the potency of addressing the heterogeneity in terms of variables, namely, IQ, Interest, Motivation, Language level (Zyoud, 1999, MSU).

There are rare studies on effectiveness of CALM in various modes, namely, text, graphics, text & graphics, text, graphics & music. It has been found that the composite modes may not always ensure higher level of language learning (Das, 1998, MSU).

Very few studies have been conducted on the relative effectiveness of CAI with peer interaction in mono, dyad and triad (Pardesi, 2005, MSU).

Attempts have been made for designing, developing and implementing computer based Learning Resources Management System (LRMS). The automated LRMS has been found definitely more effective than the manual LRMS (Beryah, 1995, DAVV).

A few studies have been conducted on the relative predictivity of various variables with respect to the criterion variable, namely, Educational Proficiency (Mishra, 1993, DAVV; Goel, 2003, MSU).

A study conducted on Time Space Personnel Management System revealed that the computer based TSPM system was found relatively more acceptable and better functional than the manual TSPMS (Biswal, 1995, DAVV).

Though studies have been conducted on the automation of examination system, yet these studies find rare expression at the functional level. Teacher Education Institutions need to promote Choice Based Credit System and on demand examination (Mahajan, 1993, DAVV; Joseph, 1993, DAVV; Shinde, 1993, DAVV; Goel, 1997, MSU).

A sizeable number of teacher education institutions in India have initiated into ICT in Education either as a core course or as optional course. In spite of the impeding factors, namely, limited staff, inadequate laboratories with maintenance problems, sizeable classes, the courses have been found to realize their objectives reasonably (Goel, Das, and Shelat, 2003, MSU).

A sizeable number of teacher education institutions have been found lacking facilities, such as, Internet, MS Publisher, Acrobat Reader Goel, 2005, MSU).

A few studies conducted on the use of Internet in Teacher Education Institutions revealed that the student teachers largely lack in info-savvy skills and techno-pedagogic skills (Joshi, 1999, MSU; Dhodi, 2005, MSU).

Some of the teacher trainees make use of Internet for surfing, e-mail, research, core courses, special areas. But, the Internet is rarely used for web designing, reflective dialogue and outsourcing. Measures of Internet safety are rarely employed. There is a need to develop Net-Savvy Skills in Teacher Educator Trainees (Goel, 2006, MSU). Some Studies have been conducted on bridging the gaps between teaching styles and learning styles. The studies are appreciable but there is a need to conduct many more studies (Rathod, 2005, MSU).

Studies conducted on language instruction through Power Point Presentations on realizing communicative and functional languages have been found to go a great way in establishing the effectiveness of learning various languages (Yadav, 2005, MSU; Rathod, 2005, MSU). There have been rare studies on developing language learning strategies and learner autonomy through weblogs. Blogs not only provide teachers with an exciting new way to approach communicative language learning, these also give students a new reason to enjoy reading and writing.

Nayana Dhodi (2011) demonstrated very well how the info-savvy skills of Asking, Accessing, Analyzing, Applying and Assessing were developed in the Pre-Service Teachers of India through surfing on Cultural Heritage of India and Buddhist Heritage of India and the domains of their respective discipline methods. It is a joyful experience to travel through her doctoral Thesis experiencing various surfing skills, namely, skimming, scanning, authenticating, hyperlinking, switching, skipping culminating into educational immersion for seeking solutions.

Ali Haider (2016) conducted a study of **the Effect of Logical Thinking Ability and Computer Based Instruction Using Active Learning Techniques on Students' Achievement of Basic Concepts in Organic Reaction Mechanism**. The treatment was **found to be effective, but**, Despite appreciation for the package, there was a demand of teachers' involvement for regular chemistry instruction.

Anu Singh (2015) conducted a study - *Science Teachers 'Current Pedagogies, Their Context and Their Pedagogical Experiences with an ICT Intervention*.

Mohd. Mamur Ali (2017) conducted a study on **Identifying Problems in Students' Understanding of Linear Equations and Transcending Them With the Use of Computers**. The National Library of Virtual Manipulative (NLVM) Software could enhance the understanding of equality operator, arithmetic operators, variables & structure of equation. The computer could transcend the learners to have thorough understanding of linear equations bidirectional.

Rakshak Jain (2016) conducted a study- **Impact of Developed E-Content, Media and Study Habits on Perception Towards E-Content Based Learning Amongst Undergraduate Students**. The study has definitely contributed to the knowledge base in the realm of Electronic Media and e-learning system.

Educational Technology and ICT in Education have demonstrated their values. But, Technology in Education is not yet fully integrated. Technology in Education is still underutilized. There is a need to evolve & interweave the Techno-Pedagogic principles as follows:

Pedagogic Principles

The entire education ought to have scientific bases. Every educational input has to be based on scientific principles. There are various principles of teaching. While teaching every teacher should move from:

1. Concrete to abstract
2. Simple to complex
3. Easy to difficult
4. Whole to parts
5. Induction to deduction
6. Progressive differentiation to integrative reconciliation
7. Impersonal to personal
8. Differentiated to differential
9. Building blocks to structure
10. Learning Styles to Teaching Styles

Basic Model of Communication

Every teacher while teaching should employ Lass well's basic model of communication as follows:

Who – Sender analysis

Says what- Message analysis

To whom- Audience analysis

Through which channel- Medium analysis

With what effect- Communication analysis

Features of Communication

1. We cannot not communicate
2. Communication is irreversible
3. Communication is circular
4. Communication is helical
5. Communication is endless

The basic organisational principle flowing through this model of communication is that any communication is a function of the correspondence amongst sender, message, medium and the receiver.

Principles of Techno-pedagogy

There are numerous principles of Techno-pedagogy such as follows:

1. Medium is Message

The message should be Mediagenic. There should be medium & message compatibility. In no case medium should try to dictate the message. Medium should be neutral to carry or pass the message. Every message does not go with every medium. The messages should be judiciously distributed against various media

2. Spatial & Temporal Contiguity of Various Message Forms

Various message forms should be in the geographic proximity. Visual & its corresponding audio, picture & its commentary should run together. There should not be temporal or spatial gaps. More is the contiguity of various message forms, better is the reach.

3. Media Language Proficiency

Every medium has its own language. Radio has its own language, TV has its own language, and Computer has its own language. We the teachers, scripiter, presenters, ought to have media language proficiency, it terms of size of the message, intonation, modulation, lip-sync, pitch & volume and the speed of delivery.

4. Message Credibility & Media Fidelity

We ought to establish the testimony of the message- text and or visual prior to it is mediated. It should be factual, that is, flawless. There should be no message dilution, distortion or loss when it is mediated. Media should have very high fidelity. These days we have WiFi & HiFi, that is, Wireless Fidelity & High Fidelity. Any medium should cross validate any message before it is carried & delivered.

5. Balanced View Composition

The entire view composition needs to be configured very carefully. The relative position of various subjects & objects, their relative colours, hue, saturation, reflection, background, foreground matter a lot. The view composition has to be plot compatible.

6. Message Irreversibility

Communication is irreversible. E-messages travel with the speed of light, that is, 3×10^{10} cm/sec which is seven times the circumference of the earth. We need to exercise psychomotor control. The testimony of the message needs to be fully established before we touch 'SEND'. A soft touch sends a message far & wide destined. To rectify an erratic message post- communication is a figment of imagination.

7. Projection Time Determination

Screen time of a message varies from culture to culture. Some are fast viewers, whereas, others are slow viewers. The on screen time needs to be decided very judiciously.

8. Correspondence amongst Sender, Message, Medium & Receiver

Any communication is a function of the correspondence amongst sender, message, medium and receiver. There is a need to do thorough analysis of the sender, message, medium & receiver. All these should be perfectly matching. The message should be mediagenic, as well as, receivergenic. There is a need to do thorough content analysis, medium analysis, as well as, viewer analysis, so that all of these are in tune.

9. Wave Lengths of Scriptor, Presenter, Producer & Cameramen

All the stake holders of designing & production should be at the same wave length. There has to be perfect interrelation, interdependence and understanding amongst all the elements Electronic Media. It has to be a perfect systemic approach. The entire View Composition, Camera density & Presenter Profile, Zoom Out & Zoom In, Background & Foreground, the content & modulation, the Receiver & Speed of delivery have to be in tune.

10. Quality, Demand & Supply of the Digital Products

The quality of the digital products ought to be established very carefully, right from germination through incubation, creation, construction & connection. Any digital product demands fully scientific bases, which need to be observed very analytically.

11. Natural Production

Voices should be directly recorded from the field be it, Rain Falls, Rivers, Birds, Thunders or VOX POLO, that is, own voices of the People, and onomatopoeia, that is, action sounding words. We should try to reproduce the reality as it is to the extent possible. Real is real & artificial is artificial. Let us try to be natural, if not, and then tend to be natural. Let us recreate the real, the original, the natural.

12. Compatible Format

The format of the program should be reality compatible. We need to decide the most compatible format amicably, such as, talk, documentary, drama, Feature, Narration, Experimentation very carefully.

13. Innovative & Interesting

Techno-pedagogy is expected to be innovative & interesting. Everyone likes to meet the Pioneers. It demands constructivist & connectionist approaches. Germination, incubation, creation, construction & connection are the salient phases of Innovative & Interesting Techno-pedagogy. Research & Renew, Explore & Expose, Innovate & Create.

14. Differentiated & Differential

The strength of Techno-Pedagogy lies in becoming differentiated differential. It should be in a position to serve all as per their tastes. Technology demands variety.

15. Wholistic Techno-pedagogy

Techno-Pedagogy is where ideas spring, feelings flow, motor creates, the soul reigns & the self resonates with the environment.

16. Communicative Techno-pedagogy

We cannot not communicate. At the same time communication is circular & irreversible. Techno-pedagogy should strictly observe the principles of communication.

17. Healthy Techno-pedagogy

Techno-pedagogy should be healthy. For that even the most quality Technology-Pedagogy-Content trio demands proper management & maintenance. There should be compatible management- centralisation, de-centralisation, delegation and devolution. There should be proper maintenance, such as, preventive, corrective, adaptive and perfective.

18. Symbiotic & Cybernetic

Content, Pedagogy & Technology should have symbiotic relationship. All these should learn to live together. Content Masters may not be pedagogues and vice-versa. Pedagogues may not be Technocrats & vice-versa. All in one is an idealistic expectation. But very often there are gaps between idealism & realism. TPCK demands automatic control systems.

19. Teleprompting & Presentation

The services of teleprompter should be utilised as a prompter not dictator. The teleprompter may prompt, but, the innovation, creation & construction should be left to the discretion of the presenter. In no case the teleprompter should contain and present the entire script.

20. Aspect Ratio of the Presenter, Graphics, Video & Animation

The presenter may verbalise 25 to 30% of the text, rest of the share should be that of graphics, videos and animation. The presenter may exercise kind gestures, so that, even the silent graphs & graphics speak.

21. Constructivist & Connectionist TPCK

Any Educational Technology Program, irrespective of the form it obtains, such as, Educational Radio, ETV, Computer Assisted Learning Material, Twitter, Watts-app, Mobile-app, WBI, e-Program should be innovative, creative, constructive & connective having novel, decent and cultured serve.

22. F2F Type Techno-Pedagogy

F2F type Techno-Pedagogy facilitates the front view of the Teacher & Video Presentation, both, F2F with the class through the png conversion, say, a virtual graph or a diagram in front of the teacher or the front view of an experimenter experimenting.

23. Culture Compatible Techno-Pedagogy

Though the Techno-pedagogy is fast evolving, but, at the same time it has to be culture compatible.

24. Coherent Composition – People learn better when extraneous material is excluded rather than included. The Technology, Pedagogy and Contents need to be coherently & precisely interwoven.

25. Prompting Techno- Pedagogy - People learn better when cues that highlight the organization of the Technology Pedagogy & essential material are added.

26. Redundancy Principle – People learn better from graphics and narration than from graphics, narration and printed text. It is a fact that composite are the media & modes better & joyful is the reach. But, the media redundancy ought to be avoided.

27. Segmenting Presentation – People learn better when a Techno-Pedagogy lesson is presented in user – paced segments rather than as a continuous unit.

28. Pre – training Principle – People learn more deeply from a multimedia message when they receive pre- training in the names and characteristics of key components.
29. Modality Principle – People learn better from graphics and narration than from graphics printed text. Narratives have been found to have better reach than prints.
30. Multimedia Principle- People learn better from words and pictures than from words alone. The messages need to be judiciously distributed against various senses.
31. Personalization Principle – People learn better from a techno-pedagogic presentation when the words are in conversational style rather than in formal style. Even in a class setting we ought to be impersonally personal.
32. Voice Principle – People learn better when the words in multimedia message are spoken by a friendly human voice rather than a machine voice. Humanistic reach is better than mechanistic throw.
33. Image Principle- People do learn more deeply from multimedia presentation when the speaker’s image is on the screen. Images have their own reach.

Concluding Remarks

There is a rapid evolution of Technology Pedagogy Content Knowledge. There is a move from dot to globe and point to morphology. But techno-pedagogic culture & quality are wanting. There is an ocean of OERs, MOOCs & All Digital, but, digital culture is wanting. We need to evolve & employ techno-pedagogic principles for e-communication. Rather than duplication & replication we need to enter into the realm of innovations & novel productions. Investing Public Exchequer in infinite volumes on digital technology may not have expected returns until we develop digital culture. Digital technology has its own ethos & culture which need to be developed. A large number of Educational Institutions are facing the problem of technology integration & maintenance. There are problems of management & maintenance- preventive, corrective, adaptive and perfective. Returns on investment are very rare.

There is an immediate need to observe techno-pedagogy, rather than producing the programs arbitrarily. The scripter, director, producer, cameramen and the presenter ought to have a lot of understanding. The teleprompter ought to be used as a prompter, rather, than dictator. There ought to be compatible correspondence amongst sender, message, medium & receiver for healthy reach. There is a need to modernise technology in India. TPCK demands our Education System to be Techno-savvy, Pedagogy Expert & Content Master. Techno-Pedagogic Skills should find expression at the operational level. The following composition tries to present digital culture in India.

Digital Culture in India

Innocent Puppets
Decent Parrots
Seen Everywhere
But, Pioneers very rare!

Flocks of Digital Learners
Hocks of Diffident Shepherds
Omnipresent Fully Operational
But, Digital Culture very rare!

Superb Indus- culture
Agriculture Horticulture
Sericulture Every- culture
But, where is Digital Culture?

The Tamed Animals
Pulling Powerfully the Masters
In wild directions wherever desired
Is this what the ICT acquires?

Mega Bytes Giga Bytes
Peta Bytes Tera Bytes
Fastest Food Every Where
But, Nutritive very rare!

Let us sow the indigenous Seeds
Germinate Incubate Create
Construct Connect & Serve
Native Choice! Native Taste!

Digital Wave & Digital Culture
Dedicated Digital Teachers
Can revive the Identity of India
Gracefully Meet the Expectations!

Identity Crisis of Teachers
Evident Here Everywhere
Quintessential Digital Gurus
Are Visible, but, Very Rare!

Why do we fly
If we can afford to walk
Why do we phone
If we can afford to knock & Talk?

Wrap the Repositories
Delete the Depositories
Zap the OERs & MOOCs
If Non-Compatible & Worthless!

Let us meet the digital vision
With patience & perseverance
With innovations & constructions &
Healthy System Design Considerations!

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Evolving a Taxonomy of Educational Skills

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Ultimate aim of Education any where should be to develop a complete human being. For that skills need to be developed in all the domains to live happy, productive and peaceful life. Hard skills are the core skills which are required for innovation, creation, construction, and production in various disciplines, such as, Physics, Chemistry, Mathematics, Biology, Engineering & Technology, Arts, Commerce. The various phases are sensitivity, germination, incubation, innovation, creation, construction, development and implementation, whether it is designing, production and flying of an aero-plane or sensing, creating, composing and reciting a poem, or formulating, producing, analyzing and injecting a drug, or designing, development, organization and administration of an institution. Soft Skills are needed for everyday transaction. These are required for how people relate to each other: communicating, engaging in dialogue, giving feedback, cooperating as a team member, contributing in meetings and resolving conflicts, setting an example, team-building, facilitating meetings, encouraging innovations, solving problems, making decisions, planning, delegating, observing, instructing, coaching, encouraging and motivating. To be good at hard skills usually takes smarts or IQ (also known as our left brain-the logical center). To be good at soft skills usually takes Emotional Intelligence or EQ (also known as our right brain- the emotional center). Hard skills are skills where the rules stay the same regardless of which company, circumstance or people you work with. In contrast, soft skills are self management skills and people skills where the rules change depending on the company culture and people you work with. For example, programming is a hard skill. The rules for how we can be good at creating the best code to do a function is the same regardless of where we work. Communication skills are a set of soft skills. The rules for how to be effective at communication change and depend on the audience and the content we are communicating. Hard skills can be learned in school. There are usually designated level of competency and a defined path as to how to excel with each hard skill. Most soft skills are not taught well in school and have to be learned on the job by

trial and error. Careers can be classified into three categories, careers that need hard skills and little soft skills, both hard & soft skills, mostly soft skills and little hard skills.

But, Hard Skills & Soft Skills combination is rarely found. There is less research, but, more publication, less creation but more communication, less production, but, more marketing and vice versa. Masses are lost in customary designs. Hard Skills which emerge through sound theoretical base or lead to theory, with practice, patience and perseverance having precision and perfection passionately emerge. Soft skills demand environmental sensitivity & action. Communication, transaction and transmission through the soft skills infuse life into this sphere.

Here, the intent is to arrive at a combination of hard skills & soft skills. Hard and soft skills are often referred to when entering into & living a profession. While hard skills are essential to enter, it is the soft skills that facilitate professional ethics & aesthetics. To be a good personality fit for any profession we need to be quality producers, humanistic communicators, and civilized & scientific consumers.

The establishment has outgrown in most of the fields in India, such as, Teacher Education, Engineering, Medicine, and even Agriculture. The main cause & effect are the improper planning & unemployable product. The human development should ensure self-employability in respective fields.

Science without experimentation skills, Art without creativity, Commerce without substance, Mathematics without speculation, Logic without reasoning, Schools without life skills, Polity without statesmanship, and nature without beauty are empty. There is a need to realize skills in all the areas. But, the question is have Life Skills, Thinking Skills, Human Development Skills, Management Skills, Emotional Skills, Adaptability and Social Responsibility Skills, Vocational Skills, Professional Skills, and many more skills have achieved the status of Skills?

Dhodi Nayana & Goel Chhaya (2012) have published a book- Enhancing Info-Savvy Skills in Student Teachers: A Research Work. The book reports the Doctoral Study of Ms. Dhodi Nayana under the Guidance of Dr. Chhaya Goel. The volume demonstrates very well how the info-savvy skills of Asking, Accessing, Analyzing, Applying and Assessing were developed in the Pre-Service Teachers of India through surfing on Cultural Heritage of India, Buddhist Heritage of India and on the domains of their respective discipline methods. It has been a joyful experience to travel through this volume experiencing various surfing skills, viz., skimming, scanning, authenticating, hyperlinking, switching, skipping culminating into Educational Immersion for seeking solutions.

Helaiya Sheetal & Goel D.R. (2011) published a book-Life Skills Programme for Student – Teachers: A Research Work. The book embodies the doctoral work of Ms. Sheetal Helaiya on enhancement of Life Skills through development and implementation of a

Life Skills Program for Secondary Student-Teachers. The following Life Skills identified by the WHO were considered for the study:

- Self Awareness Skill
- Empathy Skill
- Interpersonal Relationship Skill
- Effective Communication Skill
- Critical Thinking Skill
- Creative Thinking Skill
- Decision Making Skill
- Problem Solving Skill
- Coping with Emotions Skill
- Coping with Stress Skills

An exhaustive attempt was made to differentiate all these Life Skills into various components. Number of Activities were designed, developed and implemented to enhance the Life Skills. The Life Skills Program was implemented on the Pre-Service Teachers during 2008-2009 at the Maharaja Sayajirao University of Baroda, Vadodara, Gujarat, India. Post-intervention scenario on the Life Skills of the Student-Teachers revealed that there was a remarkable gain in their Self Awareness Skill, Effective Communication Skill, Interpersonal Relationship Skill, Coping with Emotions Skill, Decision Making Skill and Problem Solving Skill. There was moderate gain in their coping with stress skill, Empathy Skill, Critical Thinking Skill and Creative Thinking Skill. The most impeding factor in life is that most of us lack Self Awareness Skill, that is, neither we know our strengths, nor do we know our weaknesses. We do not know our goals. As a result we are poor in many other life skills. If we fail to identify with the self, then we fail to identify with others also, that is, we lack empathy skill. Creative Thinking Skill and Critical Thinking Skill, both in one, is a rare combination. We need to learn how to zoom out and zoom in. The complexities of life are increasing day by day. We need to learn how to cope up with the stress and emotions. We need to learn how to be our own selves and equally how to be one with the others. We need to realize healthy constellation through empathy, interpersonal relations and effective communication. We need to make right decisions, timely. Teachers need to possess healthy life skills for development of healthy society. So the Life Skills should be integrated in Teacher Education.

Vaidehi P. Gupta (2013) conducted a Study- Role of ICT for Wholistic Development of the Student Teachers. It is evident from the study that ICT does play its role in wholistic development of Student Teachers. We need to extend the role of ICT for development of all the domains wholistically.

The complexity of the prevailing conditions demands skills for healthy, peaceful, harmonious, full & meaningful living under highly complex socio-cultural-political-economic-demographic conditions. So, there is a need to integrate skills in Education.

There are innumerable skills which various tasks demand. There is a need to arrive at skill level in all the areas to cope up with the challenges. Education ought to be rational as well as scientific. There is a need to realize Skill inclusive, Skill integrated, and Skill evolving School Education & Teacher Education at all levels, right from pre-primary to tertiary & continued education. The present article attempts to evolve a taxonomy of Educational Skills & explore the status of Education Scholars on 25 Skills.

TAXONOMY OF EDUCATIONAL SKILLS

Taxonomy of Educational Skills has been presented under the following 12 Domains:

1. Self Development Skills
2. Social Skills
Interpersonal & Collaborative Skills, Communication Skill, Resilience Skills, Social Responsibility Skills, Human Relations Skills, Emotional Skills, Adjustment Skills, Human Development Skills, Citizenship Skills, Accountability & Adaptability Skills
3. Life Skills
4. Critical Thinking & Training Thinking Skills
5. Research Skills
6. Constructivist & Connectionist Skills
7. Systems Thinking Skills
8. Information Age Skills
Info-savvy Skills, Techno-pedagogic Skills, Digital Age Skills, Open Education Resourcing Skills
9. Leadership, Administration & Management Skills
Creative Leadership Skills, Administration Skills, Time management Skills, Key Skills for Every Manager
10. Spiritual Development Skills
11. Yoga Skills
12. Wholistic Development Skills

1.SELF DEVELOPMENT SKILLS

Category- I: Self Development Skills

- a. Monitoring one's own learning needs.
- b. Locating appropriate resources.
- c. Transferring learning from one domain to another.

2. SOCIAL SKILLS

Category-II: Interpersonal & Collaborative Skills

- a. Demonstrating Networking & Leadership
- b. Adapting to Varied Roles & Responsibilities
- c. Working Productively with others
- d. Exercising Empathy
- e. Respecting Diverse Perspectives

Category -III: Communication Skill

- a. Who
- b. Says What
- c. To Whom
- d. Through Which Channel
- e. With what effect
(With a variety of contexts & Through a variety of forms)

Category-IV: Resilience Skills

- a. Critically sensing the deviant behaviour(s)
- b. Cause & Effect Analysis
- c. Marginal Analysis
- d. Functional Analysis
- e. Regressing Efficiently

Category-V: Social Responsibility

- a. Acting Responsibly
- b. Demonstrating Ethical Behavior in
 - Personal life
 - Workplace
 - Community

Category- VI: Human Relation Skills

- a. Decency
- b. Decorum
- c. Discipline
- d. Empathy
- e. Sharing
- f. Fellow-Feeling
- g. Politeness
- h. Peace & Harmony
- i. Healthy Competition

Category VII: Emotional Skills

- a. Self Awareness
- b. Self Management
- c. Social Sensitivity
- d. Social Management

Category VIII: Adjustment Skills

- a. Skill of Home Adjustment
- b. Skill of School Adjustment
- c. Skill of Social Adjustment
- d. Skill of Emotional Adjustment
- e. Skill of Health Adjustment
- f. Skill of Symbiosis

Category- IX: Human Development Climate

- a. Trust
- b. Risk Taking
- c. Openness
- d. Reward
- e. Responsibility
- f. Support
- g. Feedback
- h. Team Spirit
- i. Collaboration

Category X: Citizenship Skills

- a. Sovereign
- b. Social Sensitivity
- c. Learning about Community

- d. Secularity
- e. Democratic
- f. Public & Republic
- g. Leadership
- h. Management
- i. Cooperation & Collaboration
- j. Participation Skill

Category- XI: Accountability & Adaptability

- a. Exercising personal responsibility in personal, workplace & community contexts;
- b. Setting & meeting high standards.

3.LIFE SKILLS

Category-XII: Life Skills

- a. Self Awareness
- b. Empathy
- c. Interpersonal Relationship
- d. Effective Communication
- e. Critical Thinking
- f. Creative Thinking
- g. Decision Making
- h. Problem Solving
- i. Coping up with emotions
- j. Coping up with Stress

4.Critical Thinking & Training Thinking

Category- XIII: Critical Thinking Skill

- a. Analyzing
- b. Reflecting
- c. Querying Evidence
- d. Conjecturing Alternatives
- e. Drawing Conclusion
- f. Stating Results
- g. Justifying Procedures
- h. Presenting Arguments
- i. Self Regulation

Category IV: Training Thinking

- a. Depressive to Booming
- b. Non-Pathological to Pathological
- c. Invalid to Valid
- d. Polar to Null
- e. Ego-centric to Socio-centric
- f. Obsessive to Final
- g. Partistic to Wholistic
- h. Non-sensible to Sensible
- i. Traditional to Modern
- j. Pessimistic to Optimistic
- k. Crooked to Straight
- l. Rigid to Flexible
- m. Unsocial to Social
- n. Dependent to Autonomous
- o. Narrow to Broad
- p. Practical and Theoretical
- q. Non-Technical to Technical
- r. Non-Logical to Logical
- s. Non-Imaginative to Imaginative

5.RESEARCH SKILLS

Category-XV: Research Skills

- a. Skill of identifying problem
- b. Skill of formulating Problem
 - Developing Conceptual Framework
 - Skill of Reviewing & implication
 - Skill of Research Questioning
 - Developing Rationale
 - Constructing Statement
 - Enunciating Objectives
 - Formulating Hypotheses
 - Operationlization/Explanation of Terms
 - Deciding Research Type
 - Research Designing
 - Cognizing Population & Sampling Techniques
 - Specifying Delimitation
 - Constructing/Selecting Tools & Techniques
 - Laying down Data Collection Procedure
 - Working out/ Deciding Data Analysis Techniques

Interpreting Analyzed data
Formulating Findings
Discussion Mechanism
Converging into Theses

- c. Building Theory

6. Constructivist & Connectionist Skills

Category-XVI: Constructivist Skills

- a. Engagement
- b. Germination
- c. Incubation
- d. Innovation
- e. Creation

Category-XVII: Connectionist Skills

- a. Interpretation of units
- b. Activation of the network of units
- c. Learning Algorithm
- d. Recurrent Neural Networking
- e. Evolving continuous, dynamic systems approaches

7. Systems Thinking

Category-XVIII: Systems Thinking

- a. Cognizing all the parameters
- b. Establishing interrelation & interdependence
- c. Realizing Integrated Whole
- d. Ensuring Efficiency
- e. Ensuring Cost Effectiveness

8. Information Age Skills

Category-XIX: Info-Savvy Skills

- Asking
- Accessing
- Analyzing
- Applying
- Assessing

Category-XX: Techno-Pedagogic Skills:

- Media-Message Compatibility
- Media Designing
- Integration of message, media and modes
- Proximity of Message Forms
- Media Language Proficiency
- Media Choice
- Media Credibility & Message Authenticity

Category-XXI: Digital Skills

- Functional Literacy skills: Use of images, graphics, videos, charts and visual literacy.
- Scientific Literacy skills: Understanding of both theoretical and applied aspects of science and mathematics.
- Technological Literacy skills: Competence in the use of information and communication technologies.
- Information Literacy skills: Ability to find, evaluate and make appropriate use of information, including via the use of ICTs.
- Cultural Literacy skills : Appreciation of diversity of cultures.
- Global Awareness skills : Understanding of how nations, corporations and communities all over the world are interrelated.

Category –XXII : Open Education Resourcing

- Open Education Resources for Learners
 - I. Learning- Content (geogebra, google earth)
 - II. Creativity (hot potato, C map)
 - III. Evaluation (R-campus & Mahara)
- Open Education Resources for Teachers, Teacher Educators & Facilitating Learning
 - I. Learning Management System (Moodle & Wiki spaces)
 - II. Teacher Managed Communication Platforms (Classroom 2.0 & Web Quest)
 - III. Statistical Tools for data processing
 - IV. e-Journals
 - V. e-books
 - VI. e-News Letters
 - VII. Webinars & Web Conferencing
 - VIII. WBI

9. Leadership, Administration & Management Skills

Category XXIII: Creative Leadership Skills

- a. Socio-centric rather than ego driven
- b. Empowers the people to make decisions rather than take decisions
- c. Listen oriented than tell oriented
- d. Pulls the organization towards a vision
- e. Listens to intuition
- f. Generates lasting commitment
- g. Open minded than opinionated
- h. Teaches importance of self responsibility rather than teaches subordinates to take directions
- i. Models self responsibility rather than in a self protect mode
- j. Knows, relaxing control yields results rather than is afraid of losing control
- k. Focuses on building on strengths rather than finding & fixing problems.
- l. Teaches how to learn from mistakes rather than quick to fire those that fail

Category: XXIV: Administration Skills

- a. Planning
- b. Organizing
- c. Staffing
- d. Coordinating
- e. Budgeting

Category XXV: Time Management

- a. The ability to Say “ No” ,Learning to Say “No”, How to Say “No”
- b. Spacing Things Out; Do not procrastinate
- c. Using Social Time Wisely
- d. Prioritizing and Reprioritizing constantly
- e. Keeping your health/sleep/exercise in check

Category- XXVI: Key Skills for Every Manager

- a. Leadership and People Management
Attract, retain, motivate, coach and develop team members for high performance.
- b. Communication Skills
Communicate, present, assert, speak senior management language
- c. Collaboration Skills
Influence, build relationships, manage conflicts

d. Business Management Skills

Understand strategy, business functions, decision-making and workflow

e. Finance Skills

Budget, forecast, manage cash flow, understand financial statements, manage business metrics

g. Project Management Skills

Plan and manage successful projects, manage risks, costs, time and project teams

10.Spiritual Development Skills

Category XXVII: Spiritual Development

- a. Religiosity
- b. Knowledge of Soul
- c. Quest for life values
- d. Conviction, Commitment & Character
- e. Happiness & Distress
- f. Brotherhood
- g. Equality
- h. Acceptance & Empathy
- i. Love & Compassion
- j. Flexibility
- k. Leadership in Educational Change

11.YOGA Skills

Category XXVIII: Yoga Skills

- a. Yama or Eternal Vows: Ahimsa, Satya, Asteya, Aprigraha & Brahmacharya
- b. Niyama or Observances: Saucha, Santosha, Tapas, Savdhyaya, Ishvarapranidhana
- c. Asana: Firm, Comfortable Meditative Posture
- d. Pranayama: Regulation of the Vital Force
- e. Pratyahara
- f. Dharna
- g. Dhyana
- h. Samadhi

12.Wholistic Development Skills

Category XXIX: Wholistic Education Skills

- a. Subject Knowledge
- b. Inter-disciplinary
- c. Environmental Attitude

- d. Health Development
- e. Emotional Development
- f. Spiritual Development
- g. Integrated Development

STATUS OF EDUCATION SCHOLARS ON 25 SKILLS

1. Info-Savvy Skills

In this digital age of ICT everyone should be info-savvy , that is, in a position to skillfully do Asking, Accessing, Analyzing, Applying and Assessing. But, a large majority of us are not info-savvy. There is a need of integrating info-savvy skills in Education.

2. Techno-Pedagogic Skills

Most of the Teachers and Teacher Educators, even in this age of ICT are Pedagogues, but not Techno-Pedagogues. There is a need to develop Techno-Pedagogic skills, such as, Media-Message compatibility, Temporal and Spatial Proximity of Message Forms, Media Language Proficiency, Message, Media and Mode integration, Realizing Media Credibility & Message Authenticity, Media Search & Choice.

3. Vocational & Occupational Skills

We need to identify, nurture and develop vocational and occupational skills in various areas, such as, agriculture, horticulture, sericulture, electricity, electronics, sewing, plumbing, nursing, so that, the young ones become productive and self-supportive.

4. Research & Construct Skills

There are various research skills, such as, imagination & creativity, logic & reasoning, conceptual & theoretical thinking, reflection & feedback, data collection, experimentation, analysis and dissemination. These days there is added focus on Constructivist Approach. The constructivist approach demands various skills, such as, Engaging, Exploring, Explaining, Elaborating and Evaluating. All these skills need to be comprehensively identified and practiced.

5. Management Skills

There should be Education for critical & creative managers along with the abilities of planning, organizing and controlling. Creative and critical management demands various skills, such as, Instantaneously zooming out and zooming in, More Eco-driven than Ego-driven, Sometime over & above the systems but never against the system, Always deals in public agenda, never in personal agenda, Is open minded rather than closed opinionated, Sets the organization towards vision rather than lost in routines, Delegates to the level of irreversibility, Believes in building on strengths, Generates lasting commitment, Brings the processes to logical end, Believes in Total

Quality Management , Deals in reality with intelligence, wit and humour. There is a need to integrate Management Skills in Education.

6. Life Skills

Various Life Skills, such as, Self-Awareness, Empathy, Inter-Personal Communication, Coping-up with Stress, Coping-up with Emotions, Creative Thinking, Critical Thinking, Decision Making and Problem Solving have been introduced in the School Curricula in India under Co-Scholastic Areas, but the Teacher Education institutions have largely not integrated these skills. There is a need to bridge the gaps between requirements of School Education and Teacher Education.

7. Adjustment Skills

Life is Adjustment. There should be adjustment in all spheres of life, such as, Home, Health, Society, Emotions and Education. How to adjust in all the areas? All of us need to learn to live together. Adjustment simultaneously in all the areas is rarely found these days. There is a need to realize comprehensive adjustment. There is a dire need to realize symbiosis.

8. Special Education Skills

Learners with Special needs require specially skilled teachers. Also, the scope of Technology Integrated Special Education needs to be explored. Even the Software packages like JAWS are not easily accessible.

9. Human Development Skills

Education should be man making. There is a need to integrate emotional development skills, spiritual development skills, and above all human development skills. Wholistic Education & Evaluation demand conceptualization, acculturation, classification and integration of various skills. Some appreciable attempts have been made and are being made, both, at the School Education and Teacher Education levels.

10. Accountability & Adaptability

There is a need to exercise responsibility in personal, workplace and community contexts, so as to set and meet high standards. We owe an explanation to the self, as well as, others for each and every act of ours. We need to moderate our temperament many a times with others. Before we attempt to supersede others we need to learn to transcend our own selves.

11. Communication Skills

There is a need to establish effective communication in a variety of contexts through a variety of forms, both, intra-personal & interpersonal, intra-faculty & interfaculty, intra-nation & inter-nation. We need to be fully sensitive to the effects of who, says what, to whom, & through which channel, be it Grampanchayat, University Board of Studies, Syndicate, Senate, Central Advisory Board of Education, Legislative, Judiciary or National Parliament.

12. Self Direction Skills

There is a need of monitoring one's own learning needs and transferring learning from one domain to another. Also one should have the skill of locating appropriate resources. Each one of us has to pave our own paths. There are rare learning resources and guides to guide us. We need to identify our own paths while stepping in. It is because of faster obsolescence of coping skills and knowledge.

13. Social Responsibility Skills

Everyone should act responsibly and demonstrate ethical behaviour in personal life, work place, community and society. We are yet to find meaning with local citizenship before advocating global citizenship.

14. Human Relation Skills

Every one, every where, under all sorts of conditions should observe decency, decorum and discipline. There should be sharing with politeness. There should be fellow feeling and empathy. There should be coexistence with peace and harmony. For this self-discipline and empathy with the others' view points are the necessary conditions.

15. Emotional Skills

Most of us presume to know our strengths but are seldom conscious of the weaknesses. There is a need to be thoroughly aware of the self. There is a need to learn self management. We should sustain our social sensitivity and learn social management. Growing complexities of the 21st Century immediately demand self awareness & self management, social sensitivity & social management.

16. Human Development Climate Skills

There is a need to develop Human Development Climate Skills, such as, Trust, Risk Taking, Openness, Reward, Responsibility, Support, Feedback, Team Spirit and Collaboration. Owing to growth pressure there is a heavy emphasis on material well being leading to nuclear and finally fragmented family as an institution. The filial affection and empathy and compassion are weaning out. While man has to work as an organization, either he/she or the organization or both ought to make an attempt to create these values so as to work in cohesion.

17. Spiritual Intelligence Skills

Material attainment of any level has to be subservient to the spiritual attainment leading to the understanding of the self at the highest level of super sub-consciousness. Spirituality, Knowledge of Soul, Quest for Life Values, Conviction, Commitment & Character, Healthy State in Happiness and Distress, Brotherhood, Equality, Acceptance and Empathy, Love & Compassion,

Flexibility, Leadership in Educational Change ought to be the natural features of every human being.

18. Innovation, Creation & Construction Skills

Dancing Crops, Flowing Wisdom, Enchanting Music, Touching Songs, Resonating Dance, Immersing Verses, Speaking Sculptures, Enlightened Learners, and Innovative Researchers are the wonderful Springs of Nature. Such skills need to be scaled up.

19. Wholistic Education Skills

Wholistic Education should focus on knowledge of the discipline, inter-disciplinarity, Environmental Attitude, Health development, Emotional Development, Spiritual Development and integrated development.

20. Inter-disciplines

Many a interdisciplinary Programs have come up, such as, Bio-Chemistry, Bio-Technology, Microbiology, Bio-informatics, Bio-Physics, Bio-Statistics, Genetics. Choice Base Credit System is being introduced throughout to realize inter-disciplines.

21. Value Integrated Education

Education should be character building. Education should be governed by Human Relations Model, rather than by traditional, hierarchical, bureaucratic model. Education should create global communities for sharing their states through reflective dialogues. Higher Education should harness the Power of Science & Technology for realizing Cultural Excellence.

22. Technology Integrated Education

There is technological revolution in Education. There is a shift from Online Learning to Twitters, Face-book to Semantic Web. There is a quick shift from Web-1 to Web-2 to Web-3 technology. Smart Classrooms are emerging. Wi-Fi, i-Pad, e-book, e-Reader, e-News Letter and Webinars are emerging. There is a need to realize Technology Integrated Education.

23. Digital Age Skills

Digital Age Skills have become the basic needs of the present century, such as, Global Awareness Skills- Understanding of how corporations and communities all over the world are interrelated, Cultural Literacy Skills- Appreciation of diversity of cultures, ICT Skills- Ability to find, analyze, evaluate and make appropriate use of information, Scientific Literacy Skills- understanding of both theoretical and practical aspects of Science, and Functional Literacy Skills- Use of Information & Knowledge for living healthy, happy, meaningful and long life.

24. Yoga Skills

Yoga should be essential in Education Curricula. There should be adequate inputs and practice on

- Yama or Eternal Vows: Ahimsa, Satya, Asteya, Aprigraha & Brahmacharya
- Niyama or Observances: Saucha, Santosha, Tapas, Savdhyaya, Ishvara-pranidhana
- Asana: Firm, Comfortable Meditative Posture
- Pranayama: Regulation of the Vital Force
- Pratyahara: Sense withdrawal
- Dharna : Concentration
- Dhyana : Meditation
- Samadhi : Absorption

Rationale of the Study

Educational Skills emerge scientifically through problem specific theorization, instantaneously. Now the question is have various skills been integrated in Teacher Education scientifically & comprehensively. 21st century conditions demand skills for healthy, peaceful, harmonious, meaningful and full living under highly complex socio-cultural-political-economic-demographic and environmental conditions. Skill is the Science applied artistically or art applied scientifically, precisely, easily, joyfully, cost effectively. It demands perfect, instantaneous coordination of mind and motor muscles patiently & passionately. Education ought to be science based, skill based and technology integrated. The present paper attempts to explore the status of Education Scholars on various skills.

Objectives of the Study

1. To study the perceptions of Ph.D. Scholars on Educational Skills.
2. To study the relative status of Ph.D. Scholars in Education on various skills.
3. To study the comprehensive profile of Ph.D. Scholars on various skills.

Sample for the study

Sample for the study is constituted of 15 Ph.D. Scholars available at CASE on the date of data collection.

Tools & Techniques Employed

A Skill Status Inventory was constructed by the investigators on 25 Skills, having 179 items against 5 point scale- Very Often, Often, Sometimes, Rarely, Never, as follows:

Skill Status Inventory: Skills & Items

SNO	Skill	Number of Items
1	Info-Savvy Skill (ISS)	8
2.	Techno-Pedagogic Skill (TPS)	22
3	Techno-Management Skills (TMS)	9
4	Techno-Special Skills (TSS)	15
5	Techno-Living Skills (TLS)	11
6	Accountability & Adaptability (A&A)	4
7	Communication Skill (CS)	2
8	Critical Thinking & Systems Thinking (CT&ST)	3
9	Information and Media Skills (I & MS)	2
10	Interpersonal & Collaborative Skill (IP&CS)	5
11	Problem Solving(PS)	3
12	Self Direction (SD)	3
13	Social Responsibility (SR)	4
14	Human Relations Skills (HRS)	5
15	Emotional Skills (ES)	4
16	Life Skills (LS)	7
17	Adjustment Skills (AS)	5
18	Human Development Climate Skills (HDCS)	9
19	Spiritual Intelligence Skill (SIS)	9
20	Research & Construct Skills (R&CS)	12
21	Management Skill (MS)	10
22	Citizenship Skills (CZS)	7
23	Wholistic Education Skills (WES)	6
24	Digital Age Skills (DAS)	6
25	Yoga Skills (YS)	8
26	Total Items	179

Data Collection

The Skill Status Inventory was administered on the available 15 Education Scholars. They registered their responses against 5 point scale.

Data Analysis

The data were analyzed in terms of frequencies and % responses, skill-wise and over all. Objective-wise data analysis is presented as follows:

A. Perception of the Scholars on Educational Skills

Table-1: Perception of the Scholars on Educational Skills

SSNO	Response
1	All the skills are essential to lead the life. Skills should be properly used, timely adopted when and wherever required to achieve our life objectives. Media skills are useful for getting information, Techno-Pedagogic Skills to save time and presenting/providing contents effectively, Emotional Skills are useful for managing self, whereas, Spiritual and Yoga Skills show path to lead healthy and happy life.
2	I believe that different kind of skills can make a person happy, healthy, interactive, cooperative, eco-friendly and global. Techno-savvy skills make a person interactive with a machine, a human and the environment. Info-savvy skills keep a person up-to-date with latest, reliable and authentic information. Life skills help a person in dealing with life situations. Spiritual and Yoga Skills help in self realization and stress reduction. ICT based curriculum has already been introduced in education by the government. It is the duty of teachers to develop such kind of skills in them and students. Through Techno-Pedagogic skills teaching-learning becomes more interactive. Through environmental awareness skills, a person becomes more eco-friendly.
3	Over all, I can say that info-savvy skills, techno-pedagogic skills, techno-management skills have been very useful to me in teaching of English language. The life skills like communication skills, critical thinking, and system thinking, interpersonal and collaborative skills, problem solving skills, human relations skills are required to survive in this competitive world. I want to improve the yoga skills, social responsibility skills, and information and media skills.
4	I use skills as per my understanding and requirement. All skills are important and necessary in life. But, acquisition of skills depends on requirement and capability. I can manage my work, I can take my stand, I can express my views easily. I can use different media and modes.
5.	As I am average on knowledge of techno-pedagogic skills, I need to improve such skills through which the future problems related to my career/profession can be resolved. With respect to info-savvy skills I can realize what kind of information is needed and what are the sources for obtaining information. I am relatively poor at emotional skills and yoga skills.
6	According to the present conditions of my life, I am best using my social skills and trying to cope up with the emotions arising out of these situations. In doing so I am taking help of my friends. In my professional life, I use collaborative & cooperative skills to formulate my problems and analyze them. All in all I think I am learning new social, emotional and cultural skills which help me to lead a good life. About techno-pedagogic and info-savvy skills, I am using them more now compared to earlier days. Thus, I can say that soon I may become a better techno-savvy & info-savvy person.
SSNO	Response
7	I am good at human relationship skill and social responsibility skills, but often, I am not in a position to convey my intention at right time or in correct form
8	I feel confident to use various skills, such as, problem solving, social skills and management skills. I feel some skills are needed for adjustment as per conditions and surrounding atmosphere.
9	I am developing my skills through practice and experience. Skills are very much essential in my life, every time through which, I can satisfy myself in a variety of ways.

10	Yes, skills are very important in life. The skillful life is happy life and to lead a life successfully we need to integrate all of these skills and many other skills in all day- to-day activities. I personally need to develop in techno-pedagogic skills and yoga skills. I believe that, I can manage and lead successful life with the different skills, namely, communication, management, emotional, wholistic, human development, spiritual skills and others also. Still, we need to enrich and there is always scope for development and advancement. So, I think I learn one or the other skill every day and implement and practice in my personal, social and professional life.
11	I can control emotions and practice life skills in daily life. I can have spiritual intelligence skills. I also practice, adjustment skills and communication skills. Management skills are also important for every individual.
12	Many of the skills mentioned, I have not experienced in my life due to not having experience of working in any organization. I can adjust with others very comfortably. I can communicate with students and others comfortably. Little weak in emotional skills. I can manage myself for having better future life. Not experienced much technologically, such as, info-savvy skills, but capable of doing good work in those areas. I can identify and solve problems from personal, social, as well as, research areas. I have average critical thinking and creative skills.
13	Some skills are inborn, whereas, some are acquired and mastered. I feel many of the skills can be explored and mastered in life. ICT related skills need good exposure and practice. Some skills like adjustment skills, spiritual skills, life skills, need a base within self and if we have a good base, that is, good atmosphere provided, it becomes easy for one to explore and enrich such skills.
14	I rate myself four on a five point scale in management skills, citizenship, educational skills, life skills, adjustment skills, but only one in techno-pedagogic skills & info-savvy skills. I need to polish & elaborate more on these skills related to technology. In future, these skills can be incorporated for a better healthy and spiritual growth.
15	In today era techno-management skills and info-savvy skills are necessary for every one, though many a people are not aware of these skills. Life skills, too, are essential for every one.

B. Relative status of the scholars on various skills

Table-1: Skill Status of the Scholars on various skills

Scholar Skill	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Max. Score
ISS	31	38	32	25	27	27	35	27	31	39	32	31	32	29	34	40
TPS	74	97	85	74	76	69	98	59	82	101	92	88	97	76	86	110
TMS	26	37	29	23	29	11	16	37	42	42	36	15	31	14	23	45
TSS	58	60	52	63	60	31	44	47	57	63	64	24	43	27	34	75
TLS	26	45	44	42	34	41	40	33	53	46	42	30	44	29	47	55
A&A	16	15	16	15	13	19	18	13	16	20	18	11	16	13	16	20
CS	8	8	8	6	6	10	8	10	9	10	9	7	8	7	7	10
CT & ST	10	12	13	10	11	12	15	8	15	14	11	10	11	9	11	15

I & MSs	8	10	8	8	8	7	10	7	10	10	7	8	8	8	9	10
I & CS	19	23	22	20	17	20	21	19	25	25	22	19	25	20	18	25
PS	12	14	13	12	12	12	13	15	15	15	14	12	11	13	14	15
SD	15	12	12	12	10	9	13	12	15	15	13	12	12	11	14	15
SR	20	19	16	16	16	15	19	20	17	20	20	17	20	16	18	20
HRS	20	22	20	16	16	20	24	18	25	25	22	23	25	16	25	25
ES	19	16	16	16	16	13	14	20	20	20	19	17	18	14	16	20
LS	31	26	28	28	25	25	24	27	35	33	28	28	30	24	29	35
AS	20	21	20	15	19	22	20	22	25	25	22	22	24	20	19	25
HDCS	35	36	36	35	36	43	40	45	44	45	43	38	41	43	44	45
SIS	37	40	42	35	31	37	38	42	45	45	45	41	43	43	43	45
R&C S	55	54	48	45	43	50	60	56	56	59	54	49	51	47	58	60
MS	42	37	39	39	40	32	42	42	42	50	44	33	41	44	38	50
CS	31	30	28	27	24	26	33	28	33	34	26	26	30	28	25	35
WES	24	24	24	24	23	21	29	20	19	24	25	23	28	27	30	30
DAS	19	22	24	19	22	16	28	20	23	26	20	22	24	28	25	30
YS	27	18	24	24	24	28	23	21	29	32	21	19	27	22	27	40
OSS	683	736	699	649	638	616	725	668	783	838	749	625	740	628	710	895

B. Relative Status of the Research Scholars on Various Skills

It is evident through Table-1 that the

- A. maximum score obtained on info-savvy skills is 38 out of 40, whereas, minimum score obtained is 25. the mode is 31, whereas, the mean score is 31.33.
- B. maximum score obtained on Techno-Pedagogic Skills is 101 out of 110, whereas, minimum score obtained is 59. the mode is 74, whereas, the mean score is 83.6.
- C. maximum score obtained on Techno-Management Skills is 42 out of 45, whereas, minimum score obtained is 11. the mode is 37, whereas, the mean score is 27.4.
- D. maximum score obtained on Techno-Special Skills is 64 out of 75, whereas, minimum score obtained is 24. the mode is 60 whereas, the mean score is 48.47.
- E. maximum score obtained on Techno-Learning Skills is 53 out of 55, whereas, minimum score obtained is 26. the mode is 44, whereas, the mean score is 39.73.
- F. maximum score obtained on Adaptability & Accountability Skills is 20 out of 20, whereas, minimum score obtained is 11. the mode is 16, whereas, the mean score is 15.67.
- G. maximum score obtained on Communication Skills is 10 out of 10, whereas, minimum score obtained is 6. the mode is 8, whereas, the mean score is 8.06.
- H. maximum score obtained on Critical Thinking & Systems Thinking Skills is 15 out of 15, whereas, minimum score obtained is 8. the mode is 11, whereas, the mean score is 11.46.

- I. maximum score obtained on Information & Media Skills is 10 out of 10, whereas, minimum score obtained is 7. the mode is 8, whereas, the mean score is 8.4.
- J. maximum score obtained on Interpersonal & Collaborative Skills is 25 out of 25, whereas, minimum score obtained is 17. the mode is 19, whereas, the mean score is 21.
- K. maximum score obtained on Problem Solving Skills is 15 out of 15, whereas, minimum score obtained is 11. the mode is 12, whereas, the mean score is 13.13.
- L. maximum score obtained on Self Direction Skills is 15 out of 15, whereas, minimum score obtained is 9. the mode is 12, whereas, the mean score is 12.46.
- M. maximum score obtained on Social Responsibility Skills is 20 out of 20, whereas, minimum score obtained is 9. the mode is 20, whereas, the mean score is 17.93.
- N. maximum score obtained on Human Relations Skills is 25 out of 25, whereas, minimum score obtained is 16. the mode is 25, whereas, the mean score is 21.13.
- O. maximum score obtained on Emotional Skills is 20 out of 20, whereas, minimum score obtained is 13. the mode is 16, whereas, the mean score is 16.93.
- P. maximum score obtained on Life Skills is 35 out of 35, whereas, minimum score obtained is 24. the mode is 28, whereas, the mean score is 28.06.
- Q. maximum score obtained on Adjustment Skills is 25 out of 25, whereas, minimum score obtained is 15. the mode is 20, whereas, the mean score is 21.06.
- R. maximum score obtained on Human Development Climate Skills is 45 out of 45, whereas, minimum score obtained is 35. the mode is 36, whereas, the mean score is 40.26.
- S. maximum score obtained on Spiritual Intelligence Skills is 45 out of 45, whereas, minimum score obtained is 31. the mode is 45, whereas, the mean score is 40.46.
- T. maximum score obtained on Research & Construct Skills is 60 out of 60, whereas, minimum score obtained is 43. the mode is 54 whereas, the mean score is 40.46.
- U. maximum score obtained on Management Skills is 50 out of 50, whereas, minimum score obtained is 32. the mode is 42 whereas, the mean score is 40.33.
- V. maximum score obtained on Citizenship Skills is 34 out of 35, whereas, minimum score obtained is 24. the mode is 28 whereas, the mean score is 28.6.
- W. maximum score obtained on Wholistic Education Skills is 30 out of 30, whereas, minimum score obtained is 19. the mode is 24, whereas, the mean score is 24.33.
- X. maximum score obtained on Digital Age Skills is 28 out of 30, whereas, minimum score obtained is 16. the mode is 22, whereas, the mean score is 22.53.
- Y. maximum score obtained on Yoga Skills is 32 out of 40, whereas, minimum score obtained is 19. the mode is 27, whereas, the mean score is 25.06.

- Z. *the maximum score obtained on Over All Skills is 838 out of 895, whereas, minimum score obtained is 616. The mean score is 699.8, whereas, there is no occurrence of mode.*

Profiles of Scholars on Various Skills

Scholar-1 has got the highest score on Self Direction and Social Responsibility Skills. Next in the series are Emotional Skills, Research & Construct Skills, Life Skills and Citizenship Skills. He is relatively low on Techno-Living Skills, Techno-Management Skills, Digital Age Skills, Yoga Skills, Info-Savvy Skills.

Scholar-2 is highest on Information & Media Skills. Next in the series are info-savvy skills and social responsibility skills. She has been found lowest on the yoga skills. Next in the series are digital age skills and wholistic education skills.

Scholar-3 has been found highest on the Information and Media Skills. Next in the series are info-savvy skills and social responsibility skills. He has been found lowest on the Yoga Skills. Next in the series are digital age skills and management skills.

Scholar-4 has been found highest on the Techno-Special Skills. Next in the series are Information & Media Skills, Interpersonal & Communication Skills, Problem Solving Skills, Self Direction Skills, Emotional Skills, Life Skills and Wholistic Education Skills. She has been found lowest on the techno-management skills. Next in the series are communication skills, adjustment skills, and yoga skills.

Scholar-5 has been found highest on Techno-Special Skills, Information and Media Skills, Problem Solving Skill, Social Responsibility Skill, Emotional Skills, Human Development Climate Skills, and Management Skills. He has been found lowest on communication skills and Yoga Skills.

Scholar-6 has been found highest on Communication Skill. Next in the series are, Human Resource Development Climate, and Adaptability & Accountability. She is lowest on the Techno-Management Skill. Next in the series are Techno-Special Skills, Digital Age Skills and Self-Direction Skills.

Scholar-7 is highest on Critical Thinking & Systems Thinking and Information & Media Skills, Whereas, he is lowest on Techno-Management Skills and Research & Construct Skills.

Scholar-8 is highest on Communication Skills, Problem Solving, Social Responsibility, Emotional Skill and Human Development Climate Skill. She has been found lowest on Yoga Skill and Critical Thinking & Systems Thinking Skill.

Scholar-9 has been found highest on Critical Thinking & Systems Thinking Skill, Information & Media Skill, Problem Solving Skill, Self Direction Skill, Social Responsibility Skill, Emotional Skill, Life Skill, Adjustment Skill, Human Development Climate Skill, Spiritual Intelligence Skill and Management Skill. He has been found lowest on Wholistic Education Skill, Yoga Skill, Techno-Pedagogic Skill and Techno-Special Skill.

Scholar-10 has been found highest on Adaptability & Accountability Skill, Communication Skill, Information & Media Skill, Problem Solving Skill, Self Direction Skill, Social Responsibility Skill, Human Relations Skill, Emotional Skill, Life Skill, Adjustment Skill, Human Development Climate Skill, Research & Construct Skill and Citizenship Skill. She has been found lowest on Wholistic Education Skill, Yoga Skill, Techno-Special Skill & Techno-Living Skill.

Scholar-11 has been found highest on Social Responsibility Skill and SIS. He has been found lowest on Yoga Skill, Digital Age Skills, Information & Media Skill, Critical Thinking & Systems Thinking Skill and Citizenship Skills.

Scholar-12 has been found highest on (HRS) Human Relationship skill, SIS and he has been found lowest on Techno Special Skills, Techno-Management Skills and Yoga Skills.

Scholar-13 has been found highest on Inter-personal & Community Skills. Next skills in the series are social responsibility skills and Human Relations Skill. She has been found lowest on Techno-Special Skills. Next skills in the series are Yoga Skills and Techno-Management Skills.

Scholar-14 has been found highest on Human Development Climate Skills and Spiritual Intelligence Skills, whereas, lowest on Techno-Management Skills and Techno-Special Skills.

Scholar-15 has been found highest on Wholistic Education Skills. Next in the series are Human Development Climate Skills and Research & Construct Skills. She has been found lowest on Techno-Special Skills and Techno-Management Skills.

Epilogue

The Scholars have made very meaningful perceptions on the Educational Skills. There is no mode on the over all status of the skills of the Scholars, that is, no two Scholars were found to have same overall skill level. Scholar-10 has been found highest on the Educational Skills. Next in the sequence are Scholars- 9, 11, 13, 2, 7, 15, 3, 1, 8, 4, 5, 14, 12 and 6. Scholar-10 thinks that he/she is highest on Adaptability & Accountability and Communication, whereas, relatively low on Wholistic Education and Techno-Special Skills. Scholar-9 finds himself/herself highest on Critical Thinking & Systems Thinking, whereas, relatively low on Yoga Skills and Wholistic Education. Scholar-11 is highest on

Social Responsibility Skills and Spiritual Intelligence, whereas, relatively low on Digital Age Skills and Yoga Skills. Scholar-13 thinks that she/he is highest on Interpersonal & Community Skills and Social Responsibility Skills, whereas, relatively low on Techno-Special Skills and Yoga Skills. Scholar-2 has been found highest on Information & Media Skills and Info-Savvy Skills, whereas, low on Yoga and Management skills. Scholar-7 has been found highest on Critical Thinking & Systems Thinking and Information & Media skills, whereas, relatively low on Techno-Management and Research & Construct Skills. Scholar-15 has been found highest on Wholistic Education and Human Development Climate Skills, whereas, relatively low on Techno-Special Skills and Techno-Management Skills. Scholar-3 has been found highest on Information & Media Skills and Info-Savvy Skills, whereas, lowest on Yoga Skill and Digital Age Skills. Scholar-1 has been found highest on Self Direction and Social Responsibility skills, whereas, relatively low on Techno-Living & Techno-Management skills. Scholar-8 has been found highest on Communication and Problem Solving, whereas, relatively low on Yoga and Critical Thinking & Systems Thinking. Scholar-4 has been found highest on Techno-Special Skills and Information & Media Skills, whereas, relatively low on Techno-Management and Communication Skills. Scholar-5 has been found highest on Techno-Special Skills and Information & Media Skills, whereas, relatively low on Communication Skills and Yoga Skills. Scholar-14 has been found highest on Human Development Climate Skills and Spiritual Intelligence Skills, whereas, relatively low on Techno-Management and Techno-Special Skills. Scholar-12 has been found highest on Human Relations Skills and Spiritual Intelligence Skills, whereas, relatively low on Techno-Management and Techno-Special skills. Scholar-6 has been found highest on Communication Skills and Human Resource Development Climate, whereas, relatively low on Techno-Management and Techno-Special Skills. The Scholars have been found to have varied profiles on educational skills. On some skills higher, on some lower, whereas, on the other skills in between.

The scholars who philosophise at doctoral level in various disciplines ought to immerse themselves in their realm fully. Education Scholars by virtue of their discipline have to be wholistic. It is evident from the idiographs that some scholars are higher on Information & Media Skills, Info-Savvy Skills, Technopedagogic skills, but lower on Yoga Skills, and Techno-Management Skills. Some scholars who are higher at Self Direction Skill and Social Responsibility Skills are lower on Techno-Living Skill. The scholar who has been found highest over all and on Adaptability & Accountability Skill, Communication Skill, Information & Media Skill, Problem Solving Skill, Self Direction Skill, Social Responsibility Skill, Human Relations Skill, Emotional Skill, Life Skill, Adjustment Skill, Human Development Climate Skill, Research & Construct Skill and Citizenship Skill, has been found relatively low on Wholistic Education Skill, Yoga Skill, Techno-Special Skill & Techno-Living Skill and inbetween on critical thinking & systems thinking and life skills. It is desirable that all the scholars have all the educational skills at the optimum level. As, a whole the skill scenario of the scholars has been found to be promising. But, there is always scope for perfection. We should be in a position to employ any skill timely, easily, precisely and joyfully. But, how to realize this vision?

The complexities of the living conditions demand skillful persons in various dimensions of life. All the skills have their own significance. Info-Savvy & Digital Skills are as important as Spiritual Intelligence and Yoga Skills. Self Awareness Skills are as important as Systems Thinking Skills. Production Skills are as important as Consumption Skills. Zooming out is as important as Zooming in. Personal Skills are as significant as Citizenship Skills. General as well as Special Skills have their own value. Research is as important as Construction. Downloading is as important as uploading. How can life be a network of arrays of innumerable skills, where, ideas spring, feelings flow, motor creates, spirit reins, and the self resonates with the sphere in this digital age? Dancing crops, flowing wisdom, enchanting music, touching songs, resonating dance, immersing verses, speaking sculptures, enlightened learners, innovative researchers, skillful scholars and creative constructors are the wonderful springs of nature.

India ought to have skill, scale & speed to realize sustainable development. We need to be proficient on hard skills & soft skills, Science Process Skills & Digital Age Skills, Research Skills & Constructivist Skills, Laboratory Skills & Connectionist Skills, Self Direction Skills & Social Development Skills, Digital Age Skills & Spiritual Development Skills, Cognitive Skills & Emotional Development Skills, Micro-Specialist Skills & Wholistic Development Skills, Time-Space-Personnel Management Skills & Spiritual Development Skills, Production Skills and Marketing Skills, Human Development Skills & Universal Becoming Skills, Production-cum- Consumption Skills, Downloading Skills & Uploading Skills, becoming skills & debecoming skills, and above all Skills for living and leading full meaningful, happy & healthy life. There is an immediate need to evolve & integrate Taxonomy of Educational Skills in Teacher Education.

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Health Education in India: An Immediate Need

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Status of Health in India

Healthy nations require healthy human beings and healthy environment. Fully healthy human being in the 21st Century is a figment of imagination. There are evident physical & mental disorders. There is degeneration of environment. The ultra modern society has regressed into many imbalances. There is an alarming number of underweight children in India. Fast food is resulting into unimaginable diseases. Sparrows & Honey Bees are disappearing. Forests of Multi-Storey Buildings are in the perceptible range. Rivers are polluted. Water is polluted. Air is polluted. Soil is polluted. The health issues are countless. Starting from pre-natal health, across the country very few women are healthy during the pregnancy period, physically and mentally. It affects the off-springs adversely. The status of soil in which the seeds are sown, the irrigation water, the fertilizers, the atmospheric air, all have degenerated. The food stuff available in the market is largely contaminated. The green washed vegetables and fruits are readily available in any season, in the markets. There is spurt in Pesticide –laced vegetables across India (THE TIMES OF INDIA, Ahmedabad/Baroda, Oct.5, 2015). It is well known that vegetables sold in major cities contain pesticides, but, it has now emerged that these harmful chemicals are present in alarmingly high doses in greens across the country. A report by the agriculture ministry showed that there has been an almost two- fold increase in the number of samples having pesticides above the permitted maximum residual level (MRL) in vegetables, fruits, meat and spices in the past seven years. In 2008-09, 1.4% of the samples tested failed the MRL test (183 out of 13,348 samples) while the figure went up to 2.6% in 2014-15 (543 out of 20,618 samples). Vegetables accounted for over 56% of the samples which had more MRL than the limit set by the food regulator. The maximum number of failed samples in most test centres was from the vegetable family. For example, in Anand, out of 54 samples with MRL over permissible level, 42 were vegetable samples. It was 17 out of 34 in Kalyani, a suburb of

Kolkata, and 14 out of 15 in Solan. In Delhi the situation was equally alarming. Out of 41 samples with high presence of pesticides, 31 were vegetables. These included spinach, coriander leaves, capsicum, and okra. A large part of vegetables available in Delhi is grown along the Yamuna and nearby regions. The data showed in Gurgaon, of the 24 samples, 11 were vegetables. In Mumbai, out of 38 samples with high pesticide content, 25 were vegetables and in Port Blair, all eight failed samples were from this category. In Hyderabad, 27 of 51 such samples were vegetables and in Jaipur, it was 7 out of 10 samples. Recently Food Safety and Standards Authority of India proposed regulations for heavy metal content in a range of food items.

The drastic change in eating habits, especially of the teen agers and youth, is another alarming issue. The most liked food of the present generation is constituted of Pizzas, Pastas, Burgers, Frankie, Hot Dogs, artificial Chinese food & Foreign food. The use of fibers in the preparations of packed fast food causes lot of digestive problems. We have largely forgotten the Indian Cultural Heritage. Our tastes have changed as per the tastes of the producers. A sizable number of Indians are vitamin D and B12 deficient. Most of the cold drinks are highly opaque. We do not know what we are taking in. There is over dose of preservatives.

Many a people have psycho-neurosis, obsessive neurosis, insomnia, depression, hyper-tension, aggression, stress & strain. Artery blockage, Diabetes & Tuberculosis are very frequent. There is alarming fall in the heart & brain entrainment ratio. The life styles have changed. The digital age is suffering from many health hazards. The loss of eye power at an early age is more due the use of electronic gadgets than any other cause.

The modern kitchens seem to be beautiful in face but create many health problems. The use of microwaves, non-sticky cook-wares and electronic appliances rather than necessity has become a fashion & prestige symbol. Over use of microwaves results in removal of nutritive ingredients of the food.

Top 10 health concerns of the decade

In the last ten years, innumerable diseases and conditions have plagued mankind. From the recent Swine Flu pandemic to Cancer, AIDS and Obesity in children, we bring you a roundup of the most alarming ones which have managed to create ripples of tension in the minds of the young and old alike. (ARADHANA V BHATNAGAR, Jan 7, 2010, 12.00am IST)

After sharing and discussing with several professionals and housewives across the country, we confirmed these health concerns with experts in the line of medicine and health. Here are top of the mind health concerns voiced by men, women and also children.

Heart diseases: Heart disease is the number one killer of both men and women. Now researchers say India, a country with more than one billion people, will likely account for 60 per cent of heart disease patients worldwide. A study among Asian Indian men showed that half of all heart attacks in this population occur under the age of 50 years and 25 per cent under the age of 40, according to the Indian organization, Medwin Heart Foundation. Although more men die of heart disease than women, females tend to be under-diagnosed, often to the point that it's too late to help them once the condition is discovered.

Cancer: The good news is that survival rates have improved for many types of cancers in recent years. But, you can lower your risk by adopting a healthy lifestyle. Screenings also can help find some cancers early, when they are most treatable. Skin, lung, prostate, colon and testicular cancers are the ones that worry most men, while women feel anxious about breast cancer. It is second to lung cancer as the leading cause of death for women. Experts say the fear of breast cancer can sometimes be exaggerated, stopping women from going to their doctors for screening, or pushing women to make rash decisions about mastectomy, when it may not be necessary.

HIV/ AIDS: The HIV/AIDS epidemic will affect women's health in coming years. Rates of infection are found in population groups with certain high-risk behaviors (i.e., sex workers, intravenous drug users, and sexually transmitted disease patients). However, infection also is increasing in the general population. Despite the alarming growth of the epidemic, most women in India have very little knowledge of AIDS. Even among those who had heard of the disease, there were many misconceptions about modes of transmission.

Swine Flu: Soon after the outbreak of H1N1 virus in the United States and Mexico in March 2009, the Government of India started screening people coming from the affected countries at airports for swine flu symptoms. Till date there have been 852 confirmed H1N1 deaths in the country confirms the health ministry. What begins with sudden chills, cough, sore throat, headache and fatigue, worsen and lead to death if not detected on time.

Reproductive health: Many of the health problems of Indian women are related to or exacerbated by high levels of fertility. Research has shown that numerous pregnancies and closely spaced births erode a mother's nutritional status, which can negatively affect the pregnancy outcome. Unwanted pregnancies terminated by unsafe abortions also have negative consequences for women's health.

Osteoporosis: A largely preventable disease, the behaviors that women develop in their childhood, in their adolescence, and in their early adult years really play a significant role in the development of osteoporosis. That's because bodies build up most of bone mass until age 30. Then new bone stops forming and the focus is on maintenance of old bone. It is never too late to keep bones strong and avoid fractures.

Depression: Depression appears to affect more women than men. Research has proved that women need a connection with others in their lives. They need that sustenance and if they don't have it, they tend to get depressed.

Unintentional injuries: Accidents, also called unintentional injuries, are the third leading cause of death around the world. They account for 1 of every 4 people treated in an emergency department. Death can result from motor vehicle accidents, falls and fires.

Diabetes: More than 9 out of 10 people with diabetes have type 2 diabetes. Many men don't even know they have it until they develop problems such as erectile dysfunction, vision loss, or kidney disease.

Obesity: A difficult condition to treat, obesity and overweight rates for children and teens have been steadily rising. Children who are obese face serious health problems, including asthma, joint pain, high blood pressure, and type 2 diabetes. In the poll parents reported that they discuss at length limiting junk food and physical activity. However, most do not curtail TV time.

The reversal of the proverb 'Health is Wealth' --- 'Wealth is Health' seems to be the major contributor towards all kinds of health issues. For revival of health, we should go back to our old politeness and ancient culture, namely, simple living & high thinking, with naturalism, naturopathy & full Yoga. The present paper focuses on Human Development Index, Heart and Brain Entrainment Ratio, Problems of Beta Thal Major and Dementia in India.

Human Development Index

The **Human Development Index (HDI)** is a composite statistic of life expectancy, education, and income indices.

Published on 4 November 2010 (and updated on 10 June 2011), starting with the 2011 Human Development Report the HDI combines three dimensions:

- A long and healthy life: Life expectancy at birth
- Education index: Mean years of schooling and Expected years of schooling
- A decent standard of living: GNI per capita

In its 2010 Human Development Report, the UNDP began using a new method of calculating the HDI. The following three indices are used:

1. Life Expectancy Index (LEI)
$$= \frac{LE - 20}{82.3 - 20}$$

$$2. \text{ Education Index (EI)} = \frac{\sqrt{\text{MYSI} \cdot \text{EYSI}}}{0.951}$$

$$2.1 \text{ Mean Years of Schooling Index (MYSI)} = \frac{\text{MYS}}{13.2}$$

$$2.2 \text{ Expected Years of Schooling Index (EYSI)} = \frac{\text{EYS}}{20.6}$$

$$3. \text{ Income Index (II)} = \frac{\ln(\text{GNIPc}) - \ln(100)}{\ln(107,721) - \ln(100)}$$

Finally, the HDI is the geometric mean of the previous three normalized indices:

$$\text{HDI} = \sqrt[3]{\text{LEI} \cdot \text{EI} \cdot \text{II}}$$

LE: Life expectancy at birth

MYS: Mean years of schooling (Years that a 25-year-old person or older has spent in schools)

EYS: Expected years of schooling (Years that a 5-year-old child will spend with his education in his whole life)

GNIPc: Gross national income at purchasing power parity per capita

Growth Rate of various States in India & HDI

Progress has picked up unprecedented pace during the last 8 years. Haryana is leading State in the country among the big States in per capita income. The per capita income of Haryana was 1,09,227 in 2011-12, whereas, the per capita income is estimated of Rs. 1,28,341 during 2012-13. The economic growth of the State is 9.9%, which is the highest of India. Haryana is the first State to provide safe drinking water facilities all over the State. The per capita expenditure in the State on the health services during the year 2011 was Rs. 490.28. (Hindustan Times, Delhi, Sunday, Feb. 3, 2013). Haryana was carved out of Punjab on Nov. 1, 1966. Having emerged as a path-breaker and trend setter, Haryana has traversed a great distance.

But, has the State really made a tremendous growth in totality? What are the Education Index and Life Expectancy Index of Haryana State? What is the level of internal security & external security in Haryana? What is the level of equity & equality in Haryana? What is the Human Development Index in Haryana? What is the over all State Development Index? What is the relative status of agriculture and industry in Haryana? How the GDP and HDI of the State could be enhanced? In which domains Haryana could be emulated by the other States of India and vice-versa?

Kerala State has always been excelling literacy rate. But, has the State realized sustainable development. Karnataka & Andhra Pradesh are the leading States on Information Technology implementation. But what is the Human Development Index in these States? What is the present status of Punjab on HDI which has been a prosperous State? What is the status of North East of India on HDI? It is high time for India to produce State-wise Human Development Index.

Matters of the heart

The excerpts related to heart & brain functioning have been taken from the write ups on Heart & Brain available on the Internet.

The heart is a ball of nerves

Most twentieth century anatomists considered the heart to be a hollow mass of muscle fibers whose job was to pump the blood. It turns out that the heart is actually about sixty percent nerve tissue, that is, heart-nerves. They communicate emotional information to and from the brain. The heart-nerves are *not* the same as the heart-*muscle* nerves used in operating the heart pump. The heart-nerves communicate with the brain in two ways. First, the heart connects to the brain through a pair of nerves (one on the left, one on the right) that goes to and from the heart via the spinal cord: up the spine into the brain. Second, the heart connects to the brain through the pair of left and right vagus nerves, which travel to and from the brain stem out through the tissues of the neck, and then down through the torso. Information from the heart via these heart-nerves tells the brain the manner in which to interpret incoming sensory and thought information: whether ongoing events are good or not, and how much. These interpretive instructions are based on the feelings of the heart, and not on brain-based thought patterns. The heart feelings are formed by the heart's electromagnetic resonance with outer and inner experiences. These heart feelings are then communicated to various parts of the brain via the heart-nerves.

The melody line recognition area

One area that receives information from the heart-nerves is located in the brain's frontal lobe. This area is immediately adjacent to the place in the frontal lobe that is activated when one follows a line of melody. It has been proposed by western brain researchers that the intimate proximity of these two areas is the reason that music can quickly evoke a mood or emotion. An old favorite song often evokes the mood and energy level – the heart feeling –that a person had “back in the day,” when he first learned the song.

The processes involved here begin with the feelings that the heart was experiencing at the time a given song was first heard. The heart-nerves send to the brain the information about what the

heart is experiencing. An imprint of these feelings, and a note as to the quality and quantity of feeling evoked at the time, is stored in the brain. *And* the feeling information is linked to the melody information! Years later, if the ears receive the sound of that music, the melody-line tracking area in the frontal lobe recognizes the song. This recognition triggers the link to the stored information about the original heart feeling. The heart then replicates, to some extent, that original feeling.

The heart's role in emotions

Asian medical theory holds that the heart, as it resonates – or not – with the electromagnetic fields of inner and outer experiences, is the initial determinant of feeling and emotion. In modern times, the general public has been taught that all thoughts and feelings are based in the brain; the body below the neck is merely a machine that transports the head around. But the general public is not up to date. Research in modern neuro-cardiology is starting to support the idea that the heart is the original source of feeling and emotion, a concept that's been a core precept in nearly every culture, ancient and modern. When a person listens to a beautiful symphony or beholds a magnificent sunset, he might feel expansion in the chest. This feeling of expansion results from an increase in amplitude of the electromagnetic waves of the heart. This increase in amplitude is due to the heart's resonance with the energy patterns in the music or the sky. These heart-feelings are *not* based on the brain's interpretation of the music or the colors in the sky at sunset. These feelings precede any brain involvement. These feelings are caused by changes in the electromagnetic wave *patterns* of the heart and changes in the *amount* of energy in the electromagnetic signals produced by the heart. Resonance or conflict can increase or decrease the amplitude, the size, of waves. In the heart, this resonance – or lack of – translates into increased or decreased amount of various heart feelings. Many people are surprised to learn that the electrical activity of the heart creates electromagnetic patterns: heart waves. However, if they recall that the brain's electrical activity creates measurable brain waves, they will understand that the heart's electrical activity creates measurable heart waves. The heart's electrical field is quite large; it can be detected and charted from several feet away. The heart's electrical signals are holographic (the same in all directions, whether or not they are measured from the front, back, top, or side).

Heart brain entrainment

When a person feels content or calm, his brain-wave patterns entrain with his heart-rate variability patterns. A measurable synchronicity between the heart rate and brain waves occurs. The heart, not the brain, sets the pace. When a person becomes fearful, this synchronicity is broken off. The heart rate variability patterns become jagged and disordered, but more significantly, the brain wave patterns become unrelated to the heart rate patterns. I repeat, when fearful or under stress, brain waves cease to be entrained with the heart-rate variability patterns. When the fear is over, the brain's wave patterns can again become entrained with the heart's wave patterns.

A chemical shift

Heart signals sent to the brain via the vagus nerve activate the brain's dopamine-based mental and motor processes, and stimulate the parasympathetic (feeling contented) nerve system. Heart signals sent to the brain via the heart's spinal nerve activate the brain's adrenaline-based mental and motor processes, and stimulate the sympathetic (feeling fearful) system.

During times of contentment, the heart uses the vagus nerves more and the spinal nerves less. During times of stress or emergency, when the heart and brain waves become non-entrained, the heart uses the spinal nerve more and the vagus nerve less. Both nerves sets are always somewhat in use. Even when a person is feeling primarily contented, a small amount of energy may be flowing in the sympathetic nerves.

The extent to which the brain is informed of heart information via the spinal nerve determines the extent to which the brain use adrenaline-based commands to activate motor and mental function of the sympathetic nervous system. Thus, a nerve and neurotransmitter shift towards adrenaline and the sympathetic nervous system accompanies the electromagnetic change that occurs during heart-brain wave *non*-entrainment. In an emergency, as adrenaline is increasingly released, the release of dopamine is increasingly inhibited. When the emergency is over, the heart rate (the average beat rate) slows down, and the heart rate variability patterns become more coherent. Brain wave patterns may again become resonant with heart patterns. Adrenaline levels climb down. Dopamine can be released accordingly.

When the stress or the emergency comes to a close, perceptions of physical and emotional pain, if any, become once again available. These perceptions are accessed via dopamine. An emotionally healthy person resumes, via dopamine, the ability to playfully imagine and visualize, and to anticipate purely happy outcomes. His ability to *feel* physical and emotional input regarding one's own sensory experiences, either negative or positive, a *heart based ability*, returns. However, while a person is emotionally inhibited to the extent that he is selectively dissociated from his heart, he will not be able to access dopamine.

Even when *wave* patterns are not in sync, the *nerves* remain connected

During times of fear or stress, the heart-*nerves*, either via the spine or vagus nerves, remain connected to the brain – unlike the heart-brain *wave* entrainment, which disconnects. Whether scared *or* happy, waking or sleeping, these nerve signals continue to tell the brain how the heart is feeling (resonant or not), and how much.

We have not yet discussed the *quantity*, the size, of the heart signals. Briefly, the *amount* of signal getting to the brain from the heart-nerves appears to determine the *degree* to which neurotransmitters are released. We hypothesize that the size of these heart-nerve signals (the quantity, the “how much”) that the heart continues to send to the brain indicates the *level* of emotional energy that is available at the moment.

Whether the brain is using dopamine or adrenaline, whether the brain and heart waves are entrained or not, the amount, the size, the “how much” of the electrical signals that travel from the heart-nerve to the brain seems to determine how *much* of a response the brain can muster: how *much* adrenaline or dopamine can be put into play.

The decision to disconnect the wave patterns is made by the brain: a hypothesis

At a certain level of danger, negative thinking, anxiety – or in the situations that are met with a dissociation response – the brain wave patterns disconnect from their entrainment with the heart wave patterns. Based on our own research, this wave pattern disconnect is a brain-based decision, and not a heart-based phenomenon. However, with regard to the heart-nerve’s sympathetic and vagus nervous system signals, the heart is ever sending electrical signals to the brain. In an emotionally healthy person, the heart-nerve’s signals to the brain are never turned off. The heart cheerfully sends information and energy to the brain, whether the brain is bouncing around in a panic or calmly enjoying the situation. If the heart is *not* electromagnetically resonating with inner and outer experiences, it favors the spinal nerves, the ones that stimulate the sympathetic nervous system. If the heart is resonating with ongoing events, it favors the vagus nerve, the parasympathetic connection. Notice that I said the *emotionally healthy* heart continues to send nerve information to the brain even when the brain works itself into a dither and disconnects its wave patterns from those of the heart.

The emotionally healthy heart is like the loving mother who humors her child with unconditional love and support even when the brilliant child indulges in unnecessary panics over upcoming college-entrance board exams. The heart’s love is always sending nerve signals to the brain, humoring the brain, enjoying its little eccentricities. It is the brain, the home of the ego – the source of fear – that disconnects its *wave* properties from the heart *wave* patterns when the going gets tough. The emotionally healthy heart, via *nerve signals*, remains ever true.

Decrease in the amount of heart-nerve signal

The *amount* of the heart’s nerve signals to the brain may begin to diminish at some point. This decline may occur when overall health of the body is decreasing or when the heart has begun to lose interest in life. Sometimes, when the sheer joy of living decreases abruptly, as can happen, for example, when a long-term spouse dies, the signals from the heart may abruptly become significantly diminished. The remaining spouse may soon die. Based on Asian medical theory, when the *amount* of heart-nerve signals declines, when the joy of living decreases, the *capacity* for life also declines. When the amount of heart nerve signals decline, the potential levels of release of the two main neurotransmitters, dopamine and adrenaline, diminish. Diminished release of dopamine or adrenaline results in physical and emotional slowness, depression and/or anxiety.

Depression from an insufficient heart-nerve signal

As the *amount* of heart-nerve signals declines, so that the *amount* of dopamine release declines, depression can ensue. In this case, the heart and brain waves *may be* in sync, but because of a diminished amount of heart-nerve signals to the brain, there is not *enough*

dopamine release to trigger responses to sensory and thought stimuli. A person in this condition may look at the bright blue sky or the beauty of a rose and have a minimal or not detectable response. When the heart's electromagnetic field is diminished, the amount of heart-nerve signal going to the brain is diminished, and so the amount of dopamine released by the brain is diminished. The emotional capacity for response is diminished.

Anxiety from an insufficient heart-nerve signal

Even if the *amount* of heart-nerve signals declines, fear-inducing situations *can still* cause a loss of entrainment between the heart and brain wave patterns. However, if the size of the heart-nerve signals is diminished, the brain has a correspondingly diminished capacity for mounting its adrenaline response even though the heart and brain waves patterns become disconnected. If the amount of heart nerve signals decline, then when the brain shifts to sympathetic (fear) mode, the mind may only be able to create an impotent anxiety response because of an insufficient *level* of adrenaline to rally the body to action. In anxiety, negativity and fear-based thinking dominate the brain; the heart and brain wave patterns are not in sync: the brain is disconnected from heart feelings. But in some cases of anxiety, the *level* of adrenaline release is diminished. This insufficiency of adrenaline may occur if the amount of heart signal is insufficient.

The lowered level of adrenaline release is not large enough to stir the body to action. The fear whirls pointlessly around in the head, but no actions are taken to battle the source of the fear. Anxiety is the name of this condition, in which fear dominates the mind *but* the body is not able to mount a big enough response to either challenge the threat or rein in the negative thinking. The *amount* of heart-nerve signal determines the *quantity* of mental and chemical response that the body can produce. The mind, while able to produce a fear or a happiness campaign by being either disconnected or connected, respectively, to the heart's wave patterns, does not ultimately control the amount of energy available to that campaign. The *amount of heart involvement*, sent via the heart nerves, may be the key determinant for how *much* of a response the body can produce.

Dopamine and the heart

The heart is always fine-tuning its dopamine/adrenaline balance. Both adrenaline and dopamine are always in use in the heart. Every microsecond, in response to thoughts and to internal and external sensory perceptions, the heart is moving slightly more towards one nerve set and its neurotransmitter or towards the other. The degree and manner of heart wave resonance with thoughts and with internal and external sensory perception determines the moment to moment balance between adrenaline and dopamine. If the heart is more resonant, the neurotransmitter balance shifts more towards dopamine. If the heart is less resonant or emotionally shut down, the neurotransmitter blend shifts more towards adrenaline. The ratio of adrenaline to dopamine at any given second determines *how* the brain will interpret the incoming sensory information at that moment, and the manner in which the brain will respond. Up until now, I've only mentioned dopamine as a paired neurotransmitter with adrenaline. In fact, dopamine is not just the "opposite" of adrenaline. Dopamine is the main driver of the

heart. If the brain perceives a reason to be fearful, the heart's dopamine triggers adrenaline and a tilt towards the *sympathetic* nervous system's connection to the brain. If the brain is not fearful, the heart's basic dopamine supply triggers more dopamine and a tilt towards the *parasympathetic* nervous system's connection to the brain. Dopamine is the primary activator of the heart. Dopamine levels in the heart determine the vigor of the neural signals to the brain. Dopamine levels in the heart are determined by the amount of joy and the amount of resonance that the heart is feeling. The sheer joy of being alive is the energy that allows the heart to resonate and initiate the primary dopamine release for the heart.

Dopamine does not cause joy. Joy causes the release of dopamine. The greater the joy, the greater the level of primary dopamine in the heart. Whether a person is happy or sad, he can always resonate with the sheer joy of being alive. Whether a person is in the midst of battle or in solitude, the sheer joy of living can be present behind his fear or his tranquility. Joy and the heart's ability to resonate are very nearly the same. The former is more purely energetic, the other is the more physical manifestation of the joy energy.

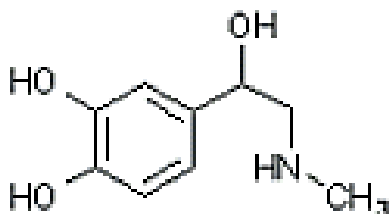
Just like light, which has a wave pattern and a photon, human joy has a purely vibratory component and a more tangible component. Just as the astral form of light does not require a photon, the vibratory component of joy exists whether the body exists or not. For example, light has two components: the light "wave" and the photon. The wave and the photon are considered to be equal and simultaneous, in terms of energy, but the photon is the denser, more tangible, more "crude" half of the combo. Like light's relatively more tangible half, the photon, the electromagnetic wave of the resonating heart is the denser, more crude, more tangible component of joy. When the heart is resonating with the joy of being alive, it releases dopamine to itself.

That dopamine then energizes the other heart responses. This underlying source of dopamine is what powers the heart's balancing act between the dopamine and adrenaline that flows to the brain. The core dopamine in the heart drives the dopamine and adrenaline systems in the rest of the body. The dopamine stashes in the head, in the substantial area and other parts of the brain, are merely satellite supplies of dopamine. They are activated and dopamine is released into various parts of the brain, when the heart instructs the brain to respond to sensory events with joy. The core level of dopamine prepares a person, in body and brain, to be a feeling, sentient being.

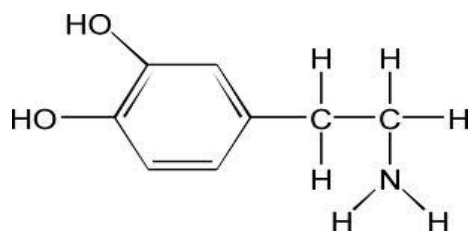
The heart and the dissociation response

This core level of heart dopamine is only diminished when a person ceases to feel the sheer joy of being alive or while dissociating from his heart. Also, the core level of dopamine diminishes when a person prepares to die. The dissociation response shuts down the ability to *feel*. The dissociation response prepares an animal for death. In PDers, heart SPECT scans show that dopamine receptor activity is significantly diminished. PDers have trouble feeling. We might say that some PDers have spent their life fending off death or getting ready to die.

Structures of Adrenaline & Dopamine



Adrenaline



Dopamine

Beta Thal Major Problem in India

Beta Thal Major is a big problem in India. Many a children are suffering from this disease. They have to go for Blood Transfusion (BT), periodically, depending upon their HB level. Some of the Problems which have come to the fore are as follows:

1. Despite requesting, some of the doctors do not specify the exact volume of blood required during BT. They would write one Unit or Two Units without specifying the volume. The Unit size has not been defined.
2. Whether the Unit size is 200 ml or 300 ml, mostly the Doctors on internship insist on transfusing it over four hours. There is none to guide them.
3. If there is induction of HCV or HIV during BT, the Parents are accountable, not the hospital or Blood Bank.
4. Very recently we have come across a new term –DAMA, that is, Discharge Against Medical Advice. When the BT is over, then the Doctor Trainee on internship would report the status of the Child whose BT has been completed to the Chief Consultant, who is usually at home. The Chief Consultant from home would advise to stay back over night and the discharge could be done on his/her advent next day. If the Parents refuse, then they are advised to sign DAMA and take the child home at their own Risk.
5. Locating the Veins of these children for vein flow for BT is a challenging task. Rarely there are skilled doctors to do that.
6. There are some doctors who are trying Hydroxyl Urea on Beta Thal Children. Due permission should be sought for any clinical trial.

7. Iron Chillation is a very costly & challenging task. Many a chillators are available, such as, Despheral, Kelpher, Desirox , and Asunra.
8. The facilities to find the level of Iron deposit in various body organs, such as, heart & lever are rarely available.
9. Bone Marrow Transplantation & Stem Cell Transplantation facilities are very rare.
10. There are no National Guidelines available with respect to Beta Thal Major Patients. They are being treated casually.

Problem of Dementia in India

Problem of dementia is on the increase in India. There are a large number of cases of significant memory loss during old age. It has got something to do with our Thinking Habits. A large number of we Indians are suffering from compulsive recursive obsessive neurosis which causes anxiety, tension, stress, strain, inattention, headache, forgetfulness and diffidence. It is self killing. There is an immediate need of Thinking Training in India.

Some Concerns

- Our food habits have changed. There is evident transition from home made food to fast food. It has come to the fore that these preserved foods are largely not hygienic. These usually contain excessive fats and spices and are acidic. Though the food is high calorie, but, it does not provide adequate energy, Also, the preservatives used, such as, nitrogen, chlorine, carbonic acid, vinegar and impure sugar (molasses) are harmful. Also, the refined wheat flour (Maida) consumes significantly more time for digestion. The fats overused for frying cause many a health problems. Consumers have changed their tastes as per the tastes of the producers, fair or foul. There is ocean of food stuff, but, non-compatible. What to choose? Where from?
- The entire environ is polluted, There are water pollution, air pollution, soil pollution and noise pollution. Which water to drink, which air to breathe, which vegetables & fruits to eat, and how to find noise free corner? There is environmental awareness but very rare environmental ethics. There is degeneration of environment. With the lust for luxury many a species are disappearing. Fully healthy people are no longer seen. Every one suffers from one or the other disease. What is the resolve?
- The life styles have changed. We have moved from naturalism to existentialism. We have moved from simple living & high thinking to high living & simple thinking, from health is wealth to wealth is health. We are going far away from our heritage and culture. Truthfulness, compassion and forbearance seem to be mere slogans. We are in more of competitive societies than cooperative. The nuclear families have resulted into the alienation of children.

- We are using technology or technology is using us? We have media crowd, but, no media culture. There are many health hazards due to over use of Technology. It is high time that we become techno-savvy, info-savvy, net-savvy and media-savvy.
- Our greatest disease is passions, possessions, obsessions. There are many a medical malpractices. There is a need to realize professional ethics.
- Molls are rising in India at a rapid pace, but, we do not have moll culture. Almost every hand has cell phone, A to Z phones, but, we do not have cell culture. Only God knows what we keep communicating round the clock. Health hazards are self evident. Modernization & perfective maintenance ought to be there. Modernization & perfective maintenance demand precise regulatory mechanisms and controls.
- Each one of us should observe Yoga for sound health.
- We need to employ, both, preventive, and ameliorative measures for sustaining sound health.
- Health Education ought to be integrated with Educational Curricula at all levels, from pre-primary, through tertiary & continuing.
- We should observe healthy Heart & Brain entrainment Ratio.
- We should sustain our smiles and laughter under even the most adverse conditions.
- Human Development Index should be of prime importance for any nation.
- Various States in India ought to learn from the development of each other.
- India should formulate National Health Policy at the earliest.

Concluding Remarks

Degenerating health of all of us in India is an alarming issue. There are many health issues in India. Neither we are fully aware of the self nor that of environment. There is a need of observing healthy heart and brain entrainment ratio. yoga can contribute to the heart & brain entrainment ratio and sound health. The present day modern society is busy without business. We rarely find natural, continuous, spontaneous, roaring laughter, and natural graceful soothing smiles. Let us revive our health, resonating laughter, and flowing smiles, because, it is our duty to preserve and sustain the cultural heritage of India. The State ought to define its role and arrive at a Health Policy for India. We need not produce a health issue repertoire, because all these issues are self evident.

Despite the policies & programs on Environment & Health, the Plants, Trees and greenery are disappearing. Children keep munching the junk food, non-stop. Adults keep drinking the tea & coffee, count-less. No research rigor is required to know the health status of India. The street roads full of Pan & Tobacco spits, full of all sorts of roughage, pits & ditches reveal a lot of the Psycho-Somatic State. Junk food, green washed vegetables & fruits, medical malpractices, all sorts of pollution narrate our health problems. Could the Education, Society & State converge

and reflect on the health issues? No government policies will work, unless each & every Indian is health educated & accountable. Human Development Index ought to be the priority of Indian Government.

Health issues in India are highly alarming. Despite all the preventive maintenance why do we fall sick? It is because the environment is polluted. Who is accountable? We all. Every foreign latest virus first enters in India. It is because we do not have adequate security measures. There are many indigenous diseases born in India, Some of these have been named, the others are yet to be named. We salute all of us for our survival, because, we employ all the possible Medical Sciences, such as, Naturopathy, Homeopathy, Allopathy, Ayurved..... We need to bring about health sensitivity & consciousness. We recall age old slogan "Prevention is better than Cure." But, how to sustain health in a suffocating environment? Health Education seems to be the best resolve. Health Education should be introduced in Educational Curricula at all levels. Let us observe environmental ethics. Medical Sciences ought to do analysis at the functional level. Medical Sciences & Medical Ethics ought to be perfected. More than the ameliorative, we require preventive measures for the full health of the masses. We should employ RAJ YOG, KRM YOG, BHAKTI YOG & GYAN YOG as Voiced by Swami Vivekananda, and ancient Cultivation Practice of Truthfulness, Compassion and Tolerance.

Higher Education Autonomy in India

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Introduction

Education becoming & being higher is an indicator of autonomous culture & climate. History of India is a witness to autonomy, not granted & gazetted, but, earned through persistent passion, struggle, vision & action. Autonomy is a function of deep knowledge, perfect skills, universal inlook & outlook, constructive, connectionist, innovative faculties, post-conventional autonomous creative leadership, and dynamic administration, irrespective of Nilofars & Hudhuds. Autonomy & Free Breath are figments of imagination in this modern global society. Some Indian Soul has fully painfully expressed “*YUG YUG SE HAI JULAM KHA RHA AZADI KA NAAM MITA DOON, UDNE WALE JO PANCHI HEIN UNHE PAKADKAR PANKH JLA DOON*”. But, very often the predators fail & the birds fly higher & higher, however, small & little. Only those governors & administrators have produced innovations who are over & above the systems, highly risk taking, but, never against the systems. It is immense peace to find that AIU has concern for autonomy & innovation.

Higher Education evolves every moment through Human Relations, rather than, through conservative, hierarchical and bureaucratic culture. An autonomous faculty has to be open rather than close, excelling rather than regressing, producing rather than consuming, a universal heritage with modern mindset with vision of the invisible, leading rather than following.

Wish the Indian Higher Education could be autonomous to be higher. Our Higher Education has lost its autonomy under neo-liberalism, neo-colonialism & neo-capitalism. Economy is overarching, both, the State & Society. Autonomy, however, valuable is not tolerated. Education rather than Corporate Social Responsibility, has largely become Corporate Commerce. Education has a feel of being imprisoned. Every one tends to supersede & dictate

Education. Where have we lost our respect for Education? Education by virtue of its discipline is autonomous and has to be autonomous.

Higher Education Autonomous Institutions

The Higher Education System in India includes both Private and Public Universities. Public Universities are supported by the government of India and the State Governments, while Private Universities are mostly supported by various bodies and societies. Universities in India are recognized by the University Grants Commission (UGC), which draws its power from the *University Grants Commission Act, 1956*. In addition, 16 Professional Councils are established, controlling different aspects of accreditation and coordination. The types of universities controlled by the UGC include Central Universities, State Universities, Deemed Universities and Private Universities.

In addition to the above universities, other institutions are granted the permission to autonomously award degrees, and while not called "university" by name, act as such. They usually fall under the administrative control of the Department of Higher Education. In official documents they are called "autonomous bodies", "university-level institutions", or even simply "other central institutions". Such institutes include:

- Indian Institutes of Technology (IITs) are a group of autonomous engineering and technology-oriented institutes with special funding and administration. The *Institutes of Technology Act, 1961* lists sixteen IITs at (BHU) Varanasi (Uttar Pradesh), Bhubaneswar (Orissa), Bombay (Maharashtra), Delhi (Delhi), Gandhinagar (Gujarat), Guwahati (Assam), Hyderabad (Andhra Pradesh), Indore (Madhya Pradesh), Kanpur (Uttar Pradesh), Kharagpur (West Bengal), Madras (Tamil Nadu), Mandi (Himachal Pradesh), Patna (Bihar), Jodhpur (Rajasthan), Roorkee (Uttarakhand) and Ropar (Punjab).
- School of Planning and Architecture (SPAs) are a group of architecture and planning schools established by Ministry of HRD, Government of India. All the SPAs are premier centrally funded institution.
- National Institutes of Technology (NITs) are a group of engineering, science, technology and management schools which were established as "Regional Engineering Colleges" and upgraded in 2003 to national status and central funding. The latest act governing NITs is the *National Institutes of Technology Act, 2007* which declared them Institutes of National Importance. It lists twenty NITs. In 2010 the government announced plans for ten more.
- Indian Institutes of Management (IIMs) are a group of business schools created by the Government of India. IIMs are registered Societies governed by their respective Board of Governors. The Department of Higher Education lists 13 IIMs.^[15]
- Indian Institutes of Science Education and Research (IISERs) are a group of five institutes established by the Ministry of Human Resource Development, devoted to science education and research in basic sciences. They are broadly set on the lines of the Indian Institute of Science.^[16]
- All India Institute of Medical Sciences (AIIMS) are a group of autonomous public medical colleges of higher education. These are seven in numbers and are established by the Ministry of Health and Family Welfare, with the aim of correcting regional imbalances in quality tertiary level healthcare in the country, and attaining self-sufficiency in graduate and postgraduate medical education.

- National Law Universities (NLU) are universities established for promotion of legal research and legal profession in India. There are around 15 National Law Universities in India which are autonomous in nature. The prominent among them are National Law School of India University and NALSAR University of Law
- The Institutes or Universities which falls under the category of University-level institutions. One specific such group is the Indian Institutes of Information Technology (IIITs), a group of four institutes focused on information technology. They are established by the central government, centrally funded, and managed by the Ministry of Human Resource Development.

Of specific interest are Institutes of National Importance (INIs). INIs are institutions which are set by an act of parliament. They receive special recognition and funding. The Department of Higher Education's list includes 39 institutions. Some other institutes were also officially awarded the status. INIs are marked below with a hash (#).

Institutes

List of autonomous institutes					
Institute	State	Location	Type	Established	Specialization
<u>School of Planning and Architecture, Vijayawada</u>	Andhra Pradesh	<u>Vijayawada</u>	<u>SPA#</u>	2008	Architecture, Planning
<u>Damodaram Sanjivayya National Law University</u>		<u>Visakhapatnam</u>	<u>NLU</u>	2008	Law
<u>National Institute of Technology, Arunachal Pradesh</u>	Arunachal Pradesh	<u>Yupia</u>	<u>NIT#</u>	2010	Technology
<u>Indian Institute of Technology, Guwahati</u>	Assam	<u>Guwahati</u>	<u>IIT#</u>	1994	Technology
<u>National Institute of Technology, Silchar</u>		<u>Silchar</u>	<u>NIT#</u>	1967	Technology
<u>National Law University and Judicial Academy, Assam</u>		<u>Guwahati</u>	<u>NLU</u>	2010	Law
<u>Chanakya National Law University</u>	Bihar	<u>Patna</u>	<u>NLU</u>	2006	Law
<u>Indian Institute of Technology, Patna</u>		<u>Patna</u>	<u>IIT #</u>	2008	Technology

List of autonomous institutes

Institute	State	Location	Type	Established	Specialization
<u>National Institute of Technology, Patna</u>		<u>Patna</u>	<u>NIT</u> [#]	1924	Technology
<u>All India Institute of Medical Sciences, Patna</u>		<u>Patna</u>	<u>AIIMS</u> [#]	2012	Medical
<u>Hidayatullah National Law University</u>		<u>Raipur</u>	<u>NLU</u>	2003	Law
<u>Indian Institute of Management Raipur</u>	Chhattisgarh	<u>Raipur</u>	<u>IIM</u>	2010	Management
<u>National Institute of Technology, Raipur</u>		<u>Raipur</u>	<u>NIT</u> [#]	1956	Technology
<u>All India Institute of Medical Sciences, Raipur</u>		<u>Raipur</u>	<u>AIIMS</u> [#]	2012	Medical
<u>Indian Institute of Technology, Delhi</u>	Delhi	<u>Delhi</u>	<u>IIT</u> [#]	1961	Technology
<u>All India Institute of Medical Sciences, Delhi</u>		<u>Delhi</u>	<u>AIIMS</u> [#]	1956	Medical
<u>National Law University, Delhi</u>		<u>Delhi</u>	<u>NLU</u>	2008	Law
<u>School of Planning and Architecture, Delhi</u>		<u>Delhi</u>	<u>SPA</u> [#]	1941	Architecture, Planning
<u>Indian Institute of Management, Ahmedabad</u>	Gujarat	<u>Ahmedabad</u>	<u>IIM</u>	1961	Management
<u>Gujarat National Law University</u>		<u>Gandhinagar</u>	<u>NLU</u>	2004	Law
<u>Indian Institute of Technology Gandhinagar</u>		<u>Chandkheda</u>	<u>IIT</u> [#]	2008	Technology

List of autonomous institutes

Institute	State	Location	Type	Established	Specialization
<u>Sardar Vallabhbhai National Institute of Technology</u>		<u>Surat</u>	<u>NIT#</u>	1961	Technology
<u>Indian Institute of Management Rohtak</u>	Haryana	<u>Rohtak</u>	<u>IIM</u>	2010	Management
<u>National Institute of Technology Kurukshetra</u>		<u>Kurukshetra</u>	<u>NIT#</u>	1963	Technology
<u>Indian Institute of Technology Mandi</u>	Himachal Pradesh	<u>Mandi</u>	<u>IIT #</u>	2009	Technology
<u>National Institute of Technology, Hamirpur</u>		<u>Hamirpur</u>	<u>NIT#</u>	1986	Technology
<u>National Institute of Technology, Srinagar</u>	Jammu and Kashmir	<u>Srinagar</u>	<u>NIT#</u>	1960	Technology
<u>Indian Institute of Management Ranchi</u>	Jharkhand	<u>Ranchi</u>	<u>IIM</u>	2010	Management
<u>National University of Study and Research in Law</u>		<u>Ranchi</u>	<u>NLU</u>	2010	Law
<u>National Institute of Technology, Jamshedpur</u>		<u>Jamshedpur</u>	<u>NIT#</u>	1960	Technology
<u>Indian Institute of Management Bangalore</u>	Karnataka	<u>Bangalore</u>	<u>IIM</u>	1973	Management
<u>National Law School of India University</u>		<u>Bangalore</u>	<u>NLU</u>	1987	Law
<u>National Institute of Technology, Karnataka</u>		<u>Surathkal</u>	<u>NIT#</u>	1960	Technology
<u>Indian Institute of Science Education and Research,</u>	Kerala	<u>Thiruvananthapuram</u>	<u>IISER#</u>	2008	Science

List of autonomous institutes

Institute	State	Location	Type	Established	Specialization
<u>Thiruvananthapuram</u>					
<u>National University of Advanced Legal Studies</u>		<u>Cochin</u>	<u>NLU</u>	2005	Law
<u>Indian Institute of Management Kozhikode</u>		<u>Kozhikode</u>	<u>IIM</u>	1996	Management
<u>National Institute of Technology Calicut</u>		<u>Kozhikode</u>	<u>NIT[#]</u>	1961	Technology
<u>National Institute of Technology, Manipur</u>	Manipur	<u>Imphal</u>	<u>NIT[#]</u>	2010	Technology
<u>Indian Institute of Management Indore</u>		<u>Indore</u>	<u>IIM</u>	1998	Management
<u>Indian Institute of Science Education and Research, Bhopal</u>		<u>Bhopal</u>	<u>IISER[#]</u>	2008	Science
<u>National Law Institute University</u>		<u>Bhopal</u>	<u>NLU</u>	1997	Law
<u>Indian Institute of Technology Indore</u>	Madhya Pradesh	<u>Indore</u>	<u>IIT[#]</u>	2009	Technology
<u>Indian Institute of Information Technology, Design and Manufacturing, Jabalpur</u>		<u>Jabalpur</u>	<u>IIIT[#]</u>	2005	Information Technology
<u>Indian Institute of Information Technology and Management, Gwalior</u>		<u>Gwalior</u>	<u>IIIT[#]</u>	2005	Information Technology
<u>Maulana Azad National Institute of Technology</u>		<u>Bhopal</u>	<u>NIT[#]</u>	1960	Technology

List of autonomous institutes

Institute	State	Location	Type	Established	Specialization
<u>All India Institute of Medical Sciences, Bhopal</u>		<u>Bhopal</u>	<u>AIIMS</u> [#]	2012	Medical
<u>School of Planning and Architecture, Bhopal</u>		<u>Bhopal</u>	<u>SPA</u> [#]	2008	Architecture, Planning
<u>Indian Institute of Technology Bombay</u>	Maharashtra	<u>Mumbai</u>	<u>IIT</u> [#]	1958	Technology
<u>Visvesvaraya National Institute of Technology</u>		<u>Nagpur</u>	<u>NIT</u> [#]	1960	Technology
<u>Indian Institute of Science Education and Research, Pune</u>		<u>Pune</u>	<u>IISER</u> [#]	2006	Science
<u>Indian Institute of Management Shillong</u>	Meghalaya	<u>Shillong</u>	<u>IIM</u>	2007	Management
<u>National Institute of Technology Meghalaya</u>		<u>Shillong</u>	<u>NIT</u> [#]	2010	Technology
<u>Indian Institute of Technology Bhubaneswar</u>	Orissa	<u>Bhubaneswar</u>	<u>IIT</u> [#]	2008	Technology
<u>All India Institute of Medical Sciences, Bhubaneswar</u>		<u>Bhubaneswar</u>	<u>AIIMS</u> [#]	2012	Medical
<u>National Law University Odisha</u>		<u>Cuttack</u>	<u>NLU</u>	2009	Law
<u>National Institute of Technology Rourkela</u>		<u>Rourkela</u>	<u>NIT</u> [#]	1961	Technology
<u>Dr. B R Ambedkar National Institute of Technology</u>	Punjab	<u>Jalandhar</u>	<u>NIT</u> [#]	1987	Technology
<u>Rajiv Gandhi National</u>		<u>Patiala</u>	<u>NLU</u>	2006	Law

List of autonomous institutes

Institute	State	Location	Type	Established	Specialization
<u>University of Law</u>					
<u>Indian Institute of Science Education and Research, Mohali</u>		<u>Mohali</u>	<u>IISER</u> [#]	2007	Science
<u>Indian Institute of Technology Ropar</u>		<u>Ropar</u>	<u>IIT</u> [#]	2008	Technology
<u>All India Institute of Medical Sciences, Jodhpur</u>		<u>Jodhpur</u>	<u>AIIMS</u> [#]	2012	Medical
<u>National Law University, Jodhpur</u>		<u>Jodhpur</u>	<u>NLU</u>	2001	Law
<u>Indian Institute of Management Udaipur</u>	Rajasthan	<u>Udaipur</u>	<u>IIM</u>	2011	Management
<u>Indian Institute of Technology Rajasthan</u>		<u>Jodhpur</u>	<u>IIT</u> [#]	2008	Technology
<u>Malaviya National Institute of Technology Jaipur</u>		<u>Jaipur</u>	<u>NIT</u> [#]	1963	Technology
<u>Indian Institute of Information Technology Design & Manufacturing Kancheepuram</u>		<u>Chennai</u>	<u>IIIT</u> [#]	2007	Information Technology
<u>Tamil Nadu National Law School</u>	Tamil Nadu	<u>Tiruchirappalli</u>	<u>NLU</u>	2013	Law
<u>Indian Institute of Management Tiruchirappalli</u>		<u>Tiruchirappalli</u>	<u>IIM</u>	2011	Management
<u>Indian Institute of Technology Madras</u>		<u>Chennai</u>	<u>IIT</u> [#]	1959	Technology

List of autonomous institutes

Institute	State	Location	Type	Established	Specialization
<u>National Institute of Technology, Tiruchirappalli</u>		<u>Tiruchirapalli</u>	<u>NIT#</u>	1964	Technology
<u>Indian Institute of Technology Hyderabad</u>	Telangana	<u>Hyderabad</u>	<u>IIT #</u>	2008	Technology
<u>National Institute of Technology, Warangal</u>		<u>Warangal</u>	<u>NIT#</u>	1959	Technology
<u>NALSAR University of Law</u>		<u>Hyderabad</u>	<u>NLU</u>	1998	Law
<u>National Institute of Technology, Agartala</u>	Tripura	<u>Agartala</u>	<u>NIT#</u>	2006	Technology
<u>Indian Institute of Management Lucknow</u>	Uttar Pradesh	<u>Lucknow</u>	<u>IIM</u>	1984	Management
<u>Dr. Ram Manohar Lohia National Law University</u>		<u>Lucknow</u>	<u>NLU</u>	2005	Law
<u>Rajiv Gandhi Institute of Petroleum Technology</u>		<u>Rae Bareli</u>	<u>INI#</u>	2007	Petroleum Technology
<u>Indian Institute of Technology Kanpur</u>		<u>Kanpur</u>	<u>IIT#</u>	1959	Technology
<u>Indian Institute of Technology (Banaras Hindu University) Varanasi</u>		<u>Varanasi</u>	<u>IIT #</u>	1919	Technology
<u>Indian Institute of Information Technology, Allahabad</u>		<u>Allahabad</u>	<u>IIIT #</u>	1999	Information Technology
<u>Motilal Nehru National Institute of Technology</u>		<u>Allahabad</u>	<u>NIT#</u>	1961	Technology
<u>Indian Institute of</u>	Uttarakhand	<u>Kashipur</u>	<u>IIM</u>	2011	Management

List of autonomous institutes

Institute	State	Location	Type	Established	Specialization
<u>Management Kashipur</u>					
<u>All India Institute of Medical Sciences, Rishikesh</u>		<u>Rishikesh</u>	<u>AIIMS#</u>	2012	Medical
<u>Indian Institute of Technology Roorkee</u>		<u>Roorkee</u>	<u>IIT#</u>	1847	Technology
<u>National Institute of Technology Uttarakhand</u>		<u>Pauri</u>	<u>NIT#</u>	2009	Technology
<u>Indian Institute of Management Calcutta</u>		<u>Joka</u>	<u>IIM</u>	1961	Management
<u>Indian Institute of Technology Kharagpur</u>		<u>Kharagpur</u>	<u>IIT#</u>	1951	Technology
<u>Indian Institute of Engineering Science and Technology, Shibpur</u>		<u>Howrah</u>	<u>IEST#</u>	1856	Engineering
<u>Indian Statistical Institute</u>	<u>West Bengal</u>	<u>Kolkata</u>	<u>ISI#</u>	1931	Statistics
<u>Indian Institute of Science Education and Research, Kolkata</u>		<u>Kalyani</u>	<u>IISER#</u>	2006	Science
<u>National Institute of Technology, Durgapur</u>		<u>Durgapur</u>	<u>NIT#</u>	1960	Technology
<u>West Bengal National University of Juridical Sciences</u>		<u>Kolkata</u>	<u>NLU</u>	1999	Law

PROGNOSIS to be AUTONOMOUS

Philosophies to Govern Higher Education

There is a need to de-colonize minds. Who will do that? It is Education and Education only. Globalization with equity and equality and sensitivities to the basic culture, liberalization with civilization, Privatization with Service motive, and State with Public Spirit should govern the higher education. The State should not shun away from the responsibility of higher education. With a tendency of doing so, we have already done the greatest harm to the nation. The economy should not try to overarch State and Schools of Higher Education. The economy should realize that it is the return of education. Traditional, conservative, bureaucratic, hierarchical model being a big failure and impeding power, we need to recourse to human relations model. Autonomy, transparency and de-centralization ought to be the salient features of higher education.

Sustaining genuine demand of higher education

Approval for the new Higher Education institutions through NOC should be provided on the basis of up-to-date data, need and demand in public interest. In no case it should be a function of vested interests and malpractices. The norms for recognition of the institutions need to be developed and objectively observed, irrespective of who constitutes the inspection teams. There should be valid criteria for admission into the Higher Education Programs.

Correspondence among Objectives, Curricula, Transaction and Evaluation in Higher Education

We are relatively creative in enunciating the objectives of any program. First dilution takes place at designing of curricula, next in transaction of curricula and highest in evaluation. Every higher education institution should observe an inventory of correspondence amongst various elements of educational instruction design. We need to have clear vision and mission. Gaps between these are lowering the higher education. Particularly, mission functional procedures need to be worked out more meaningfully.

Consortiums in and networking of higher education

There should be networking of higher education institutions. More of disciplinary and inter-disciplinary consortia need to be created for sharing of resources. Also, there is a need to establish Consortiums of Research in Education.

Inter-disciplinary & Trans-disciplinary Higher Education

More and more inter-disciplinary programs should be designed and implemented in higher education. It should be mandatory for every student of higher education to opt for a course from other faculties to facilitate trans-discipline, and it should be credited.

Integration of various skills in Higher Education

Various skills, namely, techno-savvy skills, net-savvy skills, Life skills should be integrated in higher education. In addition to cognition there should be adequate focus on affect attributes and psycho-motor skills. Higher Education ought to be wholistic rather than fragmented. Skill, Scale & Speed with adequate theoretical base ought to be the focus of Higher Education. It is high time that we realize the Taxonomy of Higher Educational Skills. Bestowing a status of Autonomous does not make us truly autonomous unless we realize quality in every breath & every bit of our action.

Choice Based Credit system

There should be choice based credit system in higher education. It is possible only when we have innumerable approaches to learning resources, such as, e-contents through open source, learning modules, sharing of credits intra-faculty, and inter-faculties, intra-university and inter-university. Induction of choice based credit system is very challenging, but, highly desirable.

CBCS has become a fashion in Indian Universities. A critical analysis of the CBCS in India reveals that we have choice out of the given, not out of the desired. There are many choices listed, but, rare choices offered. We lack sources & resources. More than inadequacy of facilities, it is more a matter of will. There is rare networking amongst Indian Higher Education Institutions, between Distance & Face-to-Face, Face-To-Face, Public & Private, Central & State. No in-depth research is required to find out the causes. There are more of mental barriers than Physical boundaries. There is rare sharing of courses & credits amongst Higher Education Institutions.

Focus on process norms

If inputs and processes are well taken care of then the output yield and quality are almost ascertained. We do not have adequate mastery on the processes. Some of the institutions have the problem of capacity and burnout, whereas, a sizeable number of them have the problem of throughput and rust-out. Over years we have laid relatively more emphasis on examination reform. We need to reform the processes. There is a need of evolving process norms in almost all areas of Higher Education.

Evaluation in Higher Education

There should be semester based credit system and continuous comprehensive internal evaluation in higher education. various modes of evaluation need to be practiced, such as, activities, assignments, projects, seminars, field work, tests having variety of items, such as, essay, objective and notes. Evaluation should be inclusive of subject specific knowledge, relationship with other subjects, development of psycho-motor skills, life skills and affect attributes. Electronic Distribution of Examination Papers needs to be inducted.

Research in Higher Education

Research in higher education should be revealing and suggestive. Along with scientific realism, there should be added focus on phenomenology, naturalistic enquiry and construction.

Need to observe Intelligentsia & Ethics in Board of Studies, Faculty Boards, Academic Councils & Executive Bodies

The Board of Studies of various Departments & Faculty Boards should abstain from arbitrary decisions. Not only such decisions are harmful for the particular departments & faculties, but also, these have implications for the wider field. All these Boards, Councils, and Bodies should observe their identities and function as per the acts specified in the constitution observing code of ethics.

Innovations in Higher Education

To sustain its identity as Higher, the Higher Education has to be innovative, creative & constructive. The Higher Education ought to be self sustaining through its innovations, production & patents. We feel proud of our Engineers & Doctors who have produced highly valuable products with patents. Our Software Experts are Domain Leaders Globe over.

At the same time many a innovative valuable products of the Indian Scientists decay & die in their laboratories only, because they do not have autonomy, no facilities for clinical trials and patenting to reach the end users.

Autonomy by Gazette & Autonomy by Act

Autonomy is earned through passion, perspiration, perseverance, patience, dedication, full immersion & action. We need Vice Chancellors who are humanistic, competent & risk taking. We need Professors who profess to the level of perfection. We need real DWAR PANDITS for IN & EXIT. We need Politicians who are Statesmen & RAJRISHIs. We need Scholars who can reveal the Truth, being Compassionate & Forbearing.

We feel proud of the Vice Chancellors, who could exercise their autonomy in recognizing the Innovative Degree Programs, whose Graduates are Domain Leaders globe over, whereas, the apex bodies and councils granting autonomy failed even to consider and recognize such powerful programs. Higher Education demands Vice Chancellors of very High Profile.

Operation for Realizing Autonomy

Most of our quality control indicators, such as, Anti Plagiarism Software (APS), Academic Performance Indicators (APIs), External Evaluation System, NET & SLETs seem to be Anti-Autonomy. This is how we are grossly wasting the National energy in realizing Quality.

We have entered into a vicious net of Anti Plagiarism Software, Academic Performance Indicators, State Level Eligibility Tests and National Eligibility Tests, and at the top of all Assessment and Accreditation by NAAC.

When we are down with Academic Plague Epidemic

Why do we require Anti plagiarism Software?

We do not have even a single Nobel Laureate during eight decades

Why there is a need to run TURNITIN, PLAGUETRACK, DUPLICHECK & ITHENTICATE?

When we have polluted, both, our GANGA & SHODH GANGA

Why do we need CROSS CHECK, PUBLICATION, & CUSTOM REPOSITORIES?

When we have lost our HERITAGE, INNOVATIVENESS & RESEARCH QUEST

Why there is a need to be painful detecting Theft & Piracy?

Anti plagiarism Software & Academic Performance Indicators

Disregard Identity of our Higher Education

Mechanized Research, Gone Innovations, Empty Publications

Are these the Ocean of our round the clock Production?

Shedding off APS & API we need to identify with us & our problems

In every breath, at every step, in every experiment, on every path

We need to kindle fresh thinking, spring innovation & Invention

We need to accept ourselves & Awaken HIND & HIND SWARAJ!

We need to treat our Higher Education humanistically. Let the services of Top Scientists be respected in India. Let us develop Software to identify Innovations in India. Let us have indigenous Quality Control in our Academic Institutions, so as to have Knowledgeable, Humanistic, Competent Graduates, not merely wearing Scarf & Holding Degree, but resonating with the universe with complete invocation & immersion. More than external controls let us learn to observe inner quality. There are Pioneers & Pioneers in India. Let us revive our heritage of Takshila & Nalanda. Let us revive our respect for Education. Let us revive Identity of Education. Let us respect Education.

Suggestions to Realize Higher Education Autonomy in India

1. Education should be placed only in the central list.
2. There should be uniform curricula of Science, Mathematics, Engineering , Technology, and Medicine throughout India, to control any further dilution.
3. The Liberal Arts should be fully strengthened. The power of India can be revived through the Cultural Heritage & Religious Heritage of India. We do not have any right to treat the Liberal Arts casually, arbitrarily.
4. Teacher Education Policy, Health Education Policy, ICT Education Policy should have the same status as that of Economic Policy and Fiscal Policy.
5. Minimum 5% GDP should be spent on Education.
6. Minimum 1 to 2 % of the GDP should be spent on Research.
7. The Ph.D. Course Work made mandatory has mechanized Research in all the disciplines, all over India. The nation should attempt, aggressively, to de-mechanize research.
8. The Academic Performance Indicators, the latest Joke & mockery of Indian Higher Education, need to have fully- fool-proof Scientific Bases. The prevailing scenario calls for a Countrywide Reflective Dialogue. Here is a caution not to leave it to the mere discretion of any Chairman, Committee or Commission.
9. Grants & Endowments are respectable in the Realm of Education, but, to sustain the status as “**Higher Education**”, the Higher Education should construct its own Patents to be independent & self-supportive.
10. Higher Education should realize autonomy in its True Sense and Spirit. It should no more be governed by Bureaucratic, Conservative, Hierarchical systematically Self-Killing System. No body will bestow autonomy. We Higher Education Students , Teachers, Support Staff & Administrators , only, have to initiate a **Higher Education Freedom Movement**.
11. No State should ever commit the mistake of superseding Education, because if Education is dead the Nation is dead. The bureaucrats, however learned, be advised to abstain from even thinking of superseding Education. To revolt against any bureaucratic threat the **Education has to sustain and demonstrate its true identity**.
12. Who is the most Supreme Governor of India? Is it Education? Is it Society? Is it State? Is it Legislative? Is it Executive? Is it Judiciary? The immediate history is a witness to Judicial over-activism. Why? No in-depth evidence is required to infer that all the rest have more or less lost their identities. It is bitter to relish the hard reality. The fact is that we all have over loaded the Judiciary to be over-active. Due to over-load on any system, either it goes mad or burns out. **It is Education and Education only, and more so, the Higher Education, which can bewitch the minds and control the crimes**.
13. Let us introspect, whether, we are performing our duties and roles properly. Convention on the Rights of Children assures Children of their Rights, but, who will ensure. Universal Declaration on the Human Rights declares Human Rights, but who will observe Human Rights. Does the Constitutional Right to Education Ensure Education? Unless wholistic systemic reforms are done systematically, scientifically, no single agency can help the universe. Shall we recall the Philosopher Honorable Servapalli Radha Krishnan ? Where from to reproduce the whole embody? Even, the parts of the old machines are not available. Let us innovate. Who stops us? **There are wide gaps between**

idealism & realism. Unless each one of us is fair, sincere and dedicated, not even God would like to help us.

14. The entire Higher Education is sick right from Higher Education Policy to Practice, from Gross Enrolment Ratio to the % of the Pass-outs Employed. Over and above, the norms at all phases of the system parameters are highly wanting. ***The input norms, process norms, output norms, pick-place & promotion norms have to be worked out very scientifically. Any deviation from the norms should be strictly punishable, irrespective of who we are.***
15. *There is no Parallel amongst the Higher Education Institutions across India. Why? There is no comparability amongst the products of the various institutions, though towards the same PG Degrees or PG Diploma. The services rendered in one State largely do not count towards the service benefits in the other States. The superannuation age varies from State to State, State University to Central University. It ranges from 58 to 70. It is because neither we owe an explanation to the self nor to others. The Higher Education Institutions have become merely political hubs.*
16. *Could the Higher Education respect and inculcate all the essential values, such as, Truthfulness, Reliability, Responsibility, Honesty, Discipline, Patriotism, Citizenship and above all Humanism. We should respect the non-native, but, first of all, let us learn to love the self and indigenious. The foreign Colonies have gone, but still we have, external imperialism acculturation and culture. **When will we learn to love and adore the Indian?***
17. *Is there no Press and Publisher in Our Village, Town, City, District, State, Neighbour State, Nation, Continent, that we like to fly to Oxford, Cambridge, VDM, to get our publications done? It is good that through this plight we are trying to realize the Universe- ideas ought to be distributed and disseminated globally. But, the problem lies else where- **We value more where it is published rather than what is published.** We are seeking high- fidelity media. Cannot we develop these in India? There is a caution to all of us to revise our thinking. Let us learn to Love My India.*

Concluding Remarks

With all ifs and buts, the Indian Higher Education has its own strength. The struggle of the average middle class families for higher education of their young ones is remarkable. Higher Education is the highest priority for them. In fact, these are the people who are helping higher education to sustain and develop its identity. Neither the international institutes of higher education, nor the virtual foreign universities can nurture the Indian youth, but it is the indigenious education which can evolve and actualize the self. A thorough analysis of the product of higher education can reveal a lot. We feel proud that we, the innocent public of India have constituted a sovereign, socialistic, secular, democratic, republic India. No economy, howsoever developed, no state howsoever advanced, no judiciary howsoever knowledgeable should commit the mistake of superimposing education, and more so higher education. There is a need to realize inter-disciplinary, trans-disciplinary, inter-domain, wholistic autonomous higher education for harmonious living. Autonomy, Accountability, Quality, Perfection, Concern, Identity, Innovation, Construction, Connection go together.

Higher Education Governance: Status, Vision & Mission

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Introduction

Higher Education in India is being governed more by neo-liberalism, neo-capitalism and neo-colonialism. The increase in the demand of higher education be it liberal or technical is unmanageably large, rapid and pressing. Public and private dichotomy continues to be there in the higher education. The governance & administration of Higher Education ought to be based on scientific, democratic, humanistic principals. CBCS is being largely implemented in higher education. There has to be a significant shift from F2F to e-mode to distance mode. Apex agencies are still lost in the dual mode of granting & monitoring. Higher Education continues to be governed by bureaucratic, conservative, hierarchical and obsolete model. The problems of sharing of sources, resources, inter-disciplines and trans-disciplines are being resolved. Higher Education needs more of germination, incubation, innovation, creation, construction and connection through decentralized devolution. Learning from the profiles of Nalanda & Takshila the culture of Higher Education needs to be revived and even trans-created. We will have to do away with ritual convocations which are very often without invocations. The top academic leaders & administrators of Higher Education have to be creative & critical inter-disciplinary and multi-disciplinary experts having rich profiles and balanced personalities. The Professors ought to profess at the levels that every bit of their text and act is its own testimony. The support staff ought to support & guard Higher Education, always and all ways, every moment, everywhere, under all conditions. Higher Education rather than stretching hands for grants will generate corpus of funds through its own production and patents. Art without perspective, Commerce without substance, Science without ethics and Administration without sensibilities and sensitivities and Leaders without creative & critical thinking, decision making and problem solving abilities are worthless. Erecting tall buildings, with the foundation stones laid down by the tall, and pumping in huge public exchequer do not ensure Higher Education. Higher Education will have to revive its identity as higher. The Higher Education has to be innovative, creative, constructive and connective to sustain its identity as higher every moment, be it liberal or technical. With all ifs and buts, the Indian Higher Education will continue to be higher and keep serving the universe with all dedication, addressing universal problems. New Age Institutions are being

created and old age renewed for continuous updating of knowledge and skills, developing inner power and social ethos. There will be phantom use of resources. Harmonious coexistence, peace & harmony, health & hygiene, production & Marketing, Scholarship & Exchange, indigenous creation & trans-creation, research & construction will be the salient features of Higher Education.

Revival of the Ethos of the Ancient Indian Universities

Mohammadali Carim Chagla (30 September 1900 – 9 February 1981) was an Indian jurist, diplomat, and Cabinet Minister who served as Chief Justice of the Bombay High Court from 1947 to 1958. He was Honourable Education Minister of India from 21.11.1963 to 13.11.1966. He suggested the Kothari Commission to focus on Professional Development of the Teachers and Status of Teachers, also . Kothari Commission was an ad-hoc commission set up by the Government of India.

1. Kothari Commission was formed on 14 July 1964.
2. On 29 June 1966, Kothari Commission was dissolved.
3. It was formed under the Chairmanship Daulat Singh Kothari. He was the then chairman of University Grants Commission (UGC).
4. Kothari Commission was the sixth commission in India, post-independence but it was the first commission mandated to comprehensively deal with the education sector of India.
5. The Kothari Commission had a Core group of 20 members.
6. The commission took a consultation from a panel of 20 overseas consultants, who were based out of the USA, UK, Japan, France, Sweden. They were experts in the education domain.
7. There were 19 Working Groups or Task Forces in the Kothari Commission.
8. In a span of 21 months, the Commission had interviewed 9000 people who were working as scholars, educators and scientists.
9. The Report was submitted by the Kothari Commission on 29th June 1966 to M.C.Chagla, the then minister of education.

But, It seems that our Education right from ECCE through Higher Education is in quest of identity. Who is accountable for this chaos in Education? All of us or none of us! At times it gives a feel that teachers are good for everything, whereas, at times they are good for nothing. Everyone needs to introspect why!

As per NEP (2020: 9.1.1); "Given the 21st century requirements, quality higher Education must aim to develop good, thoughtful, well rounded, and creative individuals. It must enable an individual to study one or more specialized areas of interest at a deep level, and also develop character, ethical and constitutional values, intellectual curiosity, scientific temper, creativity, spirit of service and 21st century capabilities across a range of disciplines including sciences, social sciences, arts, humanities, languages, as well as, professional, technical, and vocational subjects. A quality higher education must enable personal accomplishment and enlightenment, constructive public engagement, and productive contribution to the society. It must prepare students for more meaningful and satisfying lives and work roles and enable economic independence."

Life is defined by choices & actions, culture & cultivation, conditioning & de-conditioning, germination & incubation, innovation & creation, construction & connection, zooming out and zooming in, divergence & convergence than by degrees & designations, powers & positions! We feel proud that ARYAVRUT is our Motherland who has inculcated in us various attributes & values for Liberation & Renunciation. We believe in harmonious co-existence. We have immense powerful leadership to peacefully revolt against any threat.

Engineering Colleges need to focus more on laboratory than theory

“According to TV Mohandas Pai, Chairman of the Manipal Global Education Services Pvt. Ltd. Delivering the Keynote address at the virtual meet on “Promoting entrepreneurial ecosystem in coastal Karnataka”, organized by Manipal Academy of Higher Education (MAHE) and other universities, he said that there is too much theory in engineering courses now. Even old theory which is no longer relevant is being taught.

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alt_text

Audio

Gadget of the week: Poco M3

Alt_text

Auto-Focus

Test Drive: Is BMW’s Series long wheelbase ‘Gran’ enough? We test drive the sparkling new 320Ld to get the answers. So, should this be your next Limo?

Alt_text

Commodity-Analysis

SHORT TAKE

How to hedge while doing long straddle?

Create a lot more lab work experiments so people can be curious, and put that into the degree programs too, he said. Pai said it is the application of engineering principles that matters, and not the theory. Suggesting the need to introduce coding at early stages of study, he said now coding has become a life skill just like reading, writing and mathematics did to the older generation. When the students learn coding, they can identify problem as software is going to be the dominant force all over in future technologies, he said.

Cutting-edge tech

Urging the need to create higher quality skills among students, he said many engineering colleges are yet to focus on courses in big data analysis, artificial intelligence, machine learning. Making a point to teach entrepreneurship as a course program in colleges, he said such programs will help them understand all the issues related to entrepreneurship. He asked the participants of the virtual meet to make sure that the coastal Karnataka becomes the hub of entrepreneurship and at least 20-30 unicorns

come out of the coast by 2030. Prakash Rao Kalbavi, Chairman of Mangaluru chapter said that CII hopes to play the critical role in bridging the gaps in the industry- academia interactions and try to create the spirit of entrepreneurship in students . My call is that it is not just the students who need this exposure, but more importantly the faculty too. He said that the educational institutions in the region should create an entrepreneurial cell that will focus on creation of start-ups even while the students are learning.”

<https://www.thehindubusinessline.com/news/national/mohandas-pai-asks-education-institutes-to-focus-on-lab-work-teach-coding/article33822280.ece>

Doctoral Research Scenario at the MSU, Vadodara- Gujarat_India

Devraj Goel & Harsha J. Patadia (2014) conducted a study of the Doctoral Research Scenario at The Maharaja Sayajirao University of Baroda, Vadodara. It has been a bliss to explore & resonate with the research culture, particularly, doctoral at the Maharaja Sayajirao University of Baroda, Vadodara, Gujarat, India. As a whole the research culture, here, at the MSU is enlightening. The implications of the study are as follows:

- ***Social Sciences***

1. There should be Health Education Policy in India.
2. Special Courts be established in India to deal with the environmental issues, because, neither the Lawyers are competent to plead on the environmental issues, nor the judges are capable of constructing & flagging the judgments.
3. Doctoral studies should be promoted on the relative role of Legislative, Executive & Judiciary in India.
4. There should be added focus on Qualitative Research and Mixed Methodology. Social Sciences should evolve indigenous Research Methodology.
5. There should be Advanced Research on Food & Nutrition, Clothing & Textiles, Hotel Management & Catering Technology, Fashion Technology, Family & Community Resources, Extension & Communication, & Nutrition Counseling.
6. “In the context of my Research on Peace & Conflict Resolution, I wish to envisage a more peaceful and cooperative South Asia where power lies with the people of this region. I hope and wish to propagate a message for more peaceful and cooperative relations between India & Pakistan. I hope through my Research, I will be able to contribute to the vision of peaceful relations between both countries. I hope people of both countries are able to face problems of poverty, illiteracy, malnutrition together and cooperate to build a more peaceful South Asia. I wish that my Research Empowers the People of both countries to strive for peace & build a better sub-continent. This is my message to the people of not only India but also Pakistan.” (mailtonidhi@sify.com)
7. “There should be democratic leadership, decentralized management, division and specification of work for the employees, and task orientation.” (Prof. N. Pradhan, 03.02.2014, 1742)

8. “Grass Root Theories demand full immersion of a scholar over years into the problem of quest, scholarly propositions, bit by bit, moment by moment, exploration & equation of concepts & configuration of equations. This is how the grass root theories express & explain the reality.”(Prof. S.C.Panigrahi, 12.02.2014, 2100)
9. Harendra is pursuing Ph.D. on- Comparative Effectiveness of Sonja Lyubomirsky’s Activities & Hypnotherapy on Happiness & Mental Health. According to him 50% of happiness is by birth, that is, Genetic Set Point, 10% due to Life Circumstances, whereas, 40% with the intentional activities, such as, meditation, flow & immersion, gratitude, forgiveness, kindness & Physical activities. He is studying the relative contribution of the Activities- Expressing Gratitude, Cultivating Optimism, Avoiding Over Thinking & Social Comparison, Practicing Acts of Kindness, Nurturing Social Relationship, Developing Strategies for Coping, Learning to Forgive, Increasing Flow Experience, Savouring Life’s Joys, Committing to One’s Goals, Practicing Religion & Spirituality, Taking Care of Body-Meditation, Physical activity, Emulating Happy , in consciousness, with in Trance employing various techniques for hypnotherapy, such as, Breath Watching, Progressive Muscular relaxation, Breath Watching with PMR, Visualization of Garden, Classroom, River Bank, Mountain, Home, Sea, Pond, Sky & Space. The current research is expected to be one of the pioneer researches in the field of Positive Psychology in India, presenting a model for betterment of Life. We need to appreciate the concern of Dr. Renu Sharma for initiating & grooming Harendra into the realm of Happiness, but, for the rigidity of MSU O.Ph.D. 6(i).

- ***Fine Arts & Performing Arts***

10. “Art History is an area of study which has great relevance in country like India where each and every village will have its own cultural & visual tradition. Ignoring it will lead to the collapse of the great Indian Culture.” (*Jayaram Poduwal, 2014*).
The Faculty of Performing Arts has high potency for Research. There is an immediate need to revive research rigor & culture.

- ***Faculty of Arts***

11. The Departments of languages should sustain & strengthen their Research on Literary Criticism.
12. “Gianni Kshitije Vistre Anathi Vishesh Uplabhdhi Koi Hoi Shake? Vistari Rahi Chun Aeno Pritosh. Avkasho Madta Rhe Ane Stat Jodayla Rahi Shakya Ane Abhyas Thato Rahe Aathi Vishesh Hun Mara Jeevan Ne Kashun Aapi Shakeesh Nahin.” (*Urvi Tewar, 24.01.2014*)
13. “Sanshodhan Ae Gyanvradhi Ane Vishodhanni Ek Lambi Prampra Che. Lalitkadaon Uprant Manavvidhaona Kshetrman Sanshodhan Karyani Uttam Prampra Rhi Che. Manushya Chetnanan Vividh Parimanoni Abhivyakti Thai Che. Ae Parimanonu Undan Janva Mate Sanshodhan Karya Jaruri Che. Sanshodhan Dwara Vanjodaylo Anek Pradesho Prakashma Ave Che. Tethi Marun Manvun Che Ke Sanshodhan Karyana

Name Thati Pravartioni Kadak Sameeksha Thavi Jaruri Che.” (Prof. Jayesh Bhogyata, 24.01.2014)

14. *“Ph.D. work is cooperative work. MSU Archaeology has provided support both intellectually and practically in my research. My studies would have been incomplete without the aid of both the Professors and Students here. Ph.D. in India trains students in all areas. Sometimes I feel we are too specialized in our studies in the U.S. and this is why many new Ph.D.s are struggling in the job market.” (Sneh Patel, 25.01.2014, 1737)*
15. Research should be promoted on Conflict Resolution, and more so, between India & the neighbouring countries.

- **SCIENCE**

16. The development pace of India necessitates identification of new water resources, and conservation and protection of water resources. The hydrologist’s role is becoming imperative to direct appropriate path for future research that shall benefit society at large.(Prof. Krishna Chandra Tiwari, 22.01.2014)
17. It is important for the survival of mankind to understand the behavior of the landscape in the recent past. Also, it will be worthwhile to investigate the active faults which can generate medium to high density earthquakes in future. (Prof. Laxman Singh Chamyal, 22.01.2014)
18. Research at the Genome Research Centre should be strengthened. The MSU should continue seeking the services of Prof. B.B. Chattoo. Why not the rare expertise be honoured by registering new Doctoral Scholars with him, even post-superannuation. The State should revise the special GR with respect to the superannuated. The special GR is non-academic with respect to the talent & experience of the elderly. The Genome Research Centre should be expanded & developed. There should be research in many more areas.
19. The research on Ancient Metallurgy, Intangible Heritage, South Asian Urbanism and Pre-History being guided by the Department of Archaeology & Art History should be further promoted.
20. The Research on Isolation of bio-molecules for diabetic therapies, both, Type1 & Type2 should be further strengthened by the Department of Bio-Chemistry.
21. As expressed by Prof. Sarita Gupta (11.02.2014, 1645)-
“Life Science Departments are moving towards interdisciplinary research. Department of Biochemistry is mainly focusing on understanding pathogenesis of diseases, like, diabetes, vitiligo , cancer & designing biomarkers and therapeutic intervention with new concept & stem cell research. Presently with the DBT interdisciplinary project we have high end equipment facility which will further strengthen our research which has direct implication in translational research. Another focus of the Department is on Metabolic Engineering of microorganisms in phosphate solubility for increasing plant growth. Also, effect of environmental pollutants on human health, specially, with reproductive system is being elucidated at molecular level in Hypothalamus- Pituitary- Gonadal axis.
(saritagupta9@gmail.com)

22. Further, Vikram Sarabhai Centre for Integrated Teaching and Interdisciplinary Research has provided the State of Art facilities for high end research and there is a need to strengthen this centre.

23. According to Prof. G. Naresh Kumar(11.02.2014, 1700)-

“Phosphate bio fertilizers will help to sustain agriculture without using Phosphatic Chemical fertilizers, which we currently depend upon import of the raw material (Mineral rock Phosphate) from other countries. Additionally, energy inputs required for production of Phosphate fertilizers will be minimized , combined with decrease in pollution caused during their protection.”(gnaresh_k@yahoo.co.in)

24. Research on Dynamic System Topologies ought to be further strengthened by the Department of Mathematics.

25. A Study has been conducted on Molecular Materials. The intent was to arrive at better quality Ferro- magnet and Ferro-electric and Organic Magnet. Though the study could not arrive at Organic Magnet, but, it was successful in constructing better quality Ferro-magnets & Ferro-electrics.

- **Engineering & Technology**

26. Waste from Iron & Steel Plant should be utilized properly, otherwise, India will face shortage of Iron ore in future. At present wastes are not used, used as road filler etc. So, wastes should be used.”(Prof. S.K. Dutta, 27.01.2014, 1700)

27. Facilities should be created at National level for providing clinical trial facilities. The institution should fund patenting like PCT applications and US and European Patents.” (Prof. M.R. Yadav, 27.01.2014, 1745)

28. As expressed by Prof. (Dr.) Debapriya P. Chattopadhyaya –

“There is enormous potentiality of applying nano technology for improved performance of textiles.”(28.01.2014, 1615). In addition to the various points discussed I would like to raise a very important point which puts a big hurdle in our research. That is the cost of testing. The testing charges of instruments like Particle size analyser, Scanning electron Microscope, X-ray Diffraction, Differential Colorimeter, Atomic Force Microscope, Transmission Electron Microscope are very high. There is no single department where all these instruments are available. Some of them are not even available in our university. Students get their samples tested in different departments or other institutes. Many a times it becomes difficult for the students to arrange testing charges

Some of the nano testing is very expensive. We in the department of Textile Chemistry started synthesis, characterization and application of nano particles on textiles probably first in India. But we always faced problem in testing. So, if the facilities available within university are made free or arecharge very nominal to our research students it will enhance the quantum of research, as many a times we had to compromise in this area. We in the University may also

keep separate fund for it where it can be charged. We have to generate fund from testing samples of other than M.S. University.

Secondly, beside doctoral research our PG students also do good research. The facility should be extended to them also. (Prof. D P Chattopadhyay)

29. As expressed by Prof. Deota P.T. (28.01.2014, 1650) –“Policy should be framed so as to encourage more and more students to join Ph.D. Program & sufficient funds should be made available for the fellowship as well as research. Entry to Ph.D. Program should be made more easy and less cumbersome. We have developed technology for isolation & estimation of Azadiarachtin from Neem Seed at lab scale. We would like to pilot scale up and establish it , so that, it can be beneficial to small and medium scale industries. It should be noted that world is favouring Bio-Pesticides in place of Chemical Synthetic Pesticides for obvious reasons & hence this project carries a lot of significance for India in particular and world as a whole.”(deotapt@yahoo.com)
30. “The Research Output should reach the common people of the country. The study of Basic Sciences and the Products coming out of the Fundamental & Applied Research, like, nano particles & nano quasi-crystals are extremely useful in the treatment of diseases caused by bacteria & viruses.”(apratapmsu@yahoo.com)
31. “Foreign Universities are getting more of Indian Patents than the Indian Universities.” (Prof. A.N. Mishra, 28.01.2014, 1405). Though the Department of Pharmacy has got number of Patents, but, a sizable number of applications are pending with the Drug Controller General of India. Financial requirement of the process of Patenting is so heavy, that round the clock efforts of our Scientists are not duly respected. We are addicted to the product of the West, be it drugs or machines. When will we revive our values for the indigenous?
32. As per the MSU SR one cannot be the coordinator of a Self Financed Course for more than 3 Year. This SR ought to be immediately revisited, because, very often, no one else is capable of identifying & engaging with the innovative course so deeply as the originator coordinator, , such as, change of Coordinators of the Program M.Sc. Petroleum Geology and P.G. Diploma in Disaster Management has resulted into the degeneration of these innovative ventures.
33. The sanctioned amount of the Project MODROB was remitted by the funding agency (AICTE) to the University Account during January 2013. But, the University Account Section could not verify the remittance. Hence, the Project MODROB of Prof. M.R. Yadav, Department of Pharmacy has been delayed by more than one year. He got the information with respect to this by seeking information from the funding agency through RTI. This calls for immediate revamping of administrative set up of the Accounts Section of the University. Preferably, it will be desirable that the Director, Corporate Research Cell and the Development Officer of the MSU work in unison.

34. The Application of Prof. Shishir Raval of Head, Architecture has been pending with the Academic Section of the University for Recognition as a Ph.D. Guide for more than two year. It ought to be immediately looked into.

- ***Medicine***

35. The MSU should have provision for Ph.D. in Medicine in the PET of the MSU without further loss of time, cognizing the storm of health problems of India.

36. Norms of the Medical Council of India regarding Ph.D. ought to be revisited.

37. “Research is really an area of Priority but it is required to develop Research Facilities & Funding. There should be Ownership of Government to Continue Research Activity as Key Term Basis, not on Tenure Based Research”(deanmcbrd@gmail.com)

38. “Research in Medical Colleges are highly desirable. We need to think in a broader way to facilitate Research in Colleges. Reward Research to attract the Best Brains.”
(vilang.mazumdar@gmail.com)

- ***Journalism & Mass Communication***

39. The Faculty of Journalism & Mass Communication should initiate into Doctoral Research.

- ***Physical Education***

40. A Physical Education Faculty should be established in the University. It should offer various Degree Programs.

- ***Ph.D. Course Work***

41. “There is only a little acceptance of the Scheme of Ph.D. Course Work. There is a lack of conceptual support. There is no merger with the Faculty Programs. It is more of an inorganic administrative directive than organic academic emergence & evolution. Each subject has its own nuances. Attempts should be made to design discipline compatible Ph.D. course work. As far as the common course work is concerned, the heterogeneity is being treated through homogeneity. The course work is based on commonality. Rarely attempts are made to customize to the problem & discipline.”(Prof. G.C. Maheshwari)

42. Sizable inputs of the Theory Courses could be online, to liberate a sizable number of outstation scholars from spatial & temporal rigidity.

43. There should be more sessions on data processing.

44. There should be added focus on Research Reporting Skills.

45. Research Methodology for Qualitative Research should be strengthened.

46. There is a need to design more suitable Ph.D. Course Work for the Faculties of Art, Fine Art and Performing Art.

47. There should be sessions on mixed methodology.

- ***UGC & Research***

48. The Ph.D. course work as introduced on the recommendations of the UGC is being conducted in a mechanized manner. There is an urgent need to structure it in such a way that it fulfils the important functions of initiation into the Research Work.
49. The UGC should design, develop and implement Ph.D. Course Work for all the Scholars of Higher Education of India, centrally, with sizable e-learning modules.
50. The amount due to the fellowships of JRFs and SRFs by the UGC , as well as, under UGC SAP is released almost at the end of the financial year. It has been affecting the Doctoral Research & the SAP very adversely through out the country. The UGC should release the funds in time, so as to facilitate research & the Special Assistance Program.

- ***State & Research***

51. There is rare, rather, no concurrence of the State Government to the new Projects and Positions sanctioned by the Central Government, to own it after the initial Project Period. This indifference of the State Government is a Countrywide phenomenon which is evident through the treatment of almost all the States. Then, why not Education be shifted from the concurrent list to the central list.
52. There is a good number of Academic Permanent Positions lying vacant for a long period. This is affecting the R & D Work for which MSU has been known. This should be taken up on a priority basis.
53. Each State in India should have an Academy of Administration. All the Educational Administrators should be thoroughly groomed in these Academies. Higher Education Administration is a very delicate & complex discipline.
54. The State GR putting embargo on the age proves to be non-academic as the retired Teachers are not allowed to register Scholars for Research Work. This is not only against the established practice, both, in foreign universities and universities of other States in India. This will help utilize the matured talent of the State.

- ***Researchers & Guides***

55. There should be a Researcher Forum constituted of all the Ph.D. Guides & Doctoral Scholars, at least, once a Year at the Faculty level.
56. There should be a Research Court of all the Ph.D. Guides at the University level, at least, once a Year.
57. All the Doctoral Scholars of the MSU should have Periodical Researchers' Meet to share their Problems & Issues, Solutions & Reliefs.
58. Each & Every Teacher of the Maharaja Sayajirao University of Baroda should publish minimum two data based Research Papers per Year.
59. To realize international standards "one guide and one student" model needs to be evaluated and reconsidered, certainly, at the least, it cannot and should not be applied to all disciplines. in my opinion it should be discontinued and a more committee structure with qualifying examination should be adopted / adapted.(Prof. Raval Shishir R.)

60. There should be some procedure to calculate work load if a faculty guides a Ph. D. student. Guidance on all the factors related to becoming a Ph .D. Guide or a Ph.D. Scholar should be given, especially to new guides and students.

- **NET, SLET & PET**

61. The Departments of Botany & Zoology do not get good number of students, because, the eligibility tests, such as, NET, PET, under Life Science paper have been reported to have 80 % contents of Bio-Chemistry, Bio-Technology, and Micro-Biology, whereas, the content coverage of Botany & Zoology is only maximum 10%, each. It ought to be resolved.

62. The difficulty level of Paper-1 of MSU PET ought to be validated. It has affected the Ph.D. intake significantly adversely.

63. The contents of the NET, SLET, and PET ought to be with wholistic & global perspective.

64. The current process of conducting a pet (albeit developed and required by the ugc) is too limited, to say the least. we must find a better way and must allow the concerned department and its faculty to have more say in this selection process. The willingness and availability of potential ph d guides / advisers should also be taken into consideration.

- **Universal Character of the MSU**

65. MSU admission criteria at the under graduate and post graduate levels should not close doors for the outsiders (70% MSU, 20% from Gujarat other than MSU, and 10% from outside Gujarat). Along with the cosmopolitan character the university should have Universal Character, both in-look & out-look. We need to renew the curricula of all the faculties, programs and courses, and re-establish norms for most of the parameters.

Philosophies Governing Higher Education

Indian higher education is being governed by neo-liberalism, neo-capitalism, and neo-colonialism. The Private Sector is replacing Public Sector. Private Colleges and Universities are being opened. Foreign Universities are offering Programs in India & Indian Universities abroad. There is borderless reach for the students of various countries. Earlier the Society was governing the Society. Then the State started governing the Society. Now Economy is overarching both the Society & State. Our Society, Culture, Polity, Education all are being governed by capitalism. Foreign Degrees are being offered in India, whereas, Indian degrees abroad. But, the Higher Education is very High Price , because, there is commoditization of Higher Education. There is In-equation of Compensation and Performance. Return on investment is measured in terms of Money & Material rather than Human Development Index (HDI) and Universe Development Index (UDI). Those who have power to purchase higher education of any kind, from anywhere, at any time can purchase it. These producers and consumers have liberal, borderless, global markets. But, do we get what we want from higher education? We are used to food of our choice, our taste, our suitability, anywhere, anytime, any condition. Now, why are we trying to bring in fast food, fast information, cafes, expecting the consumers to change their tastes as per the tastes of

the producers. Fast food, though, provides us more of choice and a variety of strange taste, but, it bewitches neither the body, nor the mind, forget about the spirit. Higher Education, which perceptually is the regime of these neo-isms is the regime of none of these. We need to revive our values and ethos. It is only inculcation of values and sensitivity to the basic culture, which can help us.

Education must be with the service motive than with mere profit motive. Authenticity of Education ought to be observed. There is a need to enhance the fidelity & testimony of Indian Research & Researchers, Indian Press and Publishers. There is a need to Appreciate & Respect the Indigenous. Heart & Brain Entrainment Ratio of the Neo-Governors needs to be properly observed. Higher Education Institutions should not be permitted to become political hubs. Higher Education demands peaceful & harmonious ambience.

Increasing Demand and Dilution

The increase in the demand for Higher Education, be it liberal or technical has been unmanageably large, rapid and pressing. Particularly, Law, Commerce, Engineering and Education Faculties are over loaded. Higher Education is at the cost of the innocent public, which is investing with high hopes, but, little returns. There are problems of transition from +2 stage to higher education institutions. We have blind floods in higher education, neither knowing their origin nor destination. There are gaps between the academic attitude and academic aptitude of sizeable students enrolled in higher education. There are gaps between the teaching attitude and teaching aptitude of sizeable teachers employed for higher education. There are imbalances in student & teacher strength in various streams and programs. We have market oriented higher education be it admission, instruction or placement. There is tough competition. Gross Enrolment Ratio in Higher Education in India is wanting. Less than 25% of the Pass-Outs are employed in the formal sector. Significantly greater number of Universities/ Higher Education Institutions is required to attain higher gross enrollment. There is a shift from F2F mode to Distance & e-Mode.

Higher Education Scenario

The Gross Enrolment Ratio (GER) in higher education of Indian has registered an increase from 24.5% in 2015-16 to 25.2% in 2016-17 according to latest All India Higher Education Survey (AIHES) released by HRD Ministry.

The survey findings were based on responses of 795 universities, 34,193 colleges and 7,496 standalone institutions. There are total of 864 universities, 40,026 colleges and 11,669 standalone institutions in the country.

Key Highlights of AIHES

Gross Enrolment Ratio (GER): GER is statistical measure for determining number of students enrolled in undergraduate, postgraduate and research-level studies within country and expressed as a percentage of population. India is aiming to attain GER of 30% by 2020, but it is still far behind countries like China with GER of 43.39% and US with 85.8%.

The proportion of students pursuing higher education in India hasn't increased dramatically from 2015-16 to 2016-17. It was in range of 23% to 25% since 2013-14. Tamil Nadu has highest GER in India at 46.9%.

Six states have registered GER higher than national average (25.2%), with their share of students entering higher education is growing twice as fast as overall rate. These states are Tamil Nadu (46.9%), Himachal Pradesh (36.7%), Kerala (34.2%), Andhra Pradesh (32.4%), Haryana (29%) and Punjab (28.6%).

However, eight states UP (24.9%), Madhya Pradesh (20%), Odisha (21%), Bihar (14.4%), Gujarat (20.2%), Rajasthan (20.5%), Mizoram (24.5%) and West Bengal (18.5%) had GER ratio far less than the national average. Bihar has lowest GER with just 14.4% of its eligible population (in age group of 18 to 23 years) pursuing higher education.

Gender Parity Index (GPI): India registered its best performance on the GPI in last seven years — 0.94 in 2016-17 from 0.86 in 2010-11. GPI is calculated as quotient of number of females by number of males enrolled. GPI equal to 1 indicates 1, value less than 1 indicated disparity in favour of males. In Seven states — Goa, Himachal Pradesh, Meghalaya, J&K, Nagaland, Sikkim and Kerala — women in higher education have outnumbered men.

College density: States in south India have higher college density. It is defined as number of colleges per lakh eligible population. The college density in top three states/UTs is Puducherry (49), Telangana (59) and Karnataka (53). Bihar (7 colleges/1lakh population), Jharkhand (8) and West Bengal (11) on the other hand, are at the bottom in terms college density.

Number of foreign students: There hasn't been much improvement in the inter-nationalization of education in the country. There is marginal improvement in number of foreign students — 47,575 in 2016-17 from 45,424 in 2015-16— with 31,779 men and 15,796 women. The highest share comes from the neighbours Nepal (23.6%), Afghanistan (9.3%) and Bhutan (4.8%).

There is a void and vacuum in the State Universities. Persons have been serving as temporary lecturers, Temporary Teaching Assistants year after year in the State Universities. There is abrupt cut in the Teaching & Research positions. Even when the positions are sanctioned by the Centre there is no State concurrence. Bricks, stones, cement, computers, white boards and smart boards do support education. Buildings do facilitate education. But, Machines cannot replace humans. Money cannot replace men.

Relative Focus on Hard Skills & Soft Skills

There is less creation, but more communication. Focus is more on marketing than production. The Higher Education youth is lost in customary designs. There is added focus on soft skills. Only Hard Skills will not do. Only Soft Skills will not do. Both hard and soft skills are crucial.

Higher Education: Maintenance & Expansion

There is a problem of maintenance and expansion of higher education. A large number of institutes of higher education have constituted a variety of committees, such as, Admission Committee, Work Load Committee, Fee Committee, Selection Committee, Salary Committee. Despite all efforts by the institutes of higher education, there are numerous problems, such as, follows:

- A large number of State Universities are under staffed.
- The teaching staff positions are sanctioned by the Central Government, but very often there is no State concurrence.
- There is abrupt cut on the teaching and non-teaching staff positions by the States.
- Staff salary on Paper is different and in actuality is different, more so, in case of a sizeable institutions run by a large number of private trusts.
- There is degeneration of a sizeable number of higher education institutions in terms of various parameters- input, process, throughput, and output.
- There are demand and supply in-equations.

There are problems of all levels of maintenance-preventive, corrective, adaptive and perfective. We have significantly lesser number of higher education institutions than what we need. Establish six more IIT. Open 'n' more IIM. Establish 1000 more universities. All excellent recommendations by the Committees and Commissions. But, how to? Professors cannot be produced over overnight. Merely pumping money, throwing grants and laying foundation stones do not ensure suitable infrastructure. Expansion of higher Education is beyond the limited data bases and faculties of Committees and Commissions, it demands a countrywide debate and discussion.

Higher Education: Public & Private

The public and private dichotomy is a continuous phenomenon in higher education. A large number of existing institutions have inadequate infrastructure and education competence to bear Higher Education. Neither we have been in a position to sustain liberal arts nor develop science and technology. The product which gets the license from the institutes of Higher Education is rarely their product. This is largely the product of off-campus sector which operates in many varied ways. Higher Education day by day is being governed by the private sector, which mostly has more of commercial motive than educational. Higher Education has been made commodity and commerce. How to realize excellence, equity and equality at the same time?

Higher Education: General & Honors

Honors' at Bachelor's level is an anti-thesis to multidisciplinary. Graduates without sound knowledge base at a tender age try to be micro-specialists having little understanding of the whole. As a result, they are neither fit for self nor field. It is high time that the nation does away with Honors at under-graduate level. Even at Post-Graduate level, the specialization should emerge from the field. The Generalist & Micro-Specialist dichotomy ought to be resolved.

Choice Based Credit System

In syllabus, on paper, we offer a large number of optional areas, whereas, in practice, a few. It is a countrywide phenomenon. In fact, there is a little choice or no choice. Where is the option? What is wrong with our educational system? It is attributed to limited faculty, diverse courses, and scarcity of resources. But, more than the question of resources it is a question of resourcefulness. If the institutes of higher education do not modernize themselves, then there is every possibility of their going defunct. Choice Based Credit System at the face of it increases the work load of the teaching faculty significantly, particularly, classical F2F faculty. Wider the choice more are the demands on the education system. CBCS demands multiple modes of instruction through expert sources and systems, namely, modular mode, e-mode, synchronous, as well as, asynchronous modes, educational sourcing in addition to traditional formal instruction. Similarly, the evaluation is through electronic evaluation rubrics, continuous, internal, on line, on demand, in addition to paper-pen, activity based and practicum based.

Institutional Restructuring and Consolidation

NEP (2020: 10.1) reads that the main thrust of this policy regarding higher education is to end the fragmentation of higher education by transforming institutions into large multidisciplinary universities, colleges and HEI clusters/ Knowledge Hubs, each of which will aim to have 3000 Or more students. This would help build vibrant communities of scholars and peers, breakdown harmful silos, enable students to become well rounded across disciplines including artistic, creative and analytic subjects, as well as, sports, develop active research communities across disciplines including cross disciplinary research, and increase resource, efficiency, both, material and human across higher education.

Added focus on Multidisciplinary Universities/Higher Education Institutions in NEP (2020)

NEP (2020) envisages to have Multidisciplinary Higher Education Institutions progressively. Though our ancient Universities, namely, NALANDA and TAKSHILA were multidisciplinary, cross-disciplinary and inter-disciplinary, but, is there a single Higher Education Institution or University in India or even globe over at present which is true representative of the universe? The answer evidently is "NO". Even if we have these as envisaged by 2040 A.D., then, how much flexible would be the CBCS? How much will be the sharing of credits across disciplines? How much infrastructure will be required to convert this idealism into realism? Why do we need twenty years to realize interdisciplinary Universities and

Autonomous Higher Education Institutions? Why not in five years? For skill, scale and speed we need creative and critical, governors and leaders, thinkers and workers (two in one).

Staff & Student attendance an alarming issue

Observation of process norms ensures quantum and quality yield. Surprisingly, though, the teaching faculty and students are present on campus, but, some of them do not class. What to label this phenomenon? Present Absent. On the contrary, in some of the faculties, there is very little presence. There are off campus classes by the private sector. The question is, when 80-85 % attendance is compulsory, then, without completion of attendance how these students are permitted to appear at end examination? How about their continuous, comprehensive internal evaluation? Still serious issue is professional ethics. More serious are the problems with distance education & open education programs.

Apex Agencies lost in the dual Roles

A large number of apex agencies, namely, UGC, AICTE, NCTE, NAAC, BCI, MCI, ICAR have come up during the past. Of all these agencies, the NCTE has been questioned most, to the extent, that at one point of time the nation thought of dissolving it. But, that too, perhaps was not found to be the resolve. UGC, being, both, the Grants Commission & Higher Education Monitoring Agency has been trying its level best. NAAC has taken up the task of observing quality and relevance of higher education. But, the higher education institutions try to show off what they are not. In between recognition and accreditation, the process of higher education is lost somewhere. In this context the efforts of the NAAC are appreciable in working out the Key Areas, Quality Aspects, & Quality Indicators, particularly, for Assessment and Accreditation of Teacher Education Programs. Engineering, Law, Medicine, almost, all the disciplines need to be regulated. What should these agencies do, so that, the respective institutions and their products have professional feel and appeal? How to excel, exhilarate and enthuse higher educators & institutions?

(NEP-2020) Transforming the Regulatory System of Higher Education

The regulatory system is in need of a complete overhaul in order to re-energize the higher education sector and enable it to thrive. The distinct functions of regulation, accreditation, funding, academic standard setting will be performed by distinct, independent and empowered bodies. This is considered essential to create checks and balances in the system, minimize conflicts of interest, and eliminate concentrations of power. To ensure that the four institutional structures carrying out these four essential functions work independently yet at the same time work in synergy towards common goals. These four structures will be set up as four independent verticals within one umbrella institution, the Higher Education Commission of India (HECI) as follows:

1. National Higher Education Regulatory Council (NHERC)
2. National Accreditation Council (NAC)
3. Higher Education Grants Commission (HEGC)
4. General Education Council (GEC)

A National Higher Education Qualification Framework (NHEQF) will be formulated by the GEC and it will be in sync with the National Skills Qualifications Framework (NSQF).

Catalyzing Quality Academic Research in All Fields through a new National Research Foundation

Institutions that currently fund research at some level, such as, Department of Science and Technology (DST), Department of Atomic Energy (DAE), Department of Biotechnology (DBT), Indian Council of Agriculture Research (ICAR), Indian Council of Medical Research (ICMR), Indian Council of Historical Research (ICHR), and University Grants Commission (UGC), as well as, various private and philanthropic organizations, will continue to independently fund research according to their priorities and needs. However, NRF will carefully coordinate with other funding agencies and will work with science, engineering, and other academies to ensure synergy of purpose and avoid duplication of efforts. The NRF will be governed, independently of the government, by a rotating Board of Governors consisting of the very best researchers and innovators across fields.

The professional councils, such as, the ICAR, VCI, NCTE, COA, NCVET will act as Professional Standard setting bodies (PSSBs). PSSBs will continue to draw the curricula, lay down academic standards and coordinate between teaching, research and extension of their domain/discipline as members of the GEC.

Despite the critical importance of research, the research and innovation investment in India is at the current time, only 0.69% of GDP as compared to 2.8% in the United States of America, 4.3% in Israel and 4.2% in South Korea. The NEP (2020) envisions the establishment of a National Research Foundation (NRF). The primary activities of the NRF will be:

1. Fund competitive , peer reviewed grant proposals of all types and across all disciplines;
2. Seed, grow and facilitate research in academic institutions, particularly at universities and colleges where research is currently in a nascent stage, through mentoring of such institutions.
3. Act as a liaison between researchers and relevant branches of government as well as industry, so that research scholars are made aware of the most urgent national research issues, and so that the policy makers are constantly made aware of the latest research breakthroughs; so as to allow breakthroughs to be optimally brought into policy and/or implementation;
4. Recognize outstanding research and progress.

Higher Education can develop and sustain its status as Higher, when there is an environ of germination, incubation, innovation, creation, construction and connection. We face problems

right from infancy through old age. We identify, formulate and address the problems through research rigor. The NEP (2020) reads now, but, by virtue of our conditions we are multidisciplinary, interdisciplinary and cross disciplinary. We believe in harmonious coexistence. Harmonious coexistence demands caring and sharing. Caring and sharing demands research. Most of the pioneers, that is, topmost researchers were not materially rich. They did not stretch their arms and palms for funds. Despite the poor conditions of life, they have been labeled as pioneers because of their research and innovation. The terms, such as, regulation, recognition, funding, assessment and accreditation are being used very frequently. But, we Indians, our springs, and off-springs are self regulatory, have our own identity, sound bases, self evaluation of our values and worth. Expansion in any area demands, decentralization that too at the level of devolution. We expect that our NEP (2020) observes it. India is a land of Seers, Researchers and Sages. Honourable Prof. K.P. Pandey has always been of the view that we have wonderful researchers, some LAUKIK, some ALAUKIK, whereas, others both LAUKIK & ALAUKIK. We have Pioneers and Pioneers, Nobel Laureates and Nobel Laureates. They work silently, peacefully, and fully. They are fully lost in Innovation & Research. It is a fact that quality research is realized when the scholars are fully lost, when they have full immersion.

Effective Governance and Leadership for Higher Education Institutions

All HEIs in India will aim to become independent self governing institutions pursuing innovation and excellence. Measures will be taken at all HEIs to ensure leadership of the highest quality and promote an institutional culture of excellence. Upon receiving the appropriate graded accreditations that deem the institution ready for such a move, a Board of Governors (BoG) shall be established consisting of a group of highly qualified, competent and dedicated individuals having proven capabilities and a strong sense of commitment to the institution. It is envisaged that all HEIs will be incentivized, supported, and mentored during this process, and shall aim to become autonomous and have such an empowered Bog by 2035. The Bog shall be responsible and accountable to the stake holders through transparent self- disclosures all relevant records. It will be responsible for meeting all regulatory guidelines mandated by HEI through the National Higher Education Regulatory Council (NHERC).

In breeding in Higher Education

There is lot of inbreeding, that is, regionalism and provincialism in higher education. Some of the States insist on State domicile for admissions into the programs. In addition to this the services rendered by the teaching staff in the other States do not count towards the service benefits. As a result the higher education is administered by a mono- culture, largely, by mediocre.

Reservation not Remediation

We have sizeable reservation (>50%) in higher education. In this age of equity, equality and democracy, it is highly desirable. But, along with this, what is absent is, thorough remediation.

Inadequate Autonomy, Flexibility & Transparency

Higher Education institutions have only a little autonomy, flexibility and transparency, which is too meek to nurture higher education. Higher Education is being governed by bureaucratic, conservative, hierarchical, traditional model rather than by human relations model.

Higher Education: Input, Process & Output

We have little control on the Inputs and Processes of higher education. So, the relevance and quality of the product of higher education cannot be forecasted and achieved deterministically. Process norms are grossly neglected. There is more focus on exposition and instruction, rather than creation and construction. Higher Education has become more theoretical than practical. There are wide gaps between vision and mission. There are wide gaps amongst educational objectives, curricula, modes of transaction, and evaluation. There is progressive dilution from objectives to evaluation.

Problems of Sharing of Resources, Inter-disciplines & Trans-Disciplines

There is a little networking amongst the agencies and institutions of higher education. Exchange and sharing of resources is very rare. A few consortiums here and there are more for demonstrations, than fully functional. There are rare repositories of learning resources. There are boundaries and seasoned gate keepers amongst disciplines. People from various disciplines rarely sit around the table.

There is a need to share credits intra-university and inter-university. Also, there should be provision for Credit Transfer, Student Mobility and Mutual Recognition. Most of the Higher Education Institutions are working more or less in isolation. There is a need of sharing resources and courses within institutions, between conventional and conventional universities, Open and open universities, and conventional and open universities.

Centralized Higher Education

Most of the Universities in India are affiliating universities. The affiliated colleges go by the curricula, modes of transaction and evaluation designed by the Universities. They have little autonomy, because a large majority of them are not properly equipped for offering Post-Graduate Programs. Being economically affluent and politically powerful does not ensure the higher education credibility of a private trust. The Post-Graduate product of a large number of these trusts has little insight into the national problems and developmental challenges. Research has become a ritual. As a whole the quality of higher education suffers. Should the PG programs be delimited to Universities and autonomous institutions, only? Or else could each and every institute of higher education be resourceful, powerful, and autonomous?

Education, as on date, is on the concurrent list. But, most of the States have brutally abused Education. There are external shows to establish the face validity. But, the content & construct validity rarely exists,

whatsoever was there has already faded or fading fast. It is high time that Education with all grace be on the central list.

In-innovative Higher Education

Despite the repeated focus on semester based credit system, still annual and marking system is prevalent in most of the institutions of higher education. Choice Based Credit System is offered by the rare institutions. Continuous internal evaluation is the feature of rare institutions. Still there is a primitive culture of flying Squads in Higher Education Examination. Even in this age of Technology in Education, Electronic Distribution of Examination Papers is done by only a few institutions. Very often the Innovative Programs proposed by the efforts of some Institutions are declared to be not under the purview of the apex agencies in the respective areas, because, the so called expert committees fail to appreciate these programs. The apex agencies need to be additionally careful while constituting the Expert Committees for the Innovative Programs.

Research at Higher Education: Mapping & Management

It is of utmost importance that the young minds be attracted to the doctoral research, as it holds a promise for the development of the nation. There is evident upsurge in enrolment of Ph.D. Programs. Does it really hold a promise for the development? *The reason for unproductive research in Education in India is the easy going tendency of the Researchers. Our only trend is to get the Ph.D. or book published at the earliest* . Above all, the mindset of the researchers needs to be oriented towards research rigor. The essence of the degrees, such as, Doctor of Philosophy and Doctor of Letters ought to be rigorously observed. VIDYA VACHASPATI & VIDYA VARIDHI should be identified through their calibers. Their situational presence should justify their beings.

Invalid Evaluation in Higher Education

Evaluation in higher education is largely invalid right from input through process to output to placement. Our admission criteria in most of the faculties are faulty, because we do not have the research base with respect to the predictors of performance in various programs. Still, the classical Norm Reference Testing continues in most of the institutes of higher education, promoting competition. Rarely we go by Criterion Referenced Testing and Item Response Theory. In the interview boards, rather than trying to know what the candidates know, we try to make them feel stupid by making them conscious of what they do not know. A large number of interview boards fail to discriminate finely between candidates. The problem becomes, still severe, when we need to discriminate between 98th and 99th percentiles. Internal evaluation, revaluation, double valuation, centralized evaluation, all have question marks. A person with B+ passes the life situations, whereas, A+ fails. What do the degrees of a degree represent, if not the helplessness of the Higher Education System? Rather than grading our product on an n point scale could we have pass and not-pass in Higher Education realizing mastery learning?

Low Return on Investment in Higher Education

Only 5-6% of the persons who are conferred degrees are graduates in the real sense. Ritual convocations without real invocation are meaningless. How to observe the Higher Education wear the scarf with distinction, decency, decorum & discipline and glittering medals with resonating pride? For realizing that, we need to revive the culture of higher education. Rather than formally constituted knowledge commissions, each and every entity of higher education should realize and demonstrate its identity as a Knowledge & Action Commission.

Self Killing Complacency of Micro-Specialists

Self-killing complacency of micro-specialists of Higher Education is a matter of great concern. How much each one of we Professors professes even our own discipline? Higher Education has made us more fragmented than holistic.

Placement, Promotion and Administration in Higher Education

Where are the alumnus of Higher Education? Most of the institutions of Higher Education do not have record of alumnus. What would be more shameful than the institutions of higher education refusing to recognize their own products? Academic administration of the institution must by thinking, speech and action portray their commitment to high ethical standards. A sizeable number of educational institutions do not observe healthy constellation and ethical climate. Many academic administrators are not in a position to observe the laid down acts, rules, resolutions and ordinances. The true test of administration is when the rules and acts are silent. At times the conditions demand administrators to be over and above the system at the same time not against the system.

State of Arts, Commerce, Science & Administration in Higher Education

Art without perspective, commerce without substance, science without ethics, and administration without sensibilities & sensitivities are meaningless. This seems to be the greatest problem of higher education. Who should be the top academic administrators of higher education? These have to be essentially inter-disciplinary experts having rich profiles & balanced personalities. An analysis of the top administration of higher education, nationwide, reveals, that civil servants, industrialists, pure academic professionals, and Statesmen all are misfits in the administration of higher education. There are rare personalities with integrated profiles. The Universities and Institutes of Higher Education have to bear with the best possible available. It is disgracing higher education to plant in-compatible administrators.

Stereotyped Higher Education

A large number of refresher courses which are meant for staff development and capacity building are not serving the envisaged purpose. Rather than designing means for staff development we have more of staff rating scales. These tools are more for describing the field than constructing. Same age old practical are repeated in the science laboratories. Same age old theories are practiced despite the changing conditions. Arbitrary criteria are superimposed on the reality promoting fundamentalism. Neither we have been in a position to sustain liberal sciences, nor, scientific realism.

Micro-Specialization, Narrow Breadth and Shallow Depth

Though the various disciplines are doing a lot of service to the society, yet there are many emerging issues and problems. How to stop deforestation? Can Botany contribute to the reduction of pollution? How to mass educate the development of the seasonal plants? How to save endangered species of plants? Can Zoology contribute to the regulation of population? How to correct the imbalances in male-female ratio? How to control diffusible diseases? How to save endangered species, for example, lion, tiger, black-buck? How to realize mass production of compatible medicine? How can Chemistry contribute to the control of pollution? How to produce degradable polymers? How can Physics realize the conservation of energy using conventional sources? There is a lot left to be discovered/constructed in the areas of laser technology enhancement, transportation and space research. Rather than abstract and empty, mathematics needs to be more real and meaningful. Languages should be register specific and functional. Commerce should be more with service motive. Technology is sweeping the globe. But, there is more of media crowd than culture. Educational Instructional Software are rarely user compatible right from KG to University and continuing education levels. Still there are gender discriminating stereotypes in science and technology and more so at the higher education level.

Though information in Science and Technology is multiplying at exponential rates but still there is a wide gap between the expected rate of evolution of scientific knowledge and what it actually obtains. There are easily perceptible Science and Technology divides in the society. Philosophy and Psychology which are the strongest foundations for society are losing their identities? How top level administrators very often are found to have low level affect attributes? Our degrees of a Degree are representative of the extent of course completion than developed competencies.

Inclusive Education: A mere Slogan

The expression inclusive education is recurring most frequently these days. What is its origin? What is its structure and function? We talk of multi-lingual models and go on superimposing mono-lingual model. We talk of multi-style teaching, but go on throwing mono-style. We talk of inclusive education but fail to provide differentiated differential inputs. Inclusive education demands highly resourceful dedicated systems.

Career Advancement Scheme (CAS) in Higher Education

CAS in higher education is highly desirable in this age of humanization and democratization, but, it has significantly lost its purpose. The Career Advancement rather than a function of merit is the discretion of whims and fancies of administration and it is losing credibility due to malpractices prevailing in the institutes of higher education, for example, referees not sending the reports in time, faculty having sound profile being not promoted.

Professional Ethics in Higher Education

We are largely proud of the Indians for their roles & professional ethics. Inspire of all adverse conditions they perform their duties with all dedication. For parenting Indian parents are models for the globe, for software industry Indian Engineers, for patients Indian Doctors, for learners Indian Teachers. We have harmonious culture and healthy constellation amongst all

entities. However, some deviants, here & there spoil the professional excellence, peace & harmony. How? Needs no illustrations. Everyone needs to rear the baby. We should not leave it to others. The very presence of doctors relieves the patients of disease and discomfort. All doctors need to observe punctuality & presence. Software engineers should produce vaccines to remedy than viruses to replicate. We teachers need to renew ourselves to remain alive and innovative rather than becoming stale to delete even the already running programs & courses. Rather than neo-liberalism, neo-capitalism, neo-colonialism, let humanism flow through all professions govern higher education in India.

Higher Education & Source Resource Dichotomy

Bipolarity is essentially the basis for genesis, creation & recreation of life & living, designing & sustainable development. It is not difficult to research the misperceptions of the beauties of nature. Beauties of nature need to be respected & appreciated. But, our obsessions for possession are destroying the beauties & bounties of the nature. Could we realize detached love for the nature through unconditional love for all the entities? Instead we have started treating the nature as a resource rather than adoring Thee as Source. We are happy to learn that there is revival of the name- Ministry of Education. The emerging question is are human beings sources or resources. No one should be treated as a resource in this universe, because all the entities, biota or a-biota are Thy creation and extension. What should be the suitable name for HRDC? Could it be Human Development Centre? In the process of treating mother nature as a resource, rather than respecting her as a source, we human beings have lost our identity from source to resource. Even machines are sources. They also have feelings and self regulatory and self renewing mechanisms. Universities ought to teach us that every entity of the universes ought to be identified and treated as a source. Reality is only a bit known and largely unknowable even by the pioneers. So, we have only a limited knowledge base and skill base. Let us learn to have unconditional love for all.

Teacher Competency: Mapping & Management

Every teacher from pre-primary through middle, secondary, higher secondary and higher and continuing education ought to be competent in teaching, that is, having rich knowledge base, favorable attitude towards teaching & learning, and innumerable skills for learning & transaction. Today the challenges for teacher preparation are numerous, such as, bridging the gaps between expected and practiced teacher competencies, development of techno-pedagogic skills, integration of life skills, gaps between teaching styles and learning styles, preparation for inclusive education, specialization in emerging areas, such as, humanistic education, peace education, value education, Yoga Education, and Information and Communication Technologies (ICT) in Education. The present demand is to create lifelong autonomous learners and to evolve learner-inspired and not merely a learner centered approach which is the utmost challenge for teachers. The latest Teacher Education Curriculum

Framework (2009) expects Humane & Professional Teachers. Teacher at any level has a remarkable identity, more so, as per the educational heritage, ethos and vision of India- a Friend, Philosopher and Guide, Harbinger of Human hood, Backbone of the Country, Architect of the Society, Closer to the Learners, Role model for the Learners, a self confident, inquisitive, faithful, dutiful, simple and humble person, who is always ready to relegate powers, competent, ICT literate, sincere & hardworking, fast renewing, socially sensitive & professionally committed, autonomous and accountable.

There is a need to model the knowledge, skills, and attitudes reflecting the best available practices in teacher education. Research can contribute to some of the areas of scholarly activity that are related to teaching, learning and teacher education. Teacher Educators can reflect on their own practice and sustain commitment for lifelong professional development. They can provide leadership in developing, implementing, and evaluating programs for educating teachers that embrace diversity, and are rigorous, relevant, and grounded in accepted theory, research, and best practices. They can collaborate regularly and significantly with representatives of Schools, Universities, State Education agencies, professional associations and communities to improve teaching, learning and teacher education. They can serve as constructively critical advocates for high quality Education with deep understanding of educational issues, and realize excellence in teaching and teacher education. They can contribute significantly to strengthen Teacher Education.

Higher Education: Teacher Appraisal

With the invention of Academic Performance Indicators many a e-publishers have appeared in the virtual world, with ready ISSN. Earlier the authors used to seek the publishers, now the publishers seek the authors. With the implementation of some of the recommendations of the new Pay Commissions, in the State Universities, there is abrupt cut in the Teaching & Research Staff positions, justifying it on the bases of increase in work load. Is not it blowing the theoretical framework of teaching, mechanically. Which school of thought has recommended the increase in work load? Can education be purchased with coins? Bricks, stones, cement, computers and white boards do support education. Buildings do facilitate education. Machines cannot replace humans. Money cannot replace men. It is humans & humans only who can formulate and address problems. The credibility of the Cambridge Press & Oxford Press is well established. But, if we are genuinely interested in publication and dissemination, we need to strengthen the Indian Press. We need to enhance the fidelity & testimony of Indian Research & Researchers, Indian Press and Publishers.

PROGNOSIS

Philosophies to Govern Higher Education

There is a need to de-colonize minds. Who will do that? It is Education and Education only. Globalization with equity and equality and sensitivities to the basic culture, liberalization with civilization, Privatization with Service motive, and State with Public Spirit should govern the higher education. The State should not shun away from the responsibility of higher education. With a tendency of doing so, we have already done the greatest harm to the nation. The economy should not try to overarch State and Schools of Higher Education. The economy should realize that it is the return of education. Traditional, conservative, bureaucratic, hierarchical model being a big failure and impeding power, we need to recourse to human relations model. Autonomy, transparency and de-centralization ought to be the salient features of higher education.

Sustaining genuine demand of higher education

Approval for the new Higher Education institutions through NOC should be provided on the basis of up-to-date data, need and demand in public interest. In no case it should be a function of vested interests and malpractices. The norms for recognition of the institutions need to be developed and objectively observed, irrespective of who constitutes the inspection teams. There should be valid criteria for admission into the Higher Education Programs.

Correspondence among Objectives, Curricula, Transaction and Evaluation in Higher Education

We are relatively creative in enunciating the objectives of any program. First dilution takes place at designing of curricula, next in transaction of curricula and highest in evaluation. Every higher education institution should observe an inventory of correspondence amongst various elements of educational instruction design. We need to have clear vision and mission. Gaps between these are lowering the higher education. Particularly, mission functional procedures need to be worked out more meaningfully.

Consortiums in and networking of higher education

There should be networking of higher education institutions. More of disciplinary and inter-disciplinary consortia need to be created for sharing of resources. Also, there is a need to establish Consortiums of Research in Education.

Inter-disciplinary & Trans-disciplinary Higher Education

More and more inter-disciplinary programs should be designed and implemented in higher education. It should be mandatory for every student of higher education to opt for a course from other faculties to facilitate trans-discipline, and it should be credited.

Integration of various skills in Higher Education

Various skills, namely, techno-savvy skills, net-savvy skills, Life skills should be integrated in higher education. In addition to cognition there should be adequate focus on affect attributes and psycho-motor skills. Higher Education ought to be holistic rather than fragmented.

Choice Based Credit system

There should be choice based credit system in higher education. It is possible only when we have numerous approaches to learning resources, such as, e-contents through open source, learning modules, sharing of credits intra-faculty, and inter-faculties, intra-university and inter-university. Induction of choice based credit system is very challenging, but, highly desirable.

Focus on process norms

If inputs and processes are well taken care of then the output yield and quality are almost ascertained. We do not have adequate mastery on the processes. Some of the institutions have the problem of capacity and burnout, whereas, a sizeable number of them have the problem of throughput and rust-out. Over years we have laid relatively more emphasis on examination reform. We need to reform the processes. There is a need of evolving process norms in almost all areas of Higher Education.

Evaluation in Higher Education

There should be semester based credit system and continuous comprehensive internal evaluation in higher education. various modes of evaluation need to be practiced, such as, activities, assignments, projects, seminars, field work, tests having variety of items, such as, essay, objective and notes. Evaluation should be inclusive of subject specific knowledge, relationship with other subjects, development of psycho-motor skills, life skills and affect attributes. Electronic Distribution of Examination Papers needs to be inducted.

Research in Higher Education

Research in higher education should be revealing and suggestive. Along with scientific realism, there should be added focus on phenomenology, naturalistic enquiry and construction. Research finds cause and effect relationship. A researcher reasons the cause & effect relation. The reason is re-as-on. Very often a researcher recursively revisits the knowledge, skills & feelings. This re-as-on recursive quest is never ever complete. So, no knowledge is complete. No skills are ultimate. Rarely the feelings are ANUPRANIT into Action. No, theories are perfect. So, despite all efforts the ultimate reality is only a bit known, but largely, unknowable. So, should we stop researching? The immediate answer is No. It is because more and more we know, more and more we tend to the reality.

Need to observe Intelligentsia & Ethics in Board of Studies, Faculty Boards, Academic Councils Executive Bodies and Courts

The Board of Studies of various Departments & Faculty Boards should abstain from arbitrary decisions. Not only such decisions are harmful for the particular departments & faculties, but also, these have implications for the wider field. All these Boards, Councils, and Bodies should observe their identities and function as per the acts specified in the constitution observing code of ethics. The executive bodies of the universities should strictly adhere to the acts, statutes and ordinances and rise above dirty politics. The courts of the Higher Education institutions should be very vigilant and fully functional. Once in the Court Meeting of a University the newly appointed Vice- Chancellor said that we will try our level best to develop our university as a World Class University. One of the Court Members made a humble submission that let us develop our university as per the vision and mission of Pandit Madan Mohan Malviya. Let the rest of the World emulate this University as the World Class University. **The slogan "[Satyameva Jayate](#)" (Truth alone triumphs) is also a legacy given to the nation by Pandit Malaviya as the President of the Indian National Congress in its session of 1918 at Delhi, by saying that this slogan from the Mundakopanishad should be the slogan for the nation.**

Innovations in Higher Education

To sustain its identity as Higher, the Higher Education has to be innovative, creative & constructive. The Higher Education ought to be self sustaining through its innovations, production & patents. We feel proud of our Engineers & Doctors who have produced highly valuable products with patents. Our Software Experts are Domain Leaders Globe over.

Causes of Degeneration of Higher Education in India

1. Our Policies are reasonably good. But, the faults come up at implementation level. Our Educational Objectives are Excellent. But, first dilution takes place at the Transaction level, next at the Evaluation Level.
2. We have a tendency to disregard the indigenous, even that of High Quality, and have developed a Craze for the Foreign. It is evident through our APIs.
3. We have gone recursive after enforcing a Common University Act, State or Central. The Question is why should we have a Common University Act. The Root cause is we are neither powerful enough to appreciate autonomy, nor diversity. Let us learn to respect the uncommon & unique in us.
4. We should not have a tendency to disrespect the Educational Administrators who very often operate in a multi-parametric setting. Many of we Educational Administrators serve as Honourary Honourable Servants.
5. We need to develop a very strong Service Cadre in India of the Profile of Shri Shankran, Andhra Pradesh, 1957 batch and Shri S.C. Behar, Madhya Pradesh, 1961 batch.
6. The UPSC should have due place for Education in Service Cadre.

7. Establishment of Universities demands thorough preparation. We should assure & ensure that the Universities are properly established. India cannot afford to erect Universities arbitrarily.
8. Some of the Universities have become abode of some criminal tendencies. The Universities should employ Strong Security with High Level Intelligence to control and counter all such devastating forces.
9. The products of a large number of Scientists are not utilised, because of lack of facilities for Clinical Trials & Patenting.
10. Indian Scientists should be provided due facilities in India.

Suggestions to Strengthen Higher Education Policy Perspective

1. The Vice Chancellors, Executive Committee Members and Senate Members ought to be identified very rigorously. They should be the persons of very high caliber.
2. The acts, statutes and ordinances of the higher education should be fully & strictly observed.
3. It is high time that we do away with the crowds of regulatory bodies. Our higher education has degenerated with the induction of such regulatory bodies. In fact, these have become the hubs of malpractices. If such bodies cannot live by the principles, religiously, then how can these observe the act, statutes, NIYAMS and ADHINIYAMS.
4. Higher Education, by virtue of its ethos, has to be autonomous. The higher education institutions should be stand alone. It is high time that we do away with the affiliations. The learning outcomes ought to be worked at for every type and level of higher education and those should be the referents for observing the quality of higher education.
5. There should be uniform curricula of Science, Mathematics, Engineering ,Technology, and Medicine throughout India, to control any further dilution.
6. The Liberal Arts should be fully strengthened. The power of India can be revived through the Cultural Heritage & Religious Heritage of India. The Liberal Arts ought to be strengthened.
7. Teacher Education Policy, Health Education Policy, ICT Education Policy should have the same status as that of Economic Policy and Fiscal Policy.
8. Minimum 5-6% GDP should be spent on Education.
9. Minimum 2-3 % of the GDP should be spent on Research.
10. The Ph.D. Course Work made mandatory has mechanized Research in all the disciplines, all over India. The nation should attempt, aggressively, to de-mechanize research.
11. The Academic Performance Indicators need to have Scientific Bases.
12. Grants & Endowments are respectable in the Realm of Education, but, to sustain the status as “**Higher Education**”, the Higher Education should construct ample Patents to be self-supportive.

13. Higher Education should realize autonomy in its True Sense and Spirit. It should no more be governed by Bureaucratic, Conservative, Hierarchical systematically Self-Killing Model.
14. Who is the most Supreme Governor of India? Is it Education? Is it Society? Is it State? Is it Legislative? Is it Executive? Is it Judiciary? The immediate history is a witness to Judicial over-activism. Why? No in-depth evidence is required to infer that all the rest have more or less lost their identities. It is bitter to relish the hard reality. The fact is that we all have over loaded the Judiciary to be over-active. Due to over-load on any system, either it goes mad or burns out. ***It is Education and Education only, and more so, the Higher Education, which can bewitch the minds and control the crimes.***
15. The entire Higher Education is sick right from Higher Education Policy to Practice, from Gross Enrolment Ratio to the % of the Pass-outs Employed. Over and above, the norms at all phases of the system parameters are highly wanting. ***The input norms, process norms, output norms, pick-place & promotion norms have to be worked out very scientifically.***
16. *There is no Parallel amongst the Higher Education Institutions across India. Why? There is no comparability amongst the products of the various institutions, though towards the same PG Degrees or PG Diploma. The services rendered in one State largely do not count towards the service benefits in the other States. The superannuation age varies from State to State, State University to Central University.*
17. *Is there no Press and Publisher in Our Village, Town, City, District, State, Neighbor State, Nation, Continent, that we like to fly to Oxford, Cambridge, VDM, to get our publications done? It is good that through this plight we are trying to realize the Universe- ideas ought to be distributed and disseminated globally. But, the problem lies else where- **We value more where it is published rather than what is published.** We are seeking high- fidelity media. Cannot we develop these in India? There is a request & caution to all of us to revise our thinking. Let us learn to Love My India..*
18. *Come what may, we should safe guard our Higher Education. The Higher Education should revive its identity. Modernization demands revival of the culture of ancient Indian Universities, such as, NALANDA, TAKSHSHILA, VIKRAMSHILA. There should be Higher Education DVARPANDITS!*

Reviving & Reconstructing the Universal Character of the Universities & other institutions of Higher Education

The moment we utter World Class Universities, we recall Takshila, & Nalanda, the Ancient Universities of India which have been found to have eternal universal expression. At present why India is very far from the World Top Institutions and Universities? We have entered into a vicious net of Anti Plagiarism Software, Academic Performance Indicators, State Level Eligibility Tests and National Eligibility Tests, and at the top of all Assessment and Accreditation by NAAC.

We need to treat our Higher Education respectfully. Let the services of Top Scientists be respected in India. Let us develop Software to identify Innovations in India. Let us have Quality Control in our Academic Institutions, so as to have Knowledgeable, Humanistic, Competent Graduates, not merely wearing Scarf & Holding Degree, but resonating with the universe with complete invocation & immersion. More than external controls let us learn to observe inner quality. There are Pioneers & Pioneers in India. Let us revive our heritage of Takshila & Nalanda. Let us revive our respect for Education. Let us revive Identity of Education. Let us respect Education.

World Class Universities ought to be universal in character. What use are colourful citations, unless there is scaled expression at the field & functional levels? What use is the International Outlook unless there is emancipation & liberation of the universal constituents and entities of the miserable painful states? World class universities are where ideas germinate & spring, feelings flow, motor creates, the soul spirit reins, and the self resonates within and with the universe, where the Human Beings Transcend from Human Development Index (HDI) to Universal Development Index (UDI) and Human Beings tend to be Universal Beings, where we have unconditional love for the nature with super inner control. Let us cleanse ourselves with all compatible rinsing agents & submit fully, with complete immersion for understanding the manifestations of the universe. With this prayer India has the potency to establish Universities, which are true Universities, universal in character & expression. The World Class Universities should aspire to be Universal Universities as depicted through the following expression:

Concluding Remarks

India is a proud Nation, because, come what may we do not compromise with our principles. We have a very rich VIDYA HERITAGE. It is a blissful experience to dive deep into the Indian Scriptures. The deeper we dive the higher we are! We feel proud of our education which is education in the true sense. Truthfulness, Compassion and Forbearance are the essential features of Indian Education which are always higher. India is full of pioneers. Let us realize our collective wisdom!

The NEP (2020), our New Education Policy, seems to be highly idealistic, when we perceive its face validity. But, its content and ethos deeply touch our cores and souls. We need to dive deep into our scriptures to cultivate & nurture this biosphere. There is a need to remove KHAR-PATVAR & useless contents from our texts right from school education (5+3+3+4) through Higher and Continuing Education. The universities and Higher Education institutions have to be true representatives of the universe. Universe Development Index (UDI) ought to be the concern of every university. Unconditional love for all is the means of renunciation, to integrate with the whole, to merge with the whole, to be one with the whole. Our Higher Education should transcend us of the time, space and mind. University Education is based on the principle

that we find identity and purpose in life by connecting to the community, nature through humanitarian values. The purpose of Higher Education is not only to prepare for academic success, but also to enable us to learn the challenges of living as a whole, connecting with the self and environment, with, truth, compassion and forbearance.

What we call here holistic education or university education as a new way in learning according with our times is really a very old technique that was used in diverse cultures in history. According to Swami Vivekananda: Education is the manifestation of the perfection already in man. Education is gained by living in constant communion with Nature. It can be realized by resonating with Nature. Identification with the self, interrelation, interdependence, resonance, rhythm, coexistence and completeness are some of the indicators of wholeness.

We feel proud of Indian Education where Legacies are Nurtured & Dreams are Sustained, Developments are Continuous & Journeys are eternal. Our legacies are unconditional love & dreams are peaceful coexistence having knowledge of Thy creation, interrelation & interdependence, our developments are holistic & our Journeys are 360 degrees round the clock, endless infinite. Our Education prepares saints and seers, artists and scientists, technocrats and engineers, researchers and pioneers. Our NEP(2020) aims to develop we learners as holistic beings, as universal beings, where, entry into the Universities or HEIs will be on satisfactory dialogues with the DVARPADITS' profiles of NALANDA & TAKSHILA and exit by the ACHARYAS, all in one, such as, STEAM & SCOPE, that is Science Technology, Engineering, Arts and Mathematics, as well as, Spiritual, Clinical, Organizational, Positive, Educational Psychology all in one, PNHENTOP, that is, Physiotherapist, Neurologist, Heart- Specialist, Ear-Nose-Throat, Orthopedic & Physiotherapist all in one. As per the NEP (2020) our Higher Education will deterministically prove its identity at the functional level. It will justify its name only when it revives our legacy and realizes our dreams. It will groom us into our ancient universities and religious scriptures, as well as, facilitate full, meaningful, peaceful, happy, and healthy coexistence! The ultimate aim of our Higher Education or University Education is Uni-verse. To realize uni-verse all the constituents of the universe have to be in unison, treating every one as a source than re-source. There has to be eternal connect of AATMA with PRAMAATMA. We believe in SATYAM-SHIVAM-SUNDARAM. We need humanistic, holistic, completely interconnecting always smiling Vice- Chancellors of the Universities who can nurture the legacies and sustain the dreams. Who believe in growing together, developing together, where, the journey is eternal despite all the odds and evens. Let us utilize our Collective Wisdom for Development of Thy Creation! AUM NMAH BHAGWATE VASUDEVAE!

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Higher Education in India: Entrepreneurship

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Gujarat, India

Indian Education has always been higher. We the citizens of India, holistic beings, have an excellent entrainment of body-mind-heart-soul as integral self. No forces, however wild, can disturb us. We have due depth in all the domains, academic or professional. While the universe is in flux, it is India, who can revive the peace and contribute significantly to the sustainable development.

Indian Education has been unique. The globe as a whole likes to emulate Indian Education, teachers, and learners. 11th of November is celebrated as National Education Day in India commemorating the Birth Anniversary of Maulana Abul Kalam Azad. Maulana Abul Kalam Azad was an Indian Scholar and a Senior Political Leader of the Indian independence movement. He was the first Education Minister of independent India. In 1992 he was posthumously awarded India's Highest Civilian Award, the BHARAT RATNA. He is commonly remembered as Maulana Azad. Maulana is an honorary title meaning 'Learned Man'. He had adopted Azad (Free) as his pen name. His contribution to establishing the Education Foundation in India is recognized by celebrating his birthday as "National Education Day" across India. *The emerging question is how many of us have liberated ourselves from Caste, Creed, Region, Religion, and Parties as Maulana Azad? How many of us have transcended ourselves of Time, Space, & Mind? How many of us are universal beings? Let us visit Al-Hilal, the crescent moon, the rare revolt, the rare fire, contributing to AZADI of India of the British regime.*

There is a need of both revival & rejuvenation of our Education. We need Health Education, Peace Education, Humanity Education, as well as, Digital Education, Physical & Chemical Education, & above all Polity & Economics Education & Mathematics Education, both, differential & Integral. MRI Scanner Education, Aviation Mentoring & Monitoring Education and Image Processing Education are also desirable. Most of us have Psychological Problems right from Public to Politicians and Beggars to Capitalists. We need Civilization, as well as,

Modernization. We need Innocence, as well as, Vigilance. Come what may, we have learnt to live with Truthfulness, Compassion & forbearance. We believe in giving & forgiving. The Preamble of India is- A sovereign, socialist, secular, democratic republic.

Recently we have celebrated Vigilance Awakening Week, that is, *SATARKTA JAAGROOKTA SAPTAH*. A thorough analysis of the theme reveals that had we been vigilant and conscious no power of the universe, howsoever wild could rule us. But, how were we enslaved for centuries? It is a basic question for all of us. The immediate response to this question is that we were negligent rather than vigilant. Our humanistic innocence was misused. Let integrity be our way of life. Let us remain honest. "Honour or Shame from no condition rise act well your part there all the honour lies."(Alexander Pope, English Poet (1688-1744)). A cobbler who repairs the footwear easily, precisely, happily, polishes with full immersion & satisfaction is infinitely better than a functionary who neither satisfies the self nor others, rather, multiplies problems. Let us act honestly with competence & full immersion.

Here is a poem- A Psalm of Life composed by Henry Wadsworth Longfellow (1807-1882):

What the Heart of the Young Man Said to the Psalmist:

Tell me not, in mournful numbers
"Life is but an empty dream!"
For the soul is dead that slumbers,
And things are not what they seem.

Life is real! Life is earnest!
And the grave is not its goal;
"Dust thou art, to dust returnest,"
Was not spoken of the soul.

Not enjoyment, and not sorrow,
Is our destined end or way;
But to act, that each to-morrow
Finds us farther than to-day.

Art is long, and Time is fleeting,
And our hearts, though stout and brave,
Still, like muffled drums, are beating
Funeral marches to the grave.

In the world's broad field of battle,
In the bivouac of Life,
Be not like dumb driven cattle!
Be a hero in the strife!

Trust no Future, howe'er pleasant!
Let the dead past bury its dead!
Act, --act in the living Present!
Heart within, and God o'erhead!

Lives of great men all remind us
We can make our lives sublime,
And, departing, leave behind us
Footprints on the sands of time;

Footprints, that perhaps another,
Sailing o'er life's solemn main,
A forlorn and shipwrecked brother,
Seeing shall take heart again.

Let us, then, be up and doing,
With a heart for any fate;
Still achieving, still pursuing
Learn to labor and to wait.

The culture of India is in tune with the composition of Henry Wadsworth Longfellow.

We are free birds. We have our own constitution. We have Hind Swaraj. The ultimate goal of Indian Education is development of universal beings- having healthy interrelation, interdependence & integration with all the entities of the universe.

We are trying to meet our predicaments of education at all levels. There have been many a moves right from facilitating first transition of a child from home to pre-school, Right to Education, National Initiative for School Heads' and Teachers' Holistic Advancement (NISHTHA) and Learning Outcomes. But the basic question lurking is what after degrees? Let us ask any young graduate, today, that what the fellow is doing. Very often the response is *NOTHING. What do you intend to do? Do Not Know. Even a sizable number of Engineers who have been serving for more than a decade are dislocated. Why? We are blindly imitating others in all domains of our lives. What has gone wrong with us?*

Historical Perspectives of Indian Education

Historical perspectives of Indian Education can be viewed through the study of the following:

1. Vedic Education
2. Buddhist Education
3. Medieval Period
4. Wood's Dispatch 1854
5. Lord Stanley's Dispatch 1859
6. Indian Education Commission 1882
7. Government of India Resolution on Education Policy 1904
8. Government of India Resolution on Education Policy 1913
9. Calcutta University Commission 1917
10. The Hartog Committee Report 1929
11. The Abbott Wood Report 1937
12. The Sergeant Report 1944
13. The University Education Commission 1948-49
14. The Secondary Education Commission 1952-53
15. The Kothari Commission 1964-66
16. National Education Policy 1968
17. The Curriculum for the Ten Year School, a Framework 1975
18. Chattopadhyaya Committee 1983-85
19. National Policy on Education 1986
20. National Curriculum for Elementary and Secondary Education, a Framework 1988
21. The Acharya Rammurty Committee 1990
22. National Curriculum Framework for School Education 2000
23. NCF 2005
24. NCFTE 2009
25. Justice Verma Commission 2012
26. National Education Policy 2019

All the Committees, Commissions & Curriculum Frameworks over centuries have made fully valuable & functional recommendations, but, to what extent our education has utilized these.

Developments in Indian Education

Some of the developments in India post-independence are as follows:

- Sarva Shiksha Abhiyan (SSA)
- Right to Education (RTE)
- National Programme for Education of Girls at Elementary Level (NPEGEL)
- Rashtriya Madhyamik Shiksha Abhiyan (RMSA)
- Inclusive Education for the Disable at Secondary Stage (IEDSS)
- Saakshar Bharat/Adult Education

- Rashtriya Uchchatar Shiksha Abhiyan (RUSA)
- NROER- National Repository of Open Education Resources: It is an initiative of the MHRD, GoI and CIET-NCERT to bring together all digital and digitisable resources across all stages of School Education & Teacher Education. Resources are available in 29 different languages. E-resources of NROER can also be accessed offline through school server.
- ePathshala website and Mobile App
- e-PGPathshala: It is an initiative of the MHRD under National Mission on Education through ICT (NME-ICT). The modules for M.Ed. and M.A. Education are being developed jointly by the University of Allahabad and CIET-NCERT. These modules will be available on the following web sites:
<http://epgp.inflibnet.ac.in>
<http://eacharya.inflibnet.ac.in>
<http://nroer.gov.in>
- SWAYAM- Study Webs of Active-Learning for Young Aspiring Minds
- SWAYAM PRABHA- The SWAYAM PRABHA has been conceived by the MHRD, GoI as the project for using the two (2)-GSAT-15 transponders to run 32 DTH channels which will telecast high quality educational programs on 24X7 basis. Every day , there is new content of at least 4 hours which is repeated 6 times a day. MHRD has nominated NCERT as the National Coordinator for one such channel. CIET-NCERT is disseminating curriculum based ETV programmes for class IX-X and XI-XII through DTH –TV transmission.
- MOOCs for PG Students
 UGC is the National Coordinator for development of MOOCs for non-technical post-graduate degree programs. CIET, NCERT is developing MOOCs for the subject of Education. The courses developed so far have been hosted on SWAYAM. A learner can earn certificate/credits on successful completion of any course on SWAYAM.
- Revision & digitization of all the books of the NCERT
- Elementary Learning Outcome Document of the NCERT
- NISHTHA- National Initiative for School Heads and Teachers Holistic Advancement

Developmental Challenges of India

We have many a developmental challenges, such as, Assimilating the globalization, Continuous updating of Knowledge & Skills, Creating new age institutions, Balancing materialism and values of orient, Phantom use of Resources, Trans-planet technology stabilization, Working with multiple languages and multiple cultures, Meeting the climatic & environmental challenges, Sustaining development, Collaborative Living, Wholistic development, Developing Vocational Skills, Enhancing Communication Skills, Quality control, Removing Public Private dichotomy, Controlling Rising materialistic values, Realizing even distribution, Controlling Ecological imbalances, Fair Recognition, Valid Accreditation, Sustaining Symbiosis, Respecting Cultural

Heritage, Sustaining sensitivity to the basic values, Convergence of State, Society, Education & Judiciary, Respecting Rights of all, Transcending time, space & mind. We have become insensitive to our Indian Heritage of peaceful struggle. Each one of us needs to recreate, revive and refresh ourselves wholistically to value our heritage and build a Strong, Powerful, Cultured, Dedicated, Gracious and Pioneer India.

Essential Attributes of Entrepreneurs

- Germination, incubation, innovation
- Skill, Scale & Speed
- Determination & action
- Creation & construction
- Risk taking
- Feel of the field
- Honest connection

Areas & Approaches of Entrepreneurship

All the domains of life demand entrepreneurship. Some of our focus domains are as follows:

1. Agriculture & Horticulture

India is basically an agrarian society. But, our agriculture is fading day by day. Our farmers are not getting return on investment. There are many profit intermediaries between producers and consumers. Though the yield has increased significantly, but, the quality of crops has gone down. The producers of food grains are starving and striving. The fertile lands have been divided into sectors. Who issues the land conversion certificates? What are the rules & regulations? It seems that agriculture has become our least priority. How the once agriculture rich states, namely, Haryana & Punjab have gone down? Why should we harvest rice where there is scarcity of water? What is our relative priority for agriculture, industry, education, house hold buildings, molls, and hospitals? The gardens are disappearing day by day. What is the level of control on green washed vegetables and injected vegetables and fruits in the markets? What is the level of honesty? There is a need to revive, both, the agriculture and horticulture. Agriculture Universities should guide the nation to these effects.

2. Digital Culture

It seems that digital culture is the top priority of India. We have integration of technology in almost every domain of life. Now we are in the realm of AR, VR and QR. Progressively, our focus has been on e-PUB. We are energizing text books. We need to develop digital culture very carefully. There is a need of proper planning for industrial

growth and automation and building talented and competent engineers in good number. China has started 5G, IoT (Internet of Things) and AI on big scale in their industry. China has developed Exascale Computing Chips, and competing in every sphere in science, engineering, telecommunication with USA.

3. Identification of Quality Institutions

Identification of the quality institutions has to be done very carefully. There ought to be cross validation of the ratings by various agencies to arrive at a kernel of congruence with respect to the status of a higher education institution. Indian Higher Education has been known for its quality since the establishment of the Ancient Indian Universities, namely, Nalanda & Takshila. Modern Indian Higher Education Institutions, namely, Indian Institute of Science, Bangalore and Indian Institute of Technology, Indore have been struggling for sustainable development of the Higher Education. But, progressively, the degeneration of a large number of Indian Higher Education Institutions is on the fore. It is mainly because of neo-liberalization, neo-privatization & blind- digitization. Liberal Art has become so liberal that it has lost its identity. Similar is the state of Science & Technology. Our fresh Engineers, how-so-ever, skilled & learned are wandering here & there for their survival. We are busy without business. Commerce is largely without service motive. Bureaucratic, conservative, table to table self killing model is leading our higher education nowhere. Values of the east are lost, whereas, the western styles & values are pouring. We have become more smart than civilized. There is identity crisis of Higher Education in India. What use are the degrees of a degree? DAAN, ANUDAAN, VIDAAN have lost their values. Charity with brand is no charity. University grant is the right of People in democracy, but, it has lost its grace. Convocations without invocation are useless. Neither there is content base, nor that of skills & competencies. ANUPRANIT ANUBHOOTI is rarely found amongst the graduates. Convocations have become customary. What is higher in higher education? Unless we revive our ancient values & life styles we will be nowhere. There is an immediate need to nurture & culture higher education. Progressively there is degeneration of autonomy & quality, both. Autonomy is self governance, self determination & action, where NITI & NIYOJAN, both, are in one. Autonomy flows through self determination & action. Autonomy survives with freedom & independence, introspection & self regulation. Autonomy cannot be bestowed. It is self cultured & nurtured. Germination, incubation, creation, construction & connection are the essential features of autonomy. Only the pioneers can be autonomous & excellent. False names & fames lead us nowhere. Even false awards & rewards are too meek and weak to exhibit excellence. Baseless foundation stones cannot hold the buildings. Even the stones of such foundation stones are lost what to talk of buildings on these. Autonomy is evidently realized through zeal & determination, choices & actions, skills & competencies, free feelings attitudes & philosophy of life, knowledge base than through false degrees, designations & bestowed administrative positions. We have grossly failed to realize autonomy & excellence. It does not mean that we do not observe excellence. But, very often, we are merit blind.

Autonomy & excellence are like quintessential recluse. These do not like to be recognized , rewarded & awarded. Their level of excellence is so high to be recognized by the so called expert committees, in fact, very often there is a tendency to neglect & derecognize the autonomous.

4. Hard Skills & Soft Skills

Ultimate aim of Education any where should be to develop a complete human being. For that skills need to be developed in all the domains to live happy, productive and peaceful life. Hard skills are the core skills which are required for innovation, creation, construction, and production in various disciplines, such as, Physics, Chemistry, Mathematics, Biology, Engineering & Technology, Arts, Commerce. The various phases are sensitivity, germination, incubation, innovation, creation, construction, development and implementation, whether it is designing, production and flying of an aero-plane or sensing, creating, composing and reciting a poem, or formulating, producing, analyzing and injecting a drug, or designing, development, organization and administration of an institution. Soft Skills are needed for everyday transaction. These are required for how people relate to each other: communicating, engaging in dialogue, giving feedback, cooperating as a team member, contributing in meetings and resolving conflicts, setting an example, team-building, facilitating meetings, encouraging innovations, solving problems, making decisions, planning, delegating, observing, instructing, coaching, encouraging and motivating. To be good at hard skills usually takes smarts or IQ (also known as our left brain-the logical center). To be good at soft skills usually takes Emotional Intelligence or EQ (also known as our right brain- the emotional center). Hard skills are skills where the rules stay the same regardless of which company, circumstance or people you work with. In contrast, soft skills are self management skills and people skills where the rules change depending on the company culture and people you work with. For example, programming is a hard skill. The rules for how we can be good at creating the best code to do a function is the same regardless of where we work. Communication skills are a set of soft skills. The rules for how to be effective at communication change and depend on the audience and the content we are communicating. Hard skills can be learned in school. There are usually designated level of competency and a defined path as to how to excel with each hard skill. Most soft skills are not taught well in school and have to be learned on the job by trial and error. Careers can be classified into three categories, careers that need hard skills and little soft skills, both hard & soft skills, mostly soft skills and little hard skills.

But, Hard Skills & Soft Skills combination is rarely found. There is less research, but, more publication, less creation but more communication, less production, but, more marketing and vice versa. Masses are lost in customary designs. Hard Skills which emerge through sound theoretical base or lead to theory, with practice, patience and perseverance having precision and

perfection passionately emerge. Soft skills demand environmental sensitivity & action. Communication, transaction and transmission through the soft skills infuse life into this sphere.

Here, the intent is to arrive at a combination of hard skills & soft skills. Hard and soft skills are often referred to when entering into & living a profession. While hard skills are essential to enter, it is the soft skills that facilitate professional ethics & aesthetics. To be a good personality fit for any profession we need to be quality producers, humanistic communicators, and civilized & scientific consumers

5. Need Based Programs

We need to identify need based programs of Higher Education. Our universities out to be true representatives of the universe. Higher Education can remain higher only with innovations. Every moment it ought to add to the knowledge base. There should be due focus on Research & Development.

6. Learner Designed & Learner Driven Pedagogy

Even in Higher we have practices of teacher designed and teacher driven pedagogy. Entrepreneurship demands a shift from teacher designed & teacher driven pedagogies to teacher designed and learner driven pedagogy. Progressively, there should be a practice of learner designed and learner driven pedagogy.

Concluding Remarks

The ultimate aim of Education is development of Universal beings. It deals in full, meaningful, happy, healthy, resonating and sustainable life of every organism & entity. There is need to move from Human Development Index to Universe Development Index. There is a caution that progressively we are becoming market oriented than society oriented, profit oriented than service oriented, resource oriented than source oriented. Technology quotient is trying to superimpose intelligence quotient, emotional quotient, spiritual quotient, health quotient, and environment quotient.

We are busy with deletion than construction and connection. It is high time that we revive our heritage & culture which is full of truth, compassion and forbearance. It is high time that we realize SHUBH LABH, that is, hard earned Profit through determination & action with full immersion seeking the beauties of life & living. The first & ultimate aim of Indian education is to realize universal beings. India is striving for wholistic development of all, where, each bud blossoms, blooms, and spreads fragrance. We feel proud being the product of Indian Education, where, we have the right to education. We have been constructed through the persistent patience, competence and struggle of our teachers. Our Educational Institutions have been and are the learning organizations in the prayer, in the classroom, in the corridor, in the library, in the

laboratory, in the play fields, in the Health Center, in the community, everywhere. That is why the globe at large aspires to emulate Indian Education. There is an immediate need for Indian Education to strengthen & sustain its Universal Identity.

With all ifs and buts, the Indian Education will continue serving the universe with all dedication, addressing all problems of all. New Age Institutions are being created and old age renewed for continuous updating of knowledge and skills, developing inner power and social ethos. There is progressively phantom use of resources. Symbiosis, peace & harmony, health & hygiene, production & Marketing, Scholarship & Exchange, indigenous creation & trans-creation, research & construction are becoming the salient features of Indian Education. Let us revive & modernize Indian Education. HAPPY NATIONAL EDUCATION DAY! India. Could we aspire for Indian Class Education which is service oriented, society oriented and Life oriented than Profit Oriented & Market Oriented? Indian Education should not be mad after becoming DIGITAL.

There is a Poem- NAR HO , NA NIRASH KARO MAN KO by KAVI MAITHILISHARAN GUPT which keeps motivating us very often to remain active:

Kuch Kaam Karo, Kuch Kam Karo
Jag Mein Rehkar Kuch Naam Karo
Yah Jnm Hua Kis Arth Aho
Samjho Jismein Yah Vyarth Na Ho
Kuch To Upyukt Karo Tan Ko
Nar Ho, Na Nirash Karo Man Ko!

Sambhlo Ki Suyog Na Jaaye Chala
Kab Vyarth Hua Sadupaye Bhala
Samjho Jag Ko Na Nira Sapna
Path Aap Prashast Karo Apna
Akhilshvar Hain Avalamban Ko
Nar Ho, Na Nirash Karo Man Ko!

Jab Prapt Tumhen Sab Tattv Yahan
Phir Ja Sakta Vah Sattv Kahan
Tum svattv Sudha Ras Paan Karo
Uthke Amartav Vidhan Karo
Davroop Raho Bhav Kanan Ko
Nar Ho, Na Nirash Karo Man Ko!

Nij Gaurav Ka Nit Gyan Rahe
Hum Bhi Kuch Hain Yah Dhyan Rahe

Marnontar Gunjit Gaan Rahe
Sab Jaaye Abhi Par Maan Rhe
Kuchh Ho Na Tajo Nij Sadhan Ko
Nar Ho Na Nirash Karo Man Ko!

Prabhu Ne Tumko Daan Kiye
Sab Vaanchit Vastu Vidhaan Kiye
Tum Prapt Karo Unko Na Aho
Fir Hai Yah Kiska Dosh Kaho
Samjho Na Albhaya Kisi Dhan Ko
Nar Ho Na Nirash Karo Man Ko!

Kis Gaurav Ke Tum Yogya Nahin
Kab Kaun Tumhe Sukh Bhogya Nahin
Jaan Ho Tum Bhi Jagdeeshvar Ke
Sab Hain Jiske Apne Ghar Ke
Fir Durlabh Kya Uske Jan Ko
Nar Ho Na Nirash Karo Man Ko!

Karke Vidhivaad Na Khed Karo
Nij Laxya Nirantar Bhed Karo
Banta Bas Udyam Hi Vidhi Hai
Milti Jisse Sukh Ki Nidhi Hai
Samjho Dhik Nishkriya Jeevan Ko
Nar Ho Na Nirash Karo Man Ko!
Kuchh Kaam Karo Kuchh Kaam Karo!

Indian Education: Revival & Rejuvenation

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Life is better defined by choices and actions than by degrees designations and positions. Life is better defined by feelings into actions. So, the first and foremost exercise which we need to do is the adaptive and perfective maintenance of the education curricula. There should be limited curricula from ANGAWADI early childhood care and education through preparatory, middle and Secondary Education. The elementary education should be elementary in the real sense. The secondary education should culminate into entrepreneurship. The higher education should justify its name as higher. It ought to be both, conservative and innovative. The universities ought to be representative of the universe. There is a need to revive education & Teacher Education in India. There is a need to resolve public & private dichotomy in Indian Education. There is a need to revive Teacher Education in India.

a. School Education:

1. There should be exhaustive efforts to facilitate first transition from home to pre- school to facilitate inclusive education at the ANGAWADI!
2. All children of this age group should be brought to the school, irrespective of the occupation of their parents.
3. There should be healthy ANGAWADI for these children.

4. Health & Hygiene ought to be fully observed. Nutritive food, self prepared food at school, needs to be served. There should be separate staff for the purpose.
5. There should be greenery and plantation during the presence of these children.
6. Play ways ought to be designed and implemented for these children.
7. There ought to be mobile ANGANWADIS for the nomadic tribes.
8. There ought to be institutions for the Acrobats.
9. Three language formula should be employed amicably in Indian Education, that is, Mother Tongue, Regional Language and National/International Language.
10. The two streams, that is, academic & vocational be blended at +4 level of the schooling pattern (5+3+3+4). School Education should culminate into Entrepreneurship.

b. Higher Education

1. Many a State Universities are in very miserable state. If, these are not ready to reform then why not Education be placed only in the central list.
2. There is Adhocism both in Higher Education Administration & Teaching. Many a University administrators are Adhoc Officers on Special Duties. Many a University Teachers are Temporary Teaching Assistants. Adhocism has become a regular practice. We need to do away with Adhocism. Otherwise, there would be void & vacuum in the Higher Education of the States of India.
3. There should be norms for appointing the Vice Chancellors, Executive Members and Senate Members. These norms ought to be observed.

4. There should be uniform curricula of Science, Mathematics, Engineering, Technology, and Medicine throughout India, to control any further dilution.
5. The Liberal Arts should be fully strengthened. The power of India can be revived through the Cultural Heritage & Religious Heritage of India. We do not have any right to treat the Liberal Arts casually, arbitrarily.
6. Teacher Education Policy, Health Education Policy, ICT Education Policy should have the same status as that of Economic Policy and Fiscal Policy.
7. Minimum 6% GDP should be spent on Education.
8. Minimum 2 % of the GDP should be spent on Research.
9. The Ph.D. Course Work made mandatory has mechanized Research in all the disciplines, all over India. The nation should attempt, aggressively, to de-mechanize research.
10. The Academic Performance Indicators of the Indian Higher Education need to have fool proof Scientific Bases. The prevailing scenario calls for a Countrywide Reflective Dialogue.
11. Grants & Endowments are respectable in the Realm of Education, but, to sustain the status as "**Higher Education**", the Higher Education should construct its own Patents to be independent & self-supportive.
12. Higher Education should realize autonomy in its True Sense and Spirit. It should no more be governed by Bureaucratic, Conservative, Hierarchical systematically Self-Killing System. Nobody will bestow autonomy. We Higher Education Teachers, only, have to initiate a **Higher Education Freedom Movement**.
13. No State should ever commit the mistake of superseding Education, because if Education is dead the Nation is dead. The bureaucrats, however learned, be advised to abstain from even thinking of superseding Education. To revolt against any bureaucratic threat the **Education has to sustain and demonstrate its true identity**.
14. Who is the most Supreme Governor of India? Is it Education? Is it Society? Is it State? Is it Legislative? Is it Executive? Is it Judiciary? The

immediate history is a witness to judicial over-activism. Why? No in-depth evidence is required to infer that all the rest have more or less lost their identities. It is bitter to relish the hard reality. The fact is that we all have over loaded the Judiciary to be over-active. Due to over-load on any system, either it goes mad or burns out. ***It is Education and Education only, and more so, the Higher Education, which can bewitch the minds and control the crimes.***

15. Let us introspect whether, we are performing our duties and roles properly. Convention on the Rights of Children assures Children of their Rights, but, who will ensure. Universal Declaration on the Human Rights declares Human Rights, but who will observe Human Rights. Does the Constitutional Right to Education Ensure Education? Unless wholistic systemic reforms are done systematically, scientifically, no single agency can help the universe. Shall we recall the Philosopher Honorable Servapalli Radha Krishnan? Shall we recall the Educationist Maulana Abul Klam Azad? Where from to reproduce them wholistically? Even, the parts of the old machines are not available. Let us innovate. Who stops us? ***There are wide gaps between idealism & realism. Unless each one of us is fair, sincere and dedicated, not even God would like to help us.***
16. The entire Higher Education is sick right from Higher Education Policy to Practice, from Gross Enrolment Ratio to the % of the Pass-outs Employed. Over and above, the norms at all phases of the system parameters are highly wanting. ***The input norms, process norms, output norms, pick-place & promotion norms have to be worked out very scientifically.***
17. There is no Parallel amongst the Higher Education Institutions across India. Why? There is no comparability amongst the products of the various institutions, though towards the same PG Degrees or PG Diploma. The services rendered in one State largely do not count towards the service benefits in the other States. The superannuation age varies from State to State, State University to Central University. It ranges from 58 to 70. It is because neither we owe an explanation to the self nor to others. The Higher Education Institutions have become merely political hubs.
18. NITI has been asked to advise how to recreate Higher Education. It does not take much of time to destroy, but, it takes many a life time to create,

construct and connect. Along with fault finding tendency we should learn how to appreciate the devotion, dedication and patriotism of Indians. There is no end to perfection.

19. Problem is neither with the intelligentsia nor idealism. Problem is with the heart-set, mind-set, hand-set and soul-set. Could the Higher Education respect and inculcate all the essential values, such as, Truthfulness, Reliability, Responsibility, Honesty, Discipline, Patriotism, Citizenship and above all Humanism. We should respect the non-native, but, first of all, let us learn to love the self and indigenous. The foreign Colonies have gone, but still we have, suo motto imperialism even in democracy. ***When will we learn to love and adore the Hind Swaraj?***

20. Is there no Press and Publisher in Our Village, Town, City, District, State, Neighbour State, Nation, Continent, that we like to fly to Oxford, Cambridge, VDM, to get our publications done? It is good that through this plight we are trying to realize the Universe- ideas ought to be distributed and disseminated globally. But, the problem lies elsewhere- ***We value more where it is published rather than what is published.*** We are seeking high- fidelity media. Cannot we develop these in India?

21. Let us abstain from directing & dictating Higher Education, simply, because by virtue of its core & soul it is Higher Education.

22. There is evident tussle between communism and socio- capitalism. What could be the resolve?

23. The new Education Policy is expected to resolve the public & private dichotomy in Indian Education at all levels.

c. Educational Technology:

1. The title of this chapter in the draft education policy (2019) should be Educational Technology. Education and Technology ought to be thoroughly interwoven.

2. The objectives of Educational Technology should be broad based. In addition to the four domains, namely, teacher preparation, continuous professional development of teachers, teaching-learning-evaluation and inclusive education there should have been focus on the Management

Information System Series in Education; from infrastructure, through induction, Time Space Personnel Management, LRMS, Laboratory Management, Management of Play Fields, Management of Canteen, research & development, networking of the educational institution within & between, payroll, dissemination & deployment.

3. Any educational institution should be fully interconnected.
4. Rather than private vendors managing the ICT integration in Education it is high time to manage it independently, because all the approaches under Build-Operate-Own-Transfer (BOOT) have evidently failed.
5. Rather than NETF there should be a Consortium of Educational Technology networking the CIET, IITs, IIITs and IIMs.
6. There is a lot of investment in Educational Technology, but, the return on investment is very poor. Educational Technology should find expression in each & every bit of Education.
7. Personal technologies, as envisaged by the DNEP ought to be utilized under full control.
8. There is an immediate need to integrate ICT for the CWSN and inclusive Education. It should find expression in the form of hardware & software.
9. Digital India drive should be with a thorough understanding of the eastern religion & western thought.
10. We ought to be very careful while designing & employing augmented reality & virtual reality (AR & VR).
11. The characteristics and compatibility of all the OERs & MOOCs ought to be well established.
12. There should be technology supported mobile schools for the nomadic.

13. There should be an immediate shift from teacher driven pedagogy to learner driven pedagogy employing technology.
14. Technology ought to be judiciously used, not for the heck of it.
15. There should be media culture in India.
16. Educational Technology should provide a pointer to the latest learning resources.
17. We should zap the useless repositories and depositories of technology resources.
18. Educational technology ought to be aggressively employed for realizing interdisciplinarity & multidisciplinary.
19. Everyone in India should be educated to be info-savvy & techno-savvy.

d. Teacher Education

There has been evident degeneration of Indian Teacher Education, more so, during the previous decade, that is, 2010-2019. The first blow on the Teacher Education was when the MHRD tried to supersede the NCTE during 2011. The second blow was when the Journals being published by the NCTE, namely, Teacher Support, ANVESHKA, Indian Journal of Teacher Education, though substantive, were abruptly stopped by the NCTE during 2015. The intent of the present note is to revive & rejuvenate the Indian Teacher Education.

Here are some suggestions.

1. A M.Ed. degree holder is quite competent for teaching pure education, as well as, pedagogy. An M.A. Education is quite competent to teach the foundation/core courses of Teacher Education. M.A. (Education) and M.Ed., both, have their established identities to offer to the field of Teacher Education. The M.Ed. program can be strengthened by greater input of

conceptual & theoretical aspects. The various theories of learning & instruction as also classroom management dimensions can be added. This will bring about parity with the M.A. Education conceptual framework and serve as a bridge course. On the other hand aspects of pedagogical sciences related to child psychology, instructional techniques and evaluation procedures can be added to the M.A. (Education) putting these on equal footing.

2. The NCTE should bring clarity in the norms for B.Ed. & M.Ed. integrated programs. The partnership among the schools and Teacher education Institutions ought to be strengthened, incentivized, economically, sociologically & psychologically. Lengthier internship has been recommended on the premise of medical students who are given stipend during this period. Same facility ought to be extended to the B.Ed. integrated internees. There should be an attempt to further professionalize through attachment with the quality educational institutions. Interchange of the Teacher Trainees should be promoted. Competitions could be organized and the good & innovative teachers be given due appreciation and commendation.

3. Teacher Education- Stand Alone & Integrated, both, should go on. There should be no moves to switch over from the stand alone to integrated without any research base.

4. There is a little doubt that the existing institutes to be consolidated further. The teacher education complexes could be developed encouraging exchange teachers, teacher educators and resources, both, academic & physical. Periodic peer assessment may be promoted. The students should have a role in evaluating the performance of the teachers, as also, that of the institution.

5. We should do away with TET, TAT, NET and SLET by duly focusing on all the systemic parameters- input, process and output. This in fact is undermining & disowning the degrees earned.

6. All the Teachers and Teacher Educators should be competent in ICT with respect to the entire Education System.

- a) There is a need do delineate the structure & functioning of the NETF envisaged for the Higher Education.
- b) All the models by the private vendors under the Build Own Operate Transfer (BOOT) of the technology have failed. The educational institutions should evolve their own independent designs.
- c) Personal technologies, as envisaged by the DNEP ought to be utilized under full control.
- d) There is an immediate need to integrate ICT for the CWSN and inclusive Education.
- e) Digital India drive should be with a thorough understanding of the eastern religion & western thought.
- f) We ought to be very careful while designing & employing Augmented Reality & Virtual Reality (AR & VR).
- g) The characteristics and compatibility of all the OERs & MOOCs ought to be well established.
- h) Educational Technology ought to be integrated in Teacher Education with respect to the entire Management Information System Series, such as:

- ❖ Infrastructure
- ❖ Admission
- ❖ Time Space Personnel Management
- ❖ Learning Resources Management
- ❖ Teaching Learning & Evaluation
- ❖ Teacher Training
- ❖ Continuous Professional Development of Teachers
- ❖ Inclusive Education
- ❖ Payroll
- ❖ Networking

7. There should be an immediate shift from Teacher Driven Pedagogy to Learner Driven Pedagogy.

8. Innovative approaches, such as follows be employed in Teacher Education:
 - a. Personalized Teacher Education
 - b. Wholistic Teacher Education
 - c. Inter-disciplinary Teacher Education
 - d. Constructivist & Connectionist Approaches
 - e. Participatory Approach of Problem Solving
9. Foolproof mechanisms be evolved for recognition of the Teacher Education Institutions.
10. Criteria & mechanisms be evolved for valid assessment & accreditation of the Teacher Education Institutions.
11. Teacher Education should be supplemented with the e- Modular Approaches at all levels.
12. The regional committees of the NCTE should be fully functional.
13. There is an immediate need for Scientific Manpower Planning in Teacher Education.
14. Progressively there is a craze for OERs, MOOC, Augmented Reality & Virtual Reality. The characteristics of all these ought to be fully established and utility ensured.
15. There is a need to revive ancient Indian Teacher Education, such as, that of Escola Normal Goa.
16. There is a need to modernize Indian Teacher Education, such as, from F2F to e-Teacher Education.
17. The NCTE should revive the publication of its journals without further loss.

18. Live Countrywide Telecasts on Teacher Education be the regular feature in India.
19. There ought to be added focus on Inclusive Teacher Education.
20. Every lesson design for Teacher Education should delineate objectives with respect to all the domains (Cognitive, Affective & Psychomotor).
21. The entire taxonomy of Educational Skills needs to be integrated in Teacher Education.
22. ***Shrimadbhagwadgeeta*** should be included in the Philosophical Foundations of Teacher Education.
23. There should be dedicated Teacher Education Policy in India.
24. There should be ample emphasis on developing Humane & Professional Teachers.
25. Common Wealth Consortium of Teacher Education should be established in India.

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International Scenario of Indian Higher Education

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Takshshila, the first university of ancient India was established in 700 BC at Takshshila. Other ancient universities of India were Nalanda, Vikramshila, Vallabhi, Odantpuri, Jagdalpur, Kashi, Kashmir, Mithila, Nadia, Dhara and Kanyakubj. These ancient Indian Universities have been centers of learning for the entire universe. The ultimate aim of education is self realization establishing networks with the creator and the created. The ancient Indian Universities have contributed significantly in realizing this vision through eternal missionary spirit. How to learn to live together peacefully transcending time-space-mind-caste-creed-region and communal fundamentalism could be very well learnt through these ancient Indian universities. Wish we could emulate the profiles of the governors, administrators, teachers, learners, DVAR-PANDITS, curricula, modes of transaction, the body and soul of these universities.

World Class Ancient Universities of India

1. Takshshila (TAKK+SHILA, that is, TRKSHILA)

The mention of Takshshila Nagri is there in Ramayana and Mahabhart. The Greek Travellers, namely, Arian and Stravo have narrated the prosperity of Takshshila. Havensang, a Chinese Traveller has described Takshshila as a Center of Higher Education. Marshal and Kanhingam through Archelological Excavation of Takshshila found 55 Satoop, 28 Vihar and 9 temples. In 1924 A.D. a Mudra-Kosh & Aabhooshan-Kosh were found from Takshshila. These are some of the evidences of the historicity of Takshshila. Students from Varanasi, Patliputra, Rajgrah, Mithila and Ujjani came to study in Takshshila University. A famous student of Takshshila from Patliputra, who was contemporary of Buddha studied Medical Sciences here, and emerged as

super most Medical Scientist then. Kaushal Raja Persenjit, Maurya King Chandra Gupta, Experts of Grammar Panini, great economist Kautilaya & Patanjali were the products of Takshshila University. Various Courses, namely, Vedtra, Ashtadadh Shilp, Grammar and Philosophy were offered at Takshshila University. The Higher Education of Allopathic, Surgery, War Education, Astrology, Agriculture, Chariot Driving and Trade was offered here. Takshshila was well known for Art Education in Eighteen areas, such as, Art, Trade, Music, Dance, Chitrkala, Takshan Kala, Astadash Shilp, Indrajal, Nag Vashikaran, Guptnidhi Anveshan Vidya. Takshshila University was managed by Teachers and Students. There was an extremely large number of Naisthik Berhamcharis during the Jatak Yug here. Each Acharya was taking care of the Education of five Students. There was no discrimination among students on the basis of caste, creed. Brahman, Kshtriya and Vaishya all were treated at par. There was a tradition of Guru Dakshina. Gifted Students, but with economically poor background were taken care of by the State & Society.

2. Nalanda (NA+ALAND+DADATI ITI Nalanda, that is, JO KM NAHIN DETI VAH Nalanda)

Nalanda University was a center of learning for knowledge seekers. They not only studied here, but transcreated the knowledge. Situated at 55 miles south of Patna (Patliputra) and 7 miles north of Rajgrah, the ancient Nalanda has its remains (Khandhar). The foundation stone of the Nalanda University was laid by Gupt Samrat Kumar Gupt-I. Students from Middle Asia, China, Tibbat, Korea used to come to seek admissions here. The Entrance Examination was very tough. The candidates had to dialogue with the Dwarpal (Dwarpandit) first. On the basis of successful dialogue, this Gate Keeper would permit only 1 to 2 candidates out of 10 to enter. It was a honour to get admitted and being the Student of Nalanda. These students were respected throughout the country. Only gifted students could get admission in Nalanda University. Even then the strength of students in Nalanda was greater than that of any other university in the world. During the visit of Itsingh (675 A.D.) the student strength of Nalanda was 3000, whereas, during the visit of Shavan– Chang it went up to 10,000. There were students from Tibbat, Korea, Tushar and Central Asia also in this University. Yuvan-Chang, Itsingh, Thanmi, Havenchiu, Tau-Hi-Havi-Niah, Aryavaman have been some of the well known students of this university. Kulpati Sheelbhadra (635 A.D.), during the visit of Yuvan-Chang was found to have assimilated the Sutras and Shastras available at that time. Yuvan-Chang has made a mention of the Intelligentsia of that time, Dhrampal earlier VC; expert on the Teachings of Buddha, Chandrapal; highly gifted and popular Gunmati & Sathirmati; Logician on his subject Prabhamitra; Communication expert Jinmitra and Ideal character Gyanchandra. The Teaching methods used were Oral, Explanation of books, Lecture, Shashtrarth and Dialogue. In addition to these many other approaches, namely, Bhikshatan, Shram, Parishad, Gosthi Charan and Agar- Shisha approaches were used. There was a grand library to take care of the studies of 1500 teachers and 10,000 students. The three buildings, namely, Ratansagar, Rastnodhi and Ratanranjak constituted the Library. Vidya Parishad was taking care of the academics of the university, whereas, finance and administration were taken care of by another Committee. The university

was mainly meant for Bhikshu students. There was no fees. Even the boarding and lodging were also borne by the University.

3. Vikramshila

Vikramshila University was located in 10 miles south of the present Bihar Tehsil of Bihar State. Ancient Vikramshila was a Bodhi Vihar located on the Southern banks of Ganga. Very learned people were appointed for examination on the main gates of the University. Vikramshila can be identified through the Khnandhars on the Southern banks of Ganga of the present Sultangunj, District Bhagalpur. The foundation stone of Vikramshila was laid by king Dharmapala of Pal Dynasty. Big Halls were built for lectures. Up to 1300 A.D. the University was under the care of the successors of Dharmapala. A Guest House was built for learned people from Tibbat. Up to 1200 A.D. the student strength was 3000. Up to 400 years students kept coming here for studies from Tibbat and other States. Specially, there was provision for Physical Sciences in this university. There was teaching-learning of Kramkand, Grammar, Logic, Tatvagyan and Tantra here, specially. The certification was done and degrees conferred by the Kings of Bengal here. There were valuable books in the library. Different functions were distributed against different committees. The academic administration was done by a committee of six Dwar Padits, whereas, the general administration of the university was done by another Committee. The ancient Vikramshila University was intended to complement the existing world class universities at Nalanda and Takshila. It lasted four centuries before being destroyed during an attack by Bakhtiyar Khilji. Vikramshila produced eminent scholars who were often invited by foreign countries to spread Buddhist learning culture and religion. The most eminent amongst all was Atisha Dipankara a founder of the Sarma traditions of Tibbetion Budhdhism. Subjects like philosophy, grammar, meta physics and Indian logic were taught here. But, the most important branch of learning was Buddhist Tantara.

4. Vallabhi University

The worshiper of Sun Maitrya Kings established their capital in the eastern Gujarat of Bay of Cambay. These kings were believer of Brahaman-Shaiv dharma. The Vallabhi University developed during the period of Maitrya Kings (490 A.D. to 775 A.D.). It is learnt through the Chinese sources that during 640 A.D. there were Vihars here, where about 6000 students were staying. In addition to Baudhdh Shiksha Kendra it was Brahmin Shiksha Kendra also. Courses on Law, Economics, Political Science, Medicine, Accountancy and Literature were offered here. Experts of the international repute, namely, Sthirmati and Gunmati were here. During Ancient period Vallabhi was known for Medical Sciences. The expenditure of the Vallabhi was met by Matraik kings and hundreds of capitalists. Up to 1200 A.D. Vallabhi University was the Center of attraction for students continuously up to Bengal.

5. Odantpuri University

Gopal, a brave Nayak established a new kingdom in Eastern India by the name “ Palvansh of Bengal. Odantpuri was made the capital by Gopal (750 A.D to 770 A.D.).Odantpuri MATTH was established here, which was later known as Shikshapeeth. Palvanshi king Dhrampal established a library here having valuable books on Baudh and Brahmin literature.1000 Bhikshu used to study here. Odantpuri University was a Center of Tantrik Adhyyan and Research. In addition to these, subjects, namely, Mimansa, Philosophy, Logic were also offered. Odantpuri University is known for the Intellectuals Deepankar Sri Gyan and Prabhakar. The Indian culture was deployed through the Odantpuri University.

6. Jagdalpur University

King Rampal established Ramavati Nagar as his capital. A grand Vihar was built here called Jagdal Vihar, which was a famous Center for Bengal then. The Jagdalpur University was a Center for Tantrik and Tarkik studies. Many students from India and Tibbat studied here. Jagdalpur University is known for the learned, namely, Vibhutichandra, Dansheel, Shubankar Gupta, Mokshkar Gupt and Dhramkar.

7. Kashi

Kashi developed as a Center of Education during Upanishad period. The king of Kashi Ajatshatru was known for his wisdom. Varanasi was a Center of Education in Eastern India during Buddh period. Lord Buddha started his preaching from Sarnath of Varanasi. 1500 Baudh Bhikshu used to study at Sarnath. It is evident through medieval reports that studies of Vedas was done at Varanasi. Shankracharya laid the foundation stone of Advaitya-Vedant at Varanasi. Women used to study Sanskrit here.

8. Kashmir University

Kashmir was a Center of Education during Pre-Mediveal period. Many volumes on Sanskrit and literature were published here. The author of Naishadcharit, namely, Shri Harsh was from Kashmir. A History book Rajatarangini is well known which is a rich learning resource on Indian History.

9. Mithila

The Upanishdik name of Mithila was Videh. It was a center of learning for Brahmins. It was having importance during Baudhkal also. Vidyapati Maithil Kokil was born here. Jagdhar of Videh made critical comments on Meghdoot, Devi Mahatamya, Geet Govind and Malatimadhav. New Law has been the unique contribution of Mithila. Gangesh Upadhyaya gave a new direction to law. Verdhman Upadhyaya, the son of Gangesh Upadhyaya authored Tatva Chintamani Prakash, Nayayanibandh Prakash, Nayayaprishisht Prakash, Kirnavali Prakash, Nayayakusumanjali Prakash, Nayayaleelavati Prakash and Khandakhadya Prakash. Mithila was known for Shalaka-Pareeksha. Mithila was very popular for its wisdom for about 300 years.

10.Nadia

Nadia or Navdaveep was created by Sen kings of Bengal on the Sangam of Ganga and Jalangi in 1100 A.D. It was the capital of Raja Laxman Sen. It was famous for Trade and Nayaya Shastra. There were many Acharyas in the Law Section, namely, Gangadhar Bhattacharya, Rambhadra, Mathuranath. There was provision for Smriti Shiksha also. Jyotish Vibhag was created by Acharya Rambhadra. The appointment of Teaching staff was done on the bases of Knowledge base and expertise in dialogue.

11. Dhara

Dhara was the capital of Permars in Malva. It was known for Vidya, Gyan, Shiksha and Kla. Dhara Naresh Munj was known for his wisdom. Raja Bhoj served for the cause of Education. He used to distribute lakhs of Mudras amongst the learned. Rameshwar Kavi was given one lakh mudras on each word of his Poem. Raja Bhoj was called "Kavirai" in Udaipur Prashashti. He was expert in Kavya, Dharma, Jyotish, Medical Sciences, Kla, Grammar and Polity.

12. Kanyakubj

Kanyakubj (Kannauj) was ruled by Harshverdhan during 700 A.D. Chinese Yavan Chvang visited during that period. It was not only the capital, but also a Center of Education. Kannauj people were very curious knowledge seekers. Hershverdhan was a Poet and Dramatist. King Hershverdhan used to encourage and exhilarate the meritorious. Brahmins used to learn all the four Vedas. Kannauj continued to be the Center of learning even during the periods of Pratihars. Rajshekhar, one of the well known writers of that period authored Kavya Meemansa, and Karpoor Munjari.

It is an eye opener to find how the present Higher Education System globe over has failed to sustain and integrate the values the Ancient Indian Universities lived by. All these universities were true to their brands. The modern higher education system should learn a lot from the profiles of the Ancient Indian Universities.

Status of Higher Education in India Today

Higher Education Scenario

The Gross Enrolment Ratio (GER) in higher education of Indian has registered an increase from 24.5% in 2015-16 to 25.2% in 2016-17 according to latest All India Higher Education Survey (AIHES) released by HRD Ministry.

The survey findings were based on responses of 795 universities, 34,193 colleges and 7,496 standalone institutions. There are total of 864 universities, 40,026 colleges and 11,669 standalone institutions in the country.

Key Highlights of AIHES

Gross Enrolment Ratio (GER): GER is statistical measure for determining number of students enrolled in undergraduate, postgraduate and research-level studies within country and expressed as a percentage of population. India is aiming to attain GER of 30% by 2020, but it is still far behind countries like China with GER of 43.39% and US with 85.8%.

The proportion of students pursuing higher education in India hasn't increased dramatically from 2015-16 to 2016-17. It was in range of 23% to 25% since 2013-14. Tamil Nadu has highest GER in India at 46.9%.

Six states have registered GER higher than national average (25.2%), with their share of students entering higher education is growing twice as fast as overall rate. These states are Tamil Nadu (46.9%), Himachal Pradesh (36.7%), Kerala (34.2%), Andhra Pradesh (32.4%), Haryana (29%) and Punjab (28.6%).

However, eight states UP (24.9%), Madhya Pradesh (20%), Odisha (21%), Bihar (14.4%), Gujarat (20.2%), Rajasthan (20.5%), Mizoram (24.5%) and West Bengal (18.5%) had GER ratio far less than the national average. Bihar has lowest GER with just 14.4% of its eligible population (in age group of 18 to 23 years) pursuing higher education.

Gender Parity Index (GPI): India registered its best performance on the GPI in last seven years — 0.94 in 2016-17 from 0.86 in 2010-11. GPI is calculated as quotient of number of females by number of males enrolled. GPI equal to 1 indicates 1, value less than 1 indicated disparity in favour of males. In Seven states — Goa, Himachal Pradesh, Meghalaya, J&K, Nagaland, Sikkim and Kerala — women in higher education have outnumbered men.

College density: States in south India have higher college density. It is defined as number of colleges per lakh eligible population. The college density in top three states/UTs is Puducherry (49), Telangana (59) and Karnataka (53). Bihar (7 colleges/1lakh population), Jharkhand (8) and West Bengal (11) on the other hand, are at the bottom in terms college density.

Number of foreign students: There hasn't been much improvement in the inter-nationalization of education in the country. There is marginal improvement in number of foreign students — 47,575 in 2016-17 from 45,424 in 2015-16— with 31,779 men and 15,796 women. The highest share comes from the neighbours Nepal (23.6%), Afghanistan (9.3%) and Bhutan (4.8%).

Indian Students Studying abroad (source UNESCO Institute for Statistics 2016)

A total number of 181,872 Indian students are currently studying abroad for a higher education degree. The most popular study abroad destinations among students from India are:

USA- 92,597 students

UK- 22,155 students

Australia- 16,150 students

Canada- 9,582 students

UAE- 9273 students

New Zealand- 6,845 students

Germany- 5,645 students

Ukraine- 3,587 students

France- 1, 828 students

Saudi Arabia- 1,817 students

World Class Higher Education Institutions in India

Times Higher Education World University Ranking 2020

The Times Higher Education World University Ranking 2020 released on September 11 features six Indian institutes among the top 500 in the world, an increase from last year's five institutes. IIT Ropar made a surprise entry and takes the number 1 spot among Indian varsities alongside IISc Bangalore.

However, we need to note that this is for the first time since 2012 that not a single Indian institute featured among the top 300 educational institutes in the world.

After the first 200 ranks, the World University Ranking puts institutes into rank groups rather than individual ranks.

Here are the top 10 Indian universities ranked in World University Rankings 2020:

1. IISc Bengaluru

World University Rankings 2020 position: Grouped among the top 301-350 universities of the world.

Overall score: 44.5-46.8

IISc Bengaluru shares the top spot among Indian universities along with IIT Ropar.

2. IIT Ropar

World University Rankings 2020 position: Grouped among the top 301-350 universities of the world.

Overall score: 44.5-46.8

IIT Ropar shares the top spot among Indian universities with IISc Bengaluru.

3. IIT Indore

World University Rankings 2020 position: Grouped among the top 351-400 universities of the world.

Overall score: 42.4-44.4

IIT Indore is the second-best university in India after IIT Ropar and IISc Bengaluru.

4. IIT Bombay

World University Rankings 2020 position: Grouped among the top 401-500 universities of the world.

Overall score: 38.8-42.3

IIT Bombay is the third-best university in India alongside IIT Delhi and IIT Kharagpur.

5. IIT Delhi

World University Rankings 2020 position: Grouped among the top 401-500 universities of the world.

Overall score: 38.8-42.3

IIT Delhi is the third-best university in India alongside IIT Kharagpur and IIT Bombay.

6. IIT Kharagpur

World University Rankings 2020 position: Grouped among the top 401500 universities of the world.

Overall score: 38.8-42.3

IIT Kharagpur is the third-best university in India alongside IIT Delhi and IIT Bombay.

7. Institute of Chemical Technology

World University Rankings 2020 position: Grouped among the top 301-350 universities of the world.

Overall score: 35.3-38.7

Institute of Chemical Technology is the fourth-best university in India alongside IIT Gandhinagar and IIT Roorkee.

8. IIT Gandhinagar

World University Rankings 2020 position: Grouped among the top 301-350 universities of the world.

Overall score: 35.3-38.7

IIT Gandhinagar is the fourth-best university in India alongside Institute of Chemical Technology and IIT Roorkee.

9. IIT Roorkee

World University Rankings 2020 position: Grouped among the top 301-350 universities of the world.

Overall score: 35.3-38.7

IIT Roorkee is the fourth-best university in India alongside Institute of Chemical Technology and IIT Gandhinagar.

10. Amrita Vishwa Vidyapeetham

World University Rankings 2020 position: Grouped among the top 601800 universities of the world.

Overall score: 28.3-35.2

Amrita Vishwa Vidyapeetham is the fifth-best university in India.

World Ranking of the Universities 2020

India has jumped significantly in the Times Higher Education World University Rankings 2020, with 56 Higher Education Institutions making it to the list, up from 49 previously. However, for the first time since 2012, not a single Indian University made it to the top 300 list.

The Indian Institute of Science, Bengaluru still ranks the highest but now shares this position, after dropping into the 301-350 bracket (from 251-300), due to a significant fall in its citation impact score, negating improvements in research and teaching environment and industry income. New comer IIT Ropar shares the joint top spot with IISc, Bengaluru, pushing IIT Indore, which remains in the 351-400 band, into the third spot.

The older IITs, Bombay, Delhi and Khragpur—are in the 401-500 bracket, IIT Roorkee is in the 501-600 and IIT Guwahati, IIT Kanpur and IIT Madras in the 601-800 category. So why do the much younger IITs one set up in 2008 and the other set up in 2009—outperform their older, much more established counterparts on the ranking front.

“IIT Ropar and IIT Indore performed very well in the citation score, the best in India, in fact. As this measure is heavily weighted, performing well here helps ranking performance greatly,” a Times Higher Education spokesperson told ET to an emailed query. IIT Ropar and IIT Indore are also smaller institutions, which mean that they have a better student/staff ratio which also helps improve their ranking tally.

“Despite this, both IIT Indore and IIT Ropar are behind other Indian institutions in industry income, teaching reputation and research reputation” said the spokesperson.

Overall, seven Indian universities fall in the lower band this year, while the bulk of the country's institutions remains stable. But there are a few institutions that have moved up in the ranking table, including IIT Delhi, IIT Kharagpur and Jamia Millia Islamia.

The best Indian Institutions are generally characterized by relatively strong scores for teaching environment and industry income, but perform poorly when it comes to international outlook compared with both regional and international counterparts.

“ India has a huge amount of potential in global higher education, given its rapidly growing youth population and economy and use of English language instruction. The Indian Government has strong ambitions to boost the global standing of its top universities and attract foreign students, academics and research collaboration. It now needs to back up these aspirations with high level of investment—or risk declining further amid increasing global competition, especially from other parts of Asia,” said Ellie Bothwell, THE ranking Editor.

Now in 16th year, the ranking includes over 1300 universities from 92 countries. Rankings are done across 13 performance indicators grouped into five areas: teaching (the learning environment), research (volume, income, reputation), citation (research influence), international outlook (staff, students and research) and industry outcome (knowledge transfer).

University of Oxford took the first place in the overall rankings, followed by California Institute of Technology, University of Cambridge, Stanford University and Massachusetts Institute of Technology.

Institutions recommended for status of ‘Institutions of Eminence’

The UGC, in its 542nd meeting held on 02nd August 2019 has considered the reports of the Empowered Expert Committee (EEC) appointed by Government under the Chairmanship of Shri N Gopaldaswami recommending (15) Public institutions and (15) Private institutions for considering to give status of Institutions of Eminence.

Since the scheme has only provided for (10) Public and (10) Private Institutions, the UGC has examined the list of (15) Public and (15) Private Institutions using transparent and verifiable criteria.

The following were the principles used for identifying the (10) Public and (10) Private Institutions, from the list of (15) Public and (15) Private Institutions recommended by the EEC:

- a. Since the thrust of the scheme is to prepare institutions for the global rankings, no existing institution which has NOT figured in any of the global/national ranks shall be recommended for the IoE status.
- b. Only after exhausting the above criterion, if any slot remains vacant, consideration shall be given to 'yet to be established (Greenfield)' proposals.

Public Institutions:

In accordance with the above principles, the UGC has ranked the list of (15) recommendations as per the QS-2020 World Rankings. Wherever there is a tie, used the QS-2019 India Rankings as a tie-breaker.

Accordingly, the following are recommended for grant of IoE status:

S No	Institution	World Rankings (QS 2020)	India Rankings (QS 2019)	Recommendation of UGC
1	IIT Bombay (INI)	152	1	Already declared IoE
2	IIT Delhi (INI)	182	4	Already declared IoE
3	IISC Bangalore (Deemed Univ)	184	2	Already declared IoE
4	IIT Madras (INI)	271	3	Recommended for declaring as IoE
5	IIT Kharagpur (INI)	281	5	Recommended for declaring as IoE
6	Delhi University (Central Univ)	474	8	Recommended for declaring as IoE
7	University of Hyderabad, Hyderabad (Central Univ)	601-650	7	Recommended for declaring as IoE

S No	Institution	World Rankings (QS 2020)	India Rankings (QS 2019)	Recommendation of UGC
8	Jadavpur University, Kolkata (State Univ)	651-700	12	Needs consultation with State Govt. prior to consideration
9	Anna University, Chennai (State Univ)	751-800	13	Needs consultation with State Govt. prior to consideration
10	BHU, Varanasi (Central Univ)	801-1000	15	Recommended for declaring as IoE
11	Savitribai Phule Pune University, Pune (State Univ)	801-1000	19	
12	AMU, Aligarh (Central Univ)	801-1000	33	
13	Tezpur University (Central Univ)	Not ranked	36	
14	Panjab University, Chandigarh (State/Central Univ)	Not ranked	49	
15	Andhra University, Visakhapatnam (State Univ)	Not ranked	46	

The State Universities: Jadavpur University and Anna University can be considered for issue of the IoE status only after the respective State Governments have issued an official communication allocating their share of the funds (up to 50%).

Private Institutions:

UGC has ranked the list of the (15) private institutions recommended by the EEC by taking their ranking in the QS India or NIRF rankings, and NIRF ranking has been used as tie-breaker. In case there is any vacant slot after considering all the ranked institutions, the same was used for 'yet to be set up (greenfield)' institution.

S No	Institute	India Rankings (QS 2019)	India Ranking		UGC recommendation
			NIRF		
			2019	2018	
1	BITS Pilani, Rajasthan	17	23	17	Already selected and given Letter of Intent
2	Manipal Academy of Higher Education	26	09	11	Already selected and given Letter of Intent
3	Jio Institute (Reliance Foundation, Maharashtra)	Green Field (yet to be established)			Already selected and given Letter of Intent
4	Amrita Vishwa Vidyapeetham, Bangalore	40	8	8	Recommended for issue of LoI
5	VIT Vellore, Tami Nadu	44	19	16	Recommended for issue of LoI
6	Jamia Hamdard, New Delhi	51-55	18	23	Recommended for issue of LoI
7	Kalinga Instt. of Industrial Technology, Bhubaneswar	61-65	31	42	Recommended for issue of LoI
8	O.P JINDAL University, Haryana	66-70	-	-	Recommended for issue of LoI
9	Shiv Nadar University, Uttar Pradesh	-	52	48	Recommended for issue of LoI
10	Bharti (Satya Bharti Foundation), Delhi	Greenfield (yet to be established)			Recommended for issue of LoI in the vacant slot
11	Azim Premji University, Bangalore	Not ranked, not considered			
12	Ashoka University, Sonapat, Haryana	Not ranked, not considered			

S No	Institute	India Rankings (QS 2019)	India Ranking		UGC recommendation
			NIRF		
			2019	2018	
13	KREA University (IFMR), Chennai, Tamil Nadu	Not ranked, not considered			
14	IIHS (Indian Institute for Human Settlements), Bangalore	Not ranked, not considered			
15	Indian Institute of Public Health, Gandhinagar	Not ranked, not considered			

In case of the private institutions proposed as Institutions of Eminence, there will be no financial support, but they will be entitled for more autonomy as a special category Deemed University.

The Greenfield Institutions would get 3 year period to establish and operationalise the institution, and thereafter, EEC will consider giving IoE status to such institutions.

Reality is out there and it is independent of the investigators who investigate it. Then why should there be significant differences amongst the ratings of higher education institutions by various agencies. There ought to be congruence in the criteria of ratings and competencies of the rating agencies. IIT, Indore was at second position in India after IISc, Bangaluru as per THE World University rating 2019, whereas, it is at third position now after IISc, Bangaluru and IIT Ropar as per the Times Higher education World University rating 2010. But, it finds no place in the institutions recommended for status of Institutions of Eminence as per the recommendations of the EEC. Also IIT Ropar is no where as per the recommendations of the EEC. Jio Institute (Reliance Foundation, Maharashtra) which is yet to be established has already been selected and given letter of intent. Also Bharti (Satya Bharti Foundation), Delhi, which is yet to be established has been recommended for issue of LoI in the vacant slot. Earlier the society was governing the society. Then the state started governing the society. Now the economy is overarching, both, the state and the society and promising higher education.

Ethos of some selected Indian Universities

Banaras Hindu University (BHU)

1. Mahamana Madan Mohan Malaviya realized his vision as a philosopher and practitioner that the emphasis on the process of education was the sole solution to prevailing personal, social and national problems of Indian people. Therefore, in the year 1904 he visualized to establish a national university in Kashi.
2. The philosophy and the ideas of Malaviya Ji which were the foundation of this new university and its scheme of education were based on the Gurukul System of Education in India.
3. The philosophy states that the Parmatma is the sole creator of the Universe and its beings; and Sanatana Dharma practices are most ancient and best ever practices of Dharma.
4. On the other hand for worldly growth the skills related to modern science, technological and industrial growth are the need of the hour which can be best learnt by integration of the Western education with the ideals and values of the Sanatana Dharma. Therefore the new university should revive the best traditions of the ancient gurukuls of India- like those of Takshasila and Nalanda where Hindu sages taught and fed ten thousand students at a time – and which should at the same time combine with them the best traditions of the modern Universities of the West where the highest instruction is imparted in Arts, Science and Technology. Further such a scheme will integrate religion and ethics as an integral part of education of the youth so that they come out as the persons of invincible moral character. Hence, such an attempt of amalgamation of best thoughts and practices of Oriental - Western and Traditional -Modern was unique owing to its newness in the contemporary world history of higher education institutions. Malaviya Ji sacrificed his life ambitions and made it as the only ambition to establish such an unique university as a mark of his patriotism and the love for the motherland.
5. His sole purpose was to regain lost faith in the heritage of India and to excel skillfully through technological growth in the modern world. Since 1904 till 1916 Malaviya Ji made a herculean attempt and succeeded in mobilizations of common masses, contemporary royal personalities, foreign appreciators of Indian culture and Hindu thought, people of all

religious communities in aggregating mind, spirit and money altogether to achieve the goal by construction of this truly national university being developed by Indians themselves. Lala Lajpat Rai said, charter or no charter the university will exist. Malaviya Ji said, charter and charter and university will exist. Malaviya Ji was so confident that the Government will have to support his move. He with all other likeminded personalities moved to all corners of India including today's Pakistan and Burma. Hence the people of 'Akhand Bharat' truly supported the move and contributed funds. The university finally came into existence on 4th February, 1916 but it did not end the task of the founder.

6. Malaviya Ji worked incessantly for construction of student hostels, institutional buildings, residential quarters, marvelous grassy playgrounds, production units of electricity, other daily products and search for scientists, engineers and knowledgeable scholars of repute from all corners of India and abroad. Today's Institutes of Technology, Medical Science, Agricultural Science, Science, Sustainable Development, Management and the Faculties of Law, Education and Performing Arts with hundreds of Departments are living testimony to the realization and continuance of his memorable vision.
7. Since 1916 more than hundred years have led to production of thousands of patriotic Engineers, Doctors, Managers, Social Scientists, Politicians, Educational Administrators, Educationists, School and University Teachers, Agriculturalists, Lawyers, Judges and enlightened citizens who are continuously contributing to the development of the nation.
8. The different fields of study in the curriculum and their integration with a variety of co-curricular activities related to religious festivals, religious discourses, foundation day celebration, JANAMASTHAMI Celebration have excellent achievement through his unique educational endeavor. This is all due to the vision of the great founder who could visualize the need of the big human resource for the modern India for all material development. The contemporary problems of corruption, violence, inefficiency of educated degree holders, political bankruptcy, endless sensual pleasure, emotional deviation were also visualized by him. As a solution he expected the students of this great centre of 'life and light' to be persons of invincible moral character by developing their mind and spirit through devotion of their time to it. He never wanted students on campus to take part in active politics and expected that they will strengthen themselves holistically keeping away from politics, so that, in

their later real life they turn out to be more effective and efficient to handle challenges.

9. Mahamana expected that all students devote at least one and half hour per week for the study of Dharma. This was his Guru-Dakshina. He wanted all to excel in life through self study (SWADHAYAY). He also expected the alumni to contribute generously to the institution monetarily and to the society through their honest services. Owing to his thought and acts this new university (centre of life and light) of Mahamana has produced Bharat Ratna, Padma Awardees, National awardees and several Vice Chancellors and Teachers of repute which is evident through contribution of alumni in national reconstruction.

There is an immediate need to renew and renovate the Banaras Hindu University converging on its vision as envisaged by MAHAMANA MADAN MOHAN MALVIYA, so that, the globe as a whole emulates it as a university with universal ethos. Along with opening new universities there is a need to strengthen the already established universities.

Banasthali Vidyapith

Banasthali Vidyapith is World's largest fully residential university for women. It is now recognized by the Times Higher Education World University Rankings 2020 as the second best women's university in the world. It was on October 6, 1935 that Smt. Ratan Shashtri and Pandit Hiralal Shashtri founded Banasthali to fill up the vacuum caused by the sudden death of their highly talented and promising daughter Shantabai. They had high expectations that she would work for women's cause when she would grow up. But destiny ordained otherwise. The Banasthali owes its existence neither to the zeal of an educationist, nor to that of a social reformer. It is also not the creation of a Philanthropist's purse. It has arisen like the fabled phoenix from the ashes of a blossoming flower Shantabai. Banasthali is one of the five higher education institutes in India meant exclusively for Women. Over these about 85 years Banasthali has developed into a National centre for women's education. Banasthali educational programme aims at an all round development of the student's personality. It has evolved Five-fold educational programme (Panchmukhi Shiksha) comprising of physical, practical, aesthetic, moral and intellectual aspects. *Banasthali Vidyapith has thousands of students from abroad.*

VISVA- BHARATI

According to Sabujkoli Sen, Director of Studies, Educational Innovations and Rural Reconstruction & Principal, Vinay Bhavana “ There could be none in India parallel to Rabindranath Tagore who dared to discontinue his school education as a rebel child against colonial education and later founded Visva-Bharati to practically experiment and demonstrate that an indigenous method of education in the spirit and culture of Tapovan of India is not only possible but quite potential and promising without being ever obsolete and outdated. He strongly believed that ‘education, devoid of one’s soil, people, climate and culture suffers from infirmity and impermanence affecting the very vitality of life and spirit’. He has been second to none being a staunch nationalist and vouching for a nationalistic education on the eve of Swadesi movement in India. At the same time he has never imagined a system of education confined to the narrow domestic walls. He, being a lofty visionary and lover of mankind, has always gone beyond the geographical and territorial boundaries of the nation being always enamoured by the open invitation of the people of the world. In fact his grand vision of ‘Universal Man’ is over and above all kinds of short-sighted nationalism, narrow nationalistic fundamentalism and extreme sentimentalism. Unlike others, he wanted to make Visva Bharati a cultural hotspot where two streams of knowledge from east and west can merge and people from all over the world can make their home in a single nest.

Gujarat Vidyapith

In August 1920, Gandhiji started non- cooperation movement. Gandhiji asked everybody to boycott the Honours and Awards of the British empire; schools and colleges imparting English education, Courts and Legislative Assemblies. One of the most important issues of this non- cooperation movement was to boycott all schools and colleges under British Government’s control and to liberate the Indian youths from the shackles of British colonial education system, propounded by Macaulay, that produced human resources for the oppressive British empire. There was a great response to Gandhiji’s command to vacate the English teaching schools and colleges. Now, in order to see that the students who left their education half way are not deprived of the education, it was decided to establish national vidyapith. Out of those five Vidyapiths established during that period, Gujarat Vidyapith was the one, established by Gandhiji himself on October 18, 1920. Gandhi wanted his vidyapith to prepare the youths for the task of national reconstruction and usher in ‘Hind Swaraj’, the India of his dream. Today, it is one

of the national universities with a charter from the Government of India and seeks to promote Gandhiji's ideals of service oriented education. Higher Education along with knowledge seeking ought to emanate into entrepreneurship with service motive.

Scenario of Indian Institutes of Higher Education

Indian Higher Education has a mixed scenario. The scenario of ancient Indian Universities and some of the apex institutions of higher education has already been presented above. But, as a whole the Indian Higher Education has a mixed scenario. Rather than having universal distinction most of the universities have distinction discipline-wise. Some are known for Faculty of Fine Arts, whereas, some for School of Economics. Some of the universities have focus on the east, whereas, some have focus on the west, whereas, there are some which focus on both the east and the west. Some of the universities are excelling in liberal arts, whereas, others are excelling in science & technology. Some of the institutions focus on Indian Languages, whereas, others focus on English and Foreign languages. There are public universities, private universities and public-cum-private universities. There are IIMs, IITs, IIITs, AIIMS, CDRI, HBCSE, TIFR, Azim Premji University. There is Association of Indian Universities (AIU). Indian graduates find significant expression globally in various fields. Indians have been contributing significantly in many a international companies. We are very good at problem solving. We have significant places in almost all the domains- germination, incubation, creation, construction and connection. The ultimate aim of Indian education is development of universal beings having interrelation, interdependence and healthy co-existence with all the entities. We are transcending from Human Development Index (HDI) to Universe Development Index (UDI). Indian Higher Education has healthy global scenario.

Pioneer Research Competencies

Pioneer is Quintessential Innovator, that is, Unique Top Excellent Innovator, who tends to be close to the creator on the Object of Quest. Germination, Incubation, Innovation, Creation, Construction and Connection are the essential attributes of a Pioneer, who is lost in the quest round the clock, with positive attitude despite all discomforts.

Nobel Laureates of Indian

Rabindranath Tagore

Rabindranath Tagore, India's popular poet and writer was awarded Nobel Prize for Literature in 1913 for his "Geetanjali" a collection of his poems.

C.V. Raman

Chandra Shekar Venkata Raman, Indian Scientist was awarded Nobel Prize of Physics in 1930 for his "Raman Effect" related to light.

Hargobind Khorana

Dr. Hargobind Khorana, India's Doctorate in Chemistry was awarded Nobel Prize for Medicine in 1968 for his study of the Human Genetic Code and its role in Protein Synthesis.

Mother Teresa

Mother Teresa, a Yugoslavian nun who became an Indian citizen was awarded Nobel Prize for Peace in 1979 for her service through her Charitable Mission "Nirmal Hriday" at Calcutta to people suffering from Leprosy and to those people dying in destitute.

Subramanian Chandrashekar

Dr. Subramanian Chandrashekar, an Indian Astro-Physicist was awarded Nobel Prize for Physics in 1983 for his theory on white dwarf stars' limitation known as 'Chandrasekhar Limit'.

Amartya Sen

Dr. Amartya Sen, an Indian Professor in Economics was awarded Nobel Prize for Economics in 1998 for his work in Economic Theory related to Poverty, Democracy, Development and Social Welfare.

Venkataraman Ramkrishnan

Venkataraman Ramkrishnan, an Indo-American has shared Nobel Prize for Chemistry along with a co-American Thomas Steitz and Ada Yonath of Israel in 2009 for studies of the structure and functions of the ribosome.

Kailash Satyarthi

Kailash Satyarthi, along with Malala Yousafzai, received the Nobel Peace Prize in 2014 for their struggle against the suppression of children and young people, and for the right of all children to education.

Abhijit Vinayak Banerjee

Mumbai born economist Abhijit Vinayak Banerjee made the country proud as he became the 10th Indian, to win a Nobel Prize in Economic Sciences. He shared the prestigious global award with his economist wife, Esther Duflo, and another US-based economist, Michael Kremer. The Swedish academy announced 2019 Sveriges Riksbank Prize in Economic Sciences in memory of Alfred Nobel for the economists' experimental approach to alleviating global poverty.

Indians on Top Positions

1. LaxmanNarasimhan

British consumer goods major RB (Reckitt Benckiser) has appointed PepsiCo's LaxmanNarasimhan its global CEO, effective September 1. Narasimhan is the second Indian to be appointed to the position at the firm, and will succeed incumbent Rakesh Kapoor, who will leave the company at the end of 2019. A Pune university graduate, with an MA in German and International Studies and an MBA in Finance, both from the University of Pennsylvania, was named chief commercial officer at PepsiCo in March.

2. SundarPichai

SundarPichai, who hails from Tamil Nadu, is the CEO of Google. He earned his degree in metallurgical engineering from Indian Institute of Technology Kharagpur. Pichai, who joined Google in 2004, led product management and innovation for tech giant's client software products, such as Google Chrome and Chrome OS, and oversaw the development of Gmail and Google Maps.

3. IndraNooyi

IndraNooyi is serving on the board of directors of Amazon and is the second high-profile addition from India to the company's board. Nooyi was born into a Tamil-speaking family in Chennai and received a Post Graduate Programme Diploma from Indian Institute of Management, Calcutta. She had stepped down as PepsiCo's CEO in October 2018 after a 24-year tenure at the snack and beverage company. She had served as the company's CEO from 2006 to 2018.

4. Rajeev Suri

Rajeev Suri was born in Delhi, but is a Singaporean citizen based in Espoo, Finland. He has a Bachelor's degree in Engineering from Manipal Institute of Technology and worked for MNCs in India and Nigeria before joining Nokia. He became the CEO of Nokia after it sold its ailing mobile phone unit to Microsoft.

Vision of International Higher Education

1. Every Higher Education Institution should aim at development of universal beings comparatively higher than before.
2. The Higher Education should offer Choice Based Credit System, not out of the given only, but also out of the desired & aspired.
3. The Universities world-wide should have Complete Networking amongst themselves for mutual sharing of thoughts.
4. Ideas ought not to have labels. There are no limits for knowledge generation & sharing. Universities should provide congenial environment for all these.
5. Innovative Research & Development should be the essential features of all the Universities.
6. There should be deployment of all the innovations irrespective of their origin.
7. A sense of equality among all students from various countries should be acculturated in the Higher Education Campuses.
8. The Universities should own their own products. There should be adequate focus on Input Norms, Process Norms & Output Norms. If the input & process norms are perfected & observed honestly, then, the output quality & yield are almost ascertained.

9. Every Higher Education Institution should integrate Taxonomy of all the Education Skills.
10. Our universities should be a blend of the Orient and the Modern.
11. Universities should be centers of germination, incubation, creation, construction and connection.
12. Universities should abstain from becoming Political Hubs.
13. Every Higher education institution should realize autonomy.
14. University campus should be peaceful with healthy ambience.
15. Every Individual & Institution of India should observe the Pre-Amble of Indian Constitution, that, India is a Sovereign, Socialist, Secular, Democratic, Republic.
16. Developing Caring, Sensible, Responsible, Honest & Humble Citizens ought to be the objective of the Universities.
17. Universities should be centers of Higher Learning Every Moment to sustain their identity.
18. Internal Quality Assurance Cells (IQAC) of the universities should assure and ensure quality.
19. The Curricula and modes of Transaction need to be perfected.
20. Convocations without invocation are useless. Let us really mean graduation.
21. The doctors of Philosophy in various disciplines should realize balancing of mind speech and deeds, that is, MN VACHAN KARMA (VIDYAVACHASPATI).
22. The doctors of letters (VIDYA VARIDHI) ought to have testimony of their text in every context (AAPTA VAKYAM).
23. We are rich in engineering, but, poor in social engineering. We ought to be equally rich in social engineering.
24. We are rich in experimentation, but poor in patenting & marketing. We ought to be efficient in patenting and marketing.
25. There are so many unsung pioneers of research, innovation and skill oriented virtues in India.
26. We rarely celebrate our celebrities. Let us learn to celebrate our celebrities.
27. Higher Education ought to have added focus on research, innovation and entrepreneurship.
28. We have MOUs with some countries in various areas, such as, vocational education, curricula, health & physical education, teacher education, and ICT in Education. There ought to be more of MOUs and cultural exchange programs with many countries.

29. Convocation without invocation are useless. We ought to learn to invest in education for desirable returns. Our Higher Education can be higher only when our nurseries are carefully nurtured.

Concluding Remarks

Reality is out there and it is independent of the investigators who investigate it. Then why should there be significant differences amongst the ratings of higher education institutions by various agencies. There ought to be congruence in the criteria of ratings and competencies of the rating agencies. Let us have Quality Control in our Educational Institutions, so as to have Knowledgeable, Humanistic, Competent Graduates, not merely wearing Scarf & Holding Degree, but resonating with the universe with complete invocation. More than external controls let us learn to observe inner quality. There are Pioneers & Pioneers in India. World Class Universities ought to be universal in character. What use are colourful citations, unless there is expression at the field level? What use is the International Outlook unless there is emancipation & liberation of the universal constituents and entities of the miserable painful states? World class universities are where ideas germinate & spring, feelings flow, motor creates, the soul reins, and the self resonates within and with the universe, where the Human Beings Transcend from Human Development Index (HDI) to Universal Development Index (UDI) and Human Beings tend to be Universal Beings. Let all the convocations be with full invocation. Our graduates ought to be knowledgeable and skillful entrepreneurs. Our doctors of philosophy in various disciplines ought to have entrainment of body, mind, soul & speech. Our doctors of letters ought to have testimony of every bit of their text. India is a unique land with universal in-look and outlook. The ultimate aim of Indian Education is development of universal beings having healthy interrelation, interdependence and coexistence with all the entities of the universes.

Learner Driven Higher Education

Chhaya Goel

Former Professor

Devraj Goel

Professor Emeritus

Department of Education (CASE)

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Gujarat

Higher Education ought to be higher through germination, incubation, innovation, creation, construction & connection. The genesis and evolution of ancient Indian Universities, namely, TAKSHSHILA, NALANDA, VIKRAMSHILA reveals that Indian Higher Education has been quintessential since then converging on the development of pioneers. The most salient feature of Indian Higher Education is that it has mostly been through reflective dialogue and collective wisdom. It believes in that it is better to be than merely to have. Higher Education cannot sustain to be higher if it is teacher designed and teacher driven. There has to be a shift from initially teacher designed and driven to progressively teacher designed and learner driven and ultimately learner designed and learner driven. Higher education convocations have to be with full & deep invocation. Finally the accelerator, brake and clutch (abc) have to be designed and operated by the youth. They ought not to be served fast food and that too ready made. They ought to develop the culture of cultivating nutritive food of their choice.

Features of Some of the Innovative Programs in India

- **Problem Solving through Participatory Approach (DAVV, Indore)**
 - The Master of Computer Education (M.C.Ed.) class, DAVV, Indore was very often given a problem to be solved through a computer program.
 - Number of different programs would emerge from the entire class.
 - Each program was presented by one of the programmers to the rest of the class and rated by all the students on different criteria, namely, compactness of source code, fetch and execute cycle size, response time, memory used, programming discipline level and program intelligibility.

- Also, the students developed programme to calculate Kendall's Coefficient of Concordance through 'C' language. They then computed Kendall's coefficient of concordance individual criterion wise and with respect to the comprehensive criteria.
 - There is a significant cognitive development through cognitively mapping the algorithms and solution to a problem. This approach cuts across students of varied profiles, simultaneously. Participatory approach may be introduced in various disciplines to enhance learning in all domains. It facilitates creative production and independent thinking. Also, it provides scope to experience and appreciate the cognitive maps of others.
- **Personalized Teacher Education (DAVV, BANASTHALI VIDYAPITH & LUCKNOW UNIVERSITY)**
 - Choice of Volunteers
 - Learner Centered
 - Personalized Classroom Setting
 - Participatory Approach
 - Zero Lecture Program (ZLP)
 - Freedom for what to study, how to study, when to study, where to study
 - Peer Teaching-Learning-Evaluation
 - Variety in the modes of presentation
 - Successive Discussions
 - Evaluation by Self, Peer & Teacher
 - Emergence of effective teachers

The personalized teacher education program has been an autonomous program for the development of humanistic and professional teachers, employing human relations model in Time-Space-Personnel Management.

- **Development of Creative Writing Ability Amongst Students Through Participatory Approach (CASE, MSU, Vadodara)**

- Recitation of Model Poems by the Teacher in Class Situation
- Appreciation of the poem by the class and identification of the various components of creative composition
- Composition of a variety of poems by the students individually, and in groups
- Recitation of the self composed poems by the classmates and appreciation by rest of the class

Participatory approach of creative writing facilitates expression of the latent creative faculties in terms of original production.

- **Presentation in the Seminars & Conferences without Paper and PPT (DAVV, Indore)**

- Presentation of original ideas by the presenters orally independent of papers and PPTs
- Discussion in the forums through reflective dialogue
- Employing collective wisdom to arrive at emerging theses
- This approach has been found to be very effective

- **Designing, Development and Implementation of Time Space Personnel Management System and Learning Resources Management System (DAVV, Indore)**

Scholars at DAVV, Indore designed, developed and implemented TSPMS and LRMS for Time-Space-Personnel- Management and Learning Resources Management. These self designed and developed systems were found to be very effective for managing the Time- Table and Library.

- **Designing, Development and Implementation of a Hindi Text Editor (DAVV, Indore)**

A Hindi Text Editor, namely, BHARATI was self designed, developed and implemented by a B.C.Ed. student at the School of Education, DAVV, Indore. It was found to be very effective, in fact, more effective than the commercially available Hindi Text Editors in the markets.

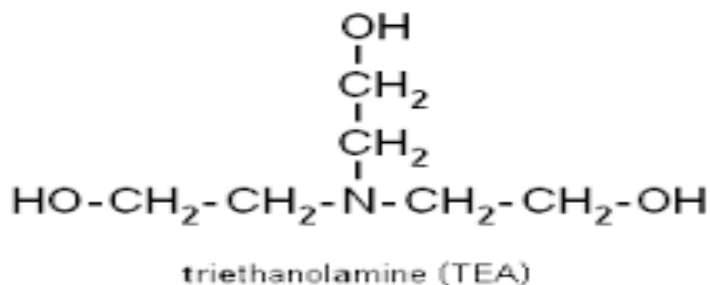
- **Wholistic Development- An illustration on Tea Preparation (CASE, MSU, Vadodara)**

For preparation of tea there is a need to gather all the apparatus and ingredients required for the tea preparation, such as, Pan, Milk, Water, Gas stove/Kerosene stove/ Electric coil/ Induction gas, Lighter, Mach box, Pair of tongs/ Cloths used for handling hot pan, Tea leaves container/Tea bags container, Sugar container/Sugar Free Tablets Container, Basil, Eliachi (Cardamom), Ginger, Black Pepper, Sieve, Tea pot, Cup and Saucer/ Tea Mug. Edible materials used in preparation of tea are, such as, Water, Dry Tea Leaves, Ginger, Cardamom, Black Pepper, Basil, Pudina, Green Tea Leaves, Sugar.

After collecting all the ingredients and apparatus for preparation of tea, there is need to exercise choice for pan. After that drinking water is collected. Then the gas is burnt with the help of lighter/match box. There is need to regulate the desired volume of the flame. After boiling water, it's time to add dry tea leaves, basil, grated ginger, black pepper, green tea leaves, Pudina and cardamom. After extraction of these things there is need to add sugar and milk. Boil for some time and pour it in tea pot, serve it in cups and enjoy Tea. This is the simple recipe for Tea.

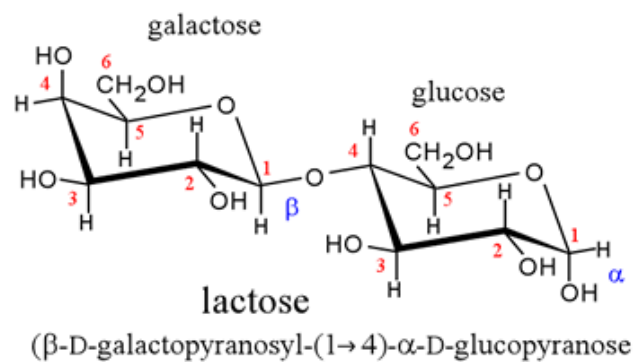
Chemical Composition of various ingredients used in TEA preparation

1. TEA (TRIETHANOLAMINE)

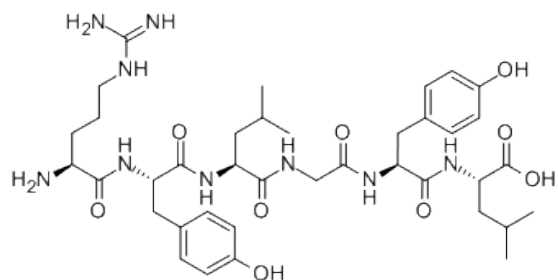


2. MILK

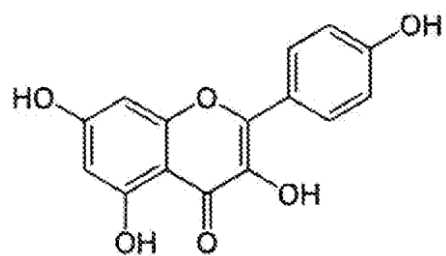
Milk contains mainly Lactose , Casein and Water



CASEIN

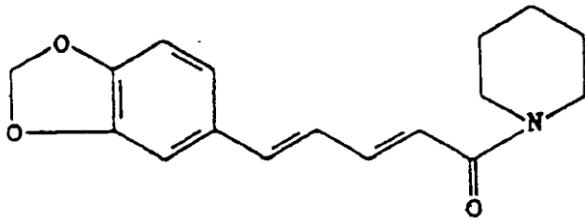


3. BASIL



Basil is a herb belonging to the mint family *Lamiaceae* often used as a seasoning in cooking. Basil is native to India and other tropical areas of Asia.

BLACK PEPPER



1-[5-(1,3-Benzodioxol-5-yl)-1-oxo-2,4-pentadienyl]piperidine

The health benefits of black pepper include relief from respiratory disorders, coughs, the common cold, constipation, indigestion, anemia, impotency, muscular strains, dental disease, pyorrhea, diarrhea, and heart disease.

Properties of materials and ingredients

a) Properties of Metallic Pan

The pan should be optimum in size. Handle of Material of Pan should be made from non-conducting insulating material. Most of the pan handles are made from asbestos. Pan metal should be such which cannot easily peel, crack, vaporize, dissolve or harbor bacteria. It should be a good conductor of heat in order to cook food uniformly, and it should be easy to clean thoroughly. Alloy can be used for best result because it has good quality of more than one metal.

b) Water

Water is a tasteless, odorless liquid. At ambient temperature and pressure, it appears colourless in small quantities, although it has its own intrinsic very light blue hue. Water has pH 7. It is a neutral medium.

c) Milk

The constituents of milk are water, lipids, carbohydrates, proteins, vitamins and minerals.

- Water:

This constitutes about 85-87% of milk. This is the main medium for the suspension of all other components.

- **Lipids:**

Milk is an emulsion and the lipids are found in a globular form. The main lipids present in milk are triglycerides, phospholipids and cholesterol. The triglycerides are formed of a number of fatty acids, such as, palmitic acid, stearic acid, lauric acid, and linolic acid. Lecithin, Cholin and many cerebrosides are other forms of fats present in milk. The percentage of fats in milk varies in different breeds; it may vary from 3.5-5%.

The fatty substances in milk can be separated in a solid form by applying centrifugal force after it is allowed to get curdled. Butter, the concentrated fat of milk is an important food ingredient in human diet. Ghee is another product obtained by melting the butter.

- **Carbohydrates:**

The most important carbohydrate present in milk is lactose. It is commonly called milk sugar. Lactose is a disaccharide formed of two monomeres of monosaccharides- glucose and galactose.

- **Protein:**

Among the proteins, casein commonly called the milk protein is the most important constituent. In milk, casein combines with calcium forming calcium caseinate. For growing children casein is a very essential protein. Other proteins of milk include lactoalbumins and lactoglobulins.

- **Vitamins and minerals:**

Milk contains a number of essential mineral elements such as sodium, potassium, calcium, magnesium, iron, copper, iodine etc. Among the vitamins, milk has B complex and vitamin C and A. Even vitamin D and E are present in milk.

How milk is wholesome diet

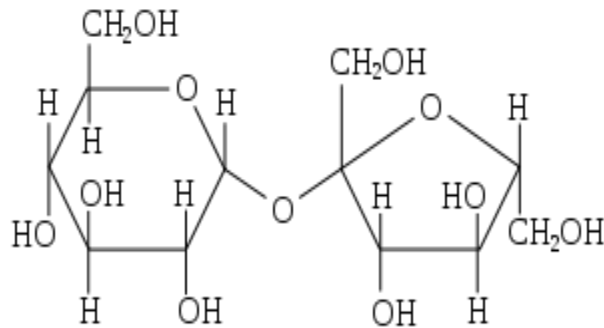
Milk contains calcium, vitamin A, vitamin B12, iodine, riboflavin, potassium, magnesium, zinc, phosphorus, carbohydrate and high quality protein. These components make Milk a wholesome diet.

d) Sugar

Sugar is also known as sucrose. Natural source of sucrose are beetroot and sugarcane. Sucrose is a disaccharide constituent of glucose and fructose. During the process of digestion by sucrose enzyme sucrose split into monosaccharide namely, glucose and fructose. Sugar (sucrose) found in two form i.e. powder and crystalline.

Molecular Formula of sucrose: $C_{12}H_{22}O_{11}$

Structural Formula:



Sucrose

e) Tea leaves

Compounds presents in tea leaves are polyphenols, amino acids, enzymes, pigments, carbohydrates, methylxanthines, minerals and many volatile flavor and aromatic compounds which give aroma, flavor, and taste to tea.

Effect of Milk on Polyphenols present in Tea

The compounds in Tea derived from catechins can have antioxidant effects on the body, these could have beneficial effects on cardio vascular health. Casein proteins in milk could bind to polyphenols and as a result prevent their antioxidant effects.

f) Medicinal uses of different herbs used in preparation of tea

1. Name: Ginger

Scientific Name: *Zingiberofficinale*

It is used in preparation of tea to prevent morning sickness, motion sickness, and nausea that accompanies gastroenteritis.

2. Name: Cardamom

Scientific Name: *Elettariacardamomum*

It is used in preparation of tea to prevent infections in teeth and gums, to prevent and treat throat troubles, congestion of the lungs as well as Flavoring agent.

3. Name: Basil

Scientific Name: *Ocimumtenuiflorum*

It is used in preparation of tea as Healing Power, Fever & Common Cold, Coughs, Sore Throat, Respiratory Disorder, Mouth Infections, and Headaches.

4. Name: Black Pepper

Scientific Name: *Piper Nigrum*

It is used in preparation of tea to improve digestion, stimulate appetite, and treat gastrointestinal problems, including diarrhea, dyspepsia and flatulence. It is also used to treat colds, coughs and sore throats.

5. Name: Pudina

Scientific Name: *MenthaArvensis*

It is used in preparation of tea for treatment of vomiting and nausea. It is also useful for stomach disorders and as antiseptic.

Concluding Remarks

There is a need to employ innovative approaches in Higher Education Teaching Learning, such as, participatory approaches of problem solving and personalized education. We should not blindly accept any Massive Open Online Courses (MOOCs) and Free and Open System Software (FOSS). We should carefully and scientifically employ system design considerations- build or buy, centralized or decentralized, prototype or fully functional, man or machine. We are very good at engineering, but, relatively poor at social engineering. We are very good at experimenting, but, relatively poor at patenting and marketing. Why a sizable number of our top scholars find abode abroad? Do we have no space for them? There is a need to revive & rejuvenate our Higher Education. It is education and education only which can bewitch the minds to live with peace & harmony!

Learner Driven Pedagogy: From Constructivism to Connectivism

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Chhaya Goel
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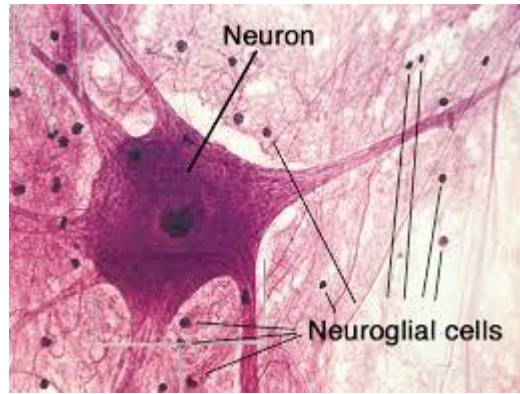
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Introduction:

The focus of the present paper is learner driven pedagogy. It demands a shift from Teacher driven pedagogy to Learner Driven Pedagogy. Only Teacher Driven Pedagogy fails. The concern is realization of learner identity and transcendence from dependent to independent learning through constructivism & Connectivism. It examines the probability of the human brain to cognize the entire cosmos. It tries to find meaning with connectivism & realize the need for connectivism in Education & Teacher Education. It focuses on the nodes & links for Connectivism and explores the history & the methods of teaching connectivism. Then it presents the importance of networks, foundations & principles of connectivism. A comparative view of Cognitivism, Behaviorism, Constructivism & Connectivism has been presented. Skills of Connectivism find expression followed by some illustrations on Connectivism. Finally it concludes how Connectivism provides the pathways for connecting dot to globe & point to morphology.

Human Brain Capacity

The human brain has more than one billion nerve cells which are capable of making 10^{800} interconnections as follows:



The emerging question is can the human brain reconstruct & cognize the entire universe. There is no answer as such. Further what is reconstruction & storage mechanism? How are the schemas designed and stored? How is the connectivity amongst the whole of cosmos? How are the images formed & stored. It demands collective wisdom to connect with & cognize the universe. How are these bonds formed? What is connectivity? To what extent it has been realised in Education & Teacher Education?

Heart & Brain Entrainment

When a person feels content or calm, his brain-wave patterns entrain with his heart-rate variability patterns. A measurable synchronicity between the heart rate and brain waves occurs. The heart, not the brain, sets the pace. When a person becomes fearful, this synchronicity is broken off. The heart rate variability patterns become jagged and disordered, but more significantly, the brain wave patterns become unrelated to the heart rate patterns. When fearful or under stress, brain waves cease to be entrained with the heart-rate variability patterns. When the fear is over, the brain's wave patterns can again become entrained with the heart's wave patterns realizing Dopamine & Adrenaline equation.

Emerging Questions

- Can the human brain reconstruct & cognize the entire universe?
- What is reconstruction & storage mechanism?
- How are the schemas designed and stored?
- How is the connectivity amongst the whole of cosmos?
- How are the images formed & stored?
- How are the bonds formed?
- What is connectivity?

- To what extent it has been realised in Education & Teacher Education?

Some Illustrations:

a. A Trainer Trains a Learner on Car Driving, particularly, on ABC, that is,

- Accelerator
- Brake &
- Clutch

Trainer Driven Pedagogy Fails the Learner, whereas, the Learner Driven Pedagogy Passes.

b. Moving a Static Ball

A ball rolls and stops deep under a cot.

- A child hits the ball with another ball from outside.
- Both the balls roll out.

The learner driven pedagogy works & works very well

c. Two Beetles crossing a Road Rolling Spherical Seed

- Two beetles were crossing a road rolling spherical seed.
- The Push, Pull, Momentum & Control, all, were marvelous.

The Learners Driven Pedagogy Worked Magnificently.

d. Readymade Products: Learner Retardation

- Guides are readily available in the markets.
- Question Banks with solutions are available.
- It has become customary to copy paste, without mental processing.
- Drill & Practice are negligible.

Experts Driven Pedagogy fails many a Novice.

e. Programmed Learners

- Children are Programmed Round the Clock.
- Beauties of Childhood are Lost.
- Booming Energy of the Adolescents goes Stray.
- Vision of the Adults is Lost.
- There is rare Life in the Institutes of Education, but, added focus on life skills.

Where are we Learners?

Dwindling Values & Institutions

- Degeneration of Values & Institutions
- Technological De-Schooling
- Mechanized Education

There is a felt need for Germination, Incubation, Innovation, Creation, Construction, and Connection

Ways Out

- Technological De-Schooling
- Zero Lecture Program
- Participatory Approach of Problem Solving
- Activity Based learning
- Employing Models of Teaching
- Theory Building & Employing
- Employing Taxonomy of Educational Skills
- Constructivism & Connectivism
- Training Thinking
- Wholistic Learning

Features of Some of the Innovative Programs

- *Personalized Teacher Education (DAVV)*
- *Choice of Volunteers*

- *Learner Centered*
- *Personalized Classroom Setting*
- *Participatory Approach*
- *ZLP*
- *Freedom for what to study, how to study, when to study, where to study*
- *Peer Teaching-Learning-Evaluation*
- *Variety in the modes of presentation*
- *Successive Discussions*
- *Evaluation by Self, Peer & Teacher*
- *Emergence of Humanistic & Professional Masters*
 - *Wholistic Teacher Education (CASE)*
 - *Subject Knowledge*
 - *Inter-disciplinarity*
 - *Environmental Attitude*
 - *Health development*
 - *Emotional development*
 - *Spiritual development*
 - *Integrated development*
 - *Universe Development Index (UDI)*
 - *Problem Solving through Participatory Approach (DAVV)*
 - *The M.C.Ed. class, DAVV, Indore was very often given a problem to be solved through a computer program.*
 - *Number of different programmes would emerge from the entire class.*

- *Each program was presented by one of the programmers to the rest of the class and rated by all the students on different criteria, namely, compactness of source code, fetch and execute cycle size, response time, memory used, programming discipline level and programme intelligibility.*
 - *Also, the students developed programme to calculate Kendall's Coefficient of Concordance through 'C' language. They then computed Kendall's coefficient of concordance individual criterion wise and with respect to the comprehensive criteria.*
 - *There is a significant cognitive development through cognitively mapping the algorithms and solution to a problem. This approach cuts across students of varied profiles, simultaneously. Participatory approach may be introduced in various disciplines to enhance learning in all domains. It facilitates creative production and independent thinking. Also, it provides scope to experience and appreciate the cognitive maps of others.*
- *Development of Creative Writing Ability Amongst Students Through Participatory Approach (CASE)*
 - *Recitation of Model Poems by the Teacher in Class Situation*
 - *Appreciation of the poem by the class and identification of the various components of creative composition*
 - *Composition of a variety of poems by the students individually, and in groups*
 - *Recitation of the self composed poems by the classmates and appreciation by rest of the class*

- *Participatory approach of creative writing facilitates expression of the latent creative faculties in terms of original production.*

- **Learner Driven Pedagogy**

Here is a poem presenting learner driven pedagogy:



ABC of LEARNER DRIVEN PEDAGOGY

Mere Trainer Driven Pedagogy Failed Me Grossly as a Learner Accelerator-Break-Clutch & Gear Was Full of Diffidence & Fear	Fully Learner Driven Pedagogy Passed Me Gracefully as a Learner Driving Easily in Any Direction With Confidence & Conviction
Driving demands knowledge of techniques Driving demands motor muscle skills Driving demands concept of space & time Driving drives both body & mind	Driving tunes with multivariate setting Driving rules with multiple controls Driving has its own methodology Driving has its own Science & Technology
Driving drives Self & Vehicle Driving derives concepts & principles Driving is full of arrays of Skills Slight Negligence Bumps Hurts & Kills	Driving demands a Taxonomy of Skills Compatible Drivers, Ways & Vehicles Whether driving Man or Machine Driving demands Wit Will & Skills
Pedals With or Against Currents Lift Thrust Ailerons & Rudder Pedals Let us Drive Hills-Valleys-Plains all the Ways Up-Down Back-Forth Left-Right All the Days	Replacement of SMPS Insertion of CMOS Fixing of RAM Fabrication of Chips Spring Tide Sun Moon Opposite Side Drive Universe with Wit Might & Delight
Clouds in the Sky Rains & Storms Dew Drops on Petals Sweat of the Workers	Salute to Thee for Thy Grace Resonating Drive Always All Ways Electrons in Orbits Ribosome in DNA All the Entities in Wonderful Constellation!

Connectivism

Connectivism is a hypothesis of learning which emphasizes the role of social and cultural context. Connectivism is often associated with and proposes a perspective similar to Vygotsky's 'zone of proximal development' (ZPD), an idea later transposed into Engeström's (2001) Activity Theory. The relationship between work experience, learning, and knowledge, as expressed in the concept of 'connectivity, is central to connectivism, motivating the theory's name. It is somewhat similar to Bandura's Social Learning Theory that proposes that people learn through contact. The phrase "a learning theory for the digital age" indicates the emphasis that connectivism gives to technology's effect on how people live, communicate and learn.

Those who struggle to create an adequate theory of learning must admit that the process is much like stumbling in the dark. So much of our thought structure is shaped by hidden assumptions evident in our existing learning and educational systems (Siemens, 2005).

Connectivism is a learning theory for the digital age. Learning has transformed from the last several decades. The theories of behaviourism, cognitivism, and constructivism provide an effect view of learning in many and related environments respectively. Connectivism basically postulates that learning occurs through connections within the networks.

The Connectivism comprises of the networks with nodes and connections to define the learning. Constructivism highlighted on the construction of knowledge and meaning making activity and applying the known to the unknown. Here in Connectivism the generated knowledge gets networked with other new knowledge and the network develops and moves on. It is the Philosophy of learning where the Knowledge constructed consists of connections between entities in a network; also the learning consists of developing and traversing these networks. It asserts that knowledge and learning are of not completely the content but about the connections.

Behaviorism offers laws to govern behaviour that can inform a teacher's manipulation of the learning environment (including texts and activities) to promote learning, where knowledge is perceived as facts that can be transmitted from teacher to student. Cognitivism opens up the black box of the mind, regarding the learner as an information processor. Social

constructivism in which it has an “ontology in which reality is subjective, a social product constructed and interpreted by learners. Hence social constructivism places a greater emphasis on the importance of social interactions in affecting the individual’s generation of knowledge or facts about the world. The whole is greater than the sum of the parts, and knowledge becomes a cultural artefact, associated with groups within a specific context.

Nodes and links

The central aspect of Connectivism is the metaphor of a network with nodes and connections. In this metaphor, a node is anything that can be connected to another node such as an organization, information, data, feelings, and images. Connectivism sees learning as the process of creating connections and expanding or increasing network complexity. Not all connections are of equal strength.

The idea of organisations as cognitive systems where knowledge is distributed across nodes originated from the Perceptron and is directly borrowed from Connectionism- a paradigm in cognitive sciences that sees mental or behavioral phenomena as the emergent processes of interconnected networks of simple units. The network metaphor allows a notion of "know-where" (the understanding of where to find the knowledge when it is needed) to supplement to the ones of "know-how" and "know-what" that make the cornerstones of many theories of learning.

As Downes states: "at its heart, connectivism is the thesis that knowledge is distributed across a network of connections, and therefore that learning consists of the ability to construct and traverse those networks".

History and Foundations

Connectivism was introduced in 2005 by two publications, Siemens’ Connectivism: Learning as Network Creation and Downes’ An Introduction to Connective Knowledge. Both works received significant attention in the blogosphere and an extended discourse has followed on the appropriateness of Connectivism as a learning theory for the digital age. In 2007 Kerr entered into the debate with a series of lectures and talks on the matter, as did Forster, both at the Online Connectivism Conference at the University of Manitoba. In 2008, in the context of

digital and e-learning, Connectivism was reconsidered and its technological implications were discussed by Siemens' and Ally.

Each and every idea has their own heritages; likewise the idea of the Connectivism too has the roots. Like language as a tool of learning in Social Constructivism of Lev Vygotsky, Social learning theory of Vygotsky, Bruner, Bandura's Self-efficacy, Network theories of Mathematics, Sociology and Physics.

Teaching Methods

Summarizing connectivist teaching and learning, Downes states: "to teach is to model and demonstrate, to learn is to practice and reflect." In 2008, Siemens and Downes delivered an online course called "Connectivism and Connective Knowledge". It covered Connectivism as content while attempting to implement some of their ideas. The course was free to anyone who wished to participate, and over 2000 people worldwide enrolled. The phrase "Massive Open Online Course " (MOOC) describes this model. All course content was available through RSS feeds, and learners could participate with their choice of tools: threaded discussions in Moodle, blog posts, Second Life and synchronous online meetings. The course was repeated in 2009 and in 2011.

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Importance of Networks

According to Siemens, "considering technology and meaning-making as learning activities begins to move learning into the digital age" (2005). Inherent to this new viewpoint on learning is the idea that we can no longer personally experience everything there is to experience as we try to learn something new. We must create networks which, simply defined, are connections between entities. By using these networks - of people, of technology, of social structures, of systems, of power grids, etc. - learning communities can share their ideas with others, thereby "cross-pollinating" the learning environment (Siemens, 2005)

Downes and Siemens have brought together their ideas on the use of networks in understanding learning on many levels in a theory called connectivism. Siemens sets a bold research agenda around the sharing of cognitive tasks between people and technology; coping with rapid change in the "information ecology"; and the impact of theories of networks, complexity, and chaos. He defines a network as connections between entities, which he calls nodes; the nodes can be individuals, groups, systems, fields, ideas, or communities. The networks are basically in two forms.

- Internally as neural networks (where knowledge is distributed across our brain, not held in its entirety in one location)
- Externally as networks we actively form (each node represents an element of specialization and the aggregate represent our ability to be aware of, learn, and adapt to the world around).

Downes draws the concept of Connectivism, as it has been used when applying ideas from biological models of the brain to neural networks in machine learning, treating the neural network as part of a whole. The overall view that a strongly interconnected neural network and its firing patterns must be considered as part of a whole became an important principle of orientation in the study of the nervous system; it is referred to under the name of connectivism. (Gestzi, 1990)

Principles of Connectivism:

According to Siemen (2005)

- ❖ Knowledge and the learning rests in the diversity of opinions
- ❖ Learning is a process of connecting specialized nodes or information sources.
- ❖ Learning may reside in non-human appliances.
- ❖ Capacity to know more is more critical than what is currently known
- ❖ Nurturing and maintaining connections is needed to facilitate continual learning.
- ❖ Ability to see connections between fields, ideas, and concepts is a core skill.
- ❖ Currency (accurate, up-to-date knowledge) is the intent of all connectivist learning activities.
- ❖ Decision-making is itself a learning process. Choosing what to learn and the meaning of incoming information is seen through the lens of a shifting reality. While there is a right answer now, it may be wrong tomorrow due to alterations in the information climate affecting the decision.

A Comparison

Learning	Behaviourism	Cognitivism	Constructivism	Connectivism
How does learning occur	Observable behaviour main focus	Structured, computational	Social, meaning created y each learner	Distributed within a network, socially, technologically enhanced, recognising and interpreting patterns.
Factors influencing	Nature of Reward, Punishment, Stimuli	Existing Schema, Previous experience	Engagement, participation, social and cultural	Diversity of Network
Role of the memory	Memory is hardwiring of repeated experiences- where reward & punishment are most influential, Drill and practice,	Encoding, storage, Retrieval	Prior Knowledge remixed to current context	Adaptive patterns representative of current state, existing in networks

	repeated experiences			
How does transfer occur	Stimulus Response	Duplicating Knowledge Constructs of “Knower”	Socialization	Connecting to other connections, adding nodes
Type of learning best explained	Task-based learning	Reasoning, Problem Solving	Social, Ill-Defined	Complex learning, diverse expansion of knowledge and knowledge sources.

(Ireland, 2007)

Connectionist Skills

- Interpretation of units
- Activation of the network of units
- Learning Algorithm
- Recurrent Neural Networking
- Evolving continuous, dynamic systems approaches

Illustrations on Connectivism

- Learning Resources Management System
- Time-Space-Personnel Management System
- Consortium of Teacher Education
- Inter University Consortium (IUC)
- Global Educational Research Association (GERA)
- Indian Consortium of Research in Education (ICORE)
- Wholistic Education
- Taxonomy of Educational Skills
- Social Networking
- Management Information System Series
- Reflective dialoguing

Conclusion

In connectionism the starting point is always the individual learner (Siemens, 2005). The path to gaining knowledge comes through an individual, possibly with the assistance of others, establishing their own personal knowledge network of relevant information resources (e.g., valuable web sites, academic or professional journals, conferences, etc.) and information connections. These connections may consist of relationships with knowledgeable co-workers or professional colleagues. Connectivism provides a new way of thinking about knowledge

and learning in the context of emerging information technology and rapid change. Knowledge should no longer be considered a stable artefact to be passed from one person to another, but instead should be viewed as a process, always changing and growing. Connectivism provides the pathways for connecting dot to globe & point to morphology.

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Researching Pioneer Competency in India

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A Researcher is one who is fully lost in quest of solutions to the problems round the clock through scientific, systemic, humanistic approach with positive attitude towards the reality irrespective of the discomfort & risk. A Pioneer is Noblest Number One Innovator, excellent explorer & creator, all alone in the crowd, twinkles unique in the sky, dives alone in the ocean to seek solutions to the problems of all, fully identifying with the universe, always busy with what, how and why. A pioneer germinates, incubates, innovates, creates & constructs. Developmental challenges demand newness of the theme, as well as, methodology. A pioneer is round the clock lost in sensing, formulating and addressing problems through most innovative, creative, constructive & connectionist innovative approaches. The intent of the present paper is mapping the competencies of the pioneers and trying to emulate these to address day to day problems so as to recreate this sphere as a happy, healthy, peaceful abode for all. The focus is on addressing many a challenges, such as, dementia patients, heart & brain entrainment problems, Right To Education problems, Environmental Education Problems, and Wholistic Education Problems. There is no space, no spot, no dot in the Universe which is problem independent, even, vacuum is in problem. But, with every problem simple or complex there is a solution. The present paper attempts to focus the Pioneer Competency in these areas with an interdisciplinary perspective.

Pioneer Competencies

Pioneer is Quintessential Innovator, that is, Unique Top Excellent Innovator, who tends to be close to the creator on the Object of Quest. Germination, Incubation, Innovation, Creation, Construction and Connection are the essential attributes of a Pioneer, who is lost in the quest round the clock, with positive attitude despite all discomforts. Here is a poem by Akash, 2013, which very well depicts a Pioneer as follows:

An Artist's Woes

Would you like to be a pioneer,
But a quintessential recluse?
Or a run of the mill
With fame and riches?

Would you like to be the one
Whose wanderings lead him to a dystopia?
Or be the one
Who is content with his life in a utopia?

Would you like to be the one
Who stands against the vicious, tyrant mind?
Or be the one
Who sways like a blade of grass in the Prairie Wind?

Would you like to be the one
Who fights for a cause by embracing insanity?
Or be the one
Who accepts society's norms of sanity?

Would you like to be the one
Whose art is criticized by a wise, lone wolf?
Or be the one
Who is appreciated by a mindless flock of sheep?

Would you like to be the one
Who snakes his way to fame for appreciation?
Or who stays anonymous
By sacrificing his fame to hold his conviction?

In the end, you will realize
It was your choice
Rather than your ability
Which truly defined you.

The marvelous mysteries & deep secrets of the nature are revealed when a Researcher is fully completely lost in the quest. It is in tune with Swami Vivekanand Vision & Determination that “Arise, Awake & Stop not till the Goal is Reached”. The ultimate goal is a perfect becoming with Skill, Scale & Speed, Constructivist, Connectionist & Naturalist, proud of thy creation, always humble, a wholistic being, an embodiment of the soul, having perfect entrainment of heart, brain, senses, motor- muscles, resonating self with the environ, a universal being, happy becoming with unconditional eternal love & affection for all, mostly roaring, a blissful being, transcending time, space & mind to be one with the sole Soul. A Pioneer is a curious, determined, dedicated, committed, eternal scholar with a unique profile. Nobel Laureates may not be very high IQ, but they are highly goal oriented dedicated people who fully strive for finding the truth & reality. The Pioneers may be LAUKIK or ALOUKIK, or both?

Nobel Laureates of Indian Origin

Rabindranath Tagore



Rabindranath Tagore, India’s popular poet and writer was awarded Nobel Prize for Literature in 1913 for his “Geetanjali” a collection of his poems.

“Our passions and desires are unruly, but our character subdues these elements into a harmonious whole. Does something similar to this happen in the physical world? Are the elements rebellious, dynamic with individual impulse? And is there a principle in the physical world which dominates them and puts them into an orderly organization?”

— Interviewed by Einstein, 14 April 1930

C.V. Raman



Chandra Shekar Venkata Raman, Indian Scientist was awarded Nobel Prize of Physics in 1930 for his “Raman Effect” related to light.

In 1922 he published his work on the "Molecular Diffraction of Light", the first of a series of investigations with his collaborators which ultimately led to his discovery, on the 28th of February, 1928, of the radiation effect which bears his name ("A new radiation", *Indian J. Phys.*, 2 (1928) 387), and which gained him the 1930 Nobel Prize in Physics. Other investigations carried out by Raman were: his experimental and theoretical studies on the diffraction of light by acoustic waves of ultrasonic and hypersonic frequencies (published 1934-1942), and those on the effects produced by X-rays on infrared vibrations in crystals exposed to ordinary light. In 1948 Raman, through studying the spectroscopic behaviour of crystals, approached in a new manner fundamental problems of crystal dynamics. His laboratory has been dealing with the structure and properties of diamond, the structure and optical behaviour of numerous iridescent substances (labradorite, pearly felspar, agate, opal, and pearls).

Among his other interests have been the optics of colloids, electrical and magnetic anisotropy, and the physiology of human vision.

Hargobind Khorana



Dr. Hargobind Khorana, India's Doctorate in Chemistry was awarded Nobel Prize for Medicine in 1968 for his study of the Human Genetic Code and its role in Protein Synthesis.

Har Gobind Khorana also known as Hargobind Khorana (January 9, 1922 – November 9, 2011) was an Indian-American biochemist who shared the 1968 Nobel Prize for Physiology or Medicine with Marshall W. Nirenberg and Robert W. Holley for research that helped to show how the order of nucleotides in nucleic acids, which carry the genetic code of the cell, control the cell's synthesis of proteins. Khorana and Nirenberg were also awarded the Louisa Gross Horwitz Prize from Columbia University in the same year. Khorana was the first scientist to chemically synthesize oligonucleotides.

Mother Teresa



Mother Teresa, a Yugoslavian nun who became an Indian citizen was awarded Nobel Prize for Peace in 1979 for her service through her Charitable Mission “Nirmal Hriday” at Calcutta to people suffering from Leprosy and to those people dying in destitute.

Mother Teresa had first been recognised by the Indian government more than a third of a century earlier when she was awarded the Padma Shri in 1962 and the Jawaharlal Nehru Award for International Understanding in 1969. She continued to receive major Indian awards in subsequent years, including India's highest civilian award, the Bharat Ratna, in 1980. Her official biography was written by an Indian civil servant, Navin Chawla, and published in 1992.

On 28 August 2010, to commemorate the 100th anniversary of her birth, the government of India issued a special 5 Rupee coin, being the sum she first arrived in India with. President Pratibha Patil said of Mother Teresa, "Clad in a white sari with a blue border, she and the sisters of Missionaries of Charity became a symbol of hope to many – the aged, the destitute, the unemployed, the diseased, the terminally ill, and those abandoned by their families.

Subramanian Chandrashekar



Dr. Subramanian Chandrashekar, an Indian Astro-Physicist was awarded Nobel Prize for Physics in 1983 for his theory on white dwarf stars' limitation known as 'Chandrasekhar Limit'.

He wrote that his scientific research was motivated by his desire to participate in the progress of different subjects in science to the best of his ability, and that the prime motive underlying his work was *systematization*. "What a scientist tries to do essentially is to select a certain domain, a certain aspect, or a certain detail, and see if that takes its appropriate place in a general scheme which has form and coherence; and, if not, to seek further information which would help him to do that." Chandrasekhar developed a unique style of mastering several fields of physics and astrophysics; consequently, his working life can be divided into distinct periods. He would exhaustively study a specific area, publish several papers in it and then write a book summarizing the major concepts in the field. He would then move on to another field for the next decade and repeat the pattern. Thus he studied stellar structure, including the theory of white dwarfs, during the years 1929 to 1939, and subsequently focused on stellar dynamics from 1939 to 1943. Next, he concentrated on the theory of radiative transfer and the quantum theory of the negative ion of hydrogen from 1943 to 1950. This was followed by sustained work on hydrodynamic and hydromagnetic stability from 1950 to 1961. In the 1960s, he studied the equilibrium and the stability of ellipsoidal figures of equilibrium, and also general relativity. During the period, 1971 to 1983 he studied the mathematical theory of black holes, and, finally, during the late 80s, he worked on the theory of colliding gravitational waves.

Amatya Sen



Dr. Amartya Sen, an Indian Professor in Economics was awarded Nobel Prize for Economics in 1998 for his work in Economic Theory related to Poverty, Democracy, Development and Social Welfare.

“The curriculum of the School did not neglect India’s cultural, analytical and scientific heritage, but was very involved also with the rest of the world. Indeed, it was astonishingly open to influences all over the world, including the West but also other non-Western cultures, such as, East & South-East Asia (including China, Japan, Indonesia, Korea), West Asia and Africa. I remember being quite struck by Rabindranath Tagore’s approach to cultural diversity in the world (well reflected into our curriculum), which he had expressed in a letter to a friend: “Whatever we understand and enjoy in human products instantly becomes ours, wherever they might have their origin....Let me feel with unalloyed gladness that all the great glories of man are mine”””

Venkataraman Ramkrishnan



Venkataraman Ramkrishnan, an Indo-American has shared Nobel Prize for Chemistry along with a co-American Thomas Steitz and Ada Yonath of Israel in 2009 for mapping ribosomes, the protein producing factories within cells at the atomic level.

Ramakrishnan was born in Chidambaram in Cuddalore district of Tamil Nadu, India to C. V. Ramakrishnan and Rajalakshmi. Both his parents were scientists and taught biochemistry at the Maharaja Sayajirao University in Baroda. He moved to Baroda in Gujarat at the age of three, where he had his schooling at Convent of Jesus and Mary, except for spending 1960–61 in Adelaide, Australia. Following his Pre-Science at the Maharaja Sayajirao University of Baroda, he did his undergraduate studies in the same university on a National Science Talent Scholarship, graduating with a B.Sc. degree in Physics in 1971.

In a lecture in January 2010 at the Indian Institute of Science, he revealed that he failed to get admitted to any of the Indian Institutes of Technology or the Christian Medical College, Vellore, Tamil Nadu.

Immediately after graduation he moved to the U.S.A., where he obtained his PhD degree in Physics from Ohio University in 1976. He then spent two years studying biology as a graduate student at the University of California, San Diego while making a transition from theoretical physics to biology.

Ramakrishnan began work on ribosomes as a postdoctoral fellow with Peter Moore at Yale University. After his post-doctoral fellowship, he initially could not find a faculty position even though he had applied to about 50 universities in the U.S.

He continued to work on ribosomes from 1983-95 as a staff scientist at Brookhaven National Laboratory. In 1995 he moved to the University of Utah as a Professor of Biochemistry, and in 1999, he moved to his current position at the Medical Research Council Laboratory of Molecular Biology in Cambridge, England, where he had also been a sabbatical visitor during 1991-92.

In 1999, Ramakrishnan's laboratory published a 5.5 Angstrom resolution structure of the 30S subunit. The following year, his laboratory determined the complete molecular structure of the 30S subunit of the ribosome and its complexes with several antibiotics. This was followed by studies that provided structural insights into the mechanism that ensures the fidelity of protein biosynthesis. More recently, his laboratory has determined the atomic structure of the whole ribosome in complex with its tRNA and mRNA ligands. Ramakrishnan is also known for his past work on histone and chromatin structure.

Attributes of the Nobel Laureates

- They believe in simple living and high thinking.
- They fully identify with the objects of their quest.
- All of them are universal becoming.
- They are comprehensively connectionists.
- They have a wonderful sense of appreciation.
- They try their levels best to transcend Time-Space-Mind.
- They are fully lost in the realization of their goal, regulating, both, the in vivo & external noise.
- They rarely aspire for awards & rewards.
- Their acts & texts have own testimony.
- They realize quality & perfection with every bit of action.
- They live alone in & with the crowd.
- They are least affected by the praise or abuse.
- They are target oriented round the clock.
- All the systemic parameters with them are in perfect resonance.
- They philosophize many a fields simultaneously.
- Irrespective of the disciplines they are identified with, they are ultimately Spiritual Scientists.

How to research the Pioneer Competencies of the Excellent Innovators is beyond the conceptual framework, theoretical framework, propositions, methodology, tools & scales of the investigators with limited knowledge base.

Standard of Education in India

President Pranab Mukherjee has again expressed concern over standard of Indian universities, saying they have not figured in the top 200 universities of the world. The President was addressing the second convocation at Indian Institute of Science Education and Research (IISER), Bhopal.

"In last 83 years, no research scholar from an Indian university has won Nobel prize after C V Raman. Scholars like Amartya Sen, Har Gobind Khorana who are product of Indian universities, have obtained the Nobel Prize while working for foreign universities. It is worrying," he said.

Mukherjee said since 2012 annual convocation of IIT-Kharagpur, he has been sharing his concerns about education in convocation or annual conferences at Rashtrapati Bhavan.

Prof. M.R. Yadav, 27.10.2014, Faculty of Technology & Engineering, MSU, Baroda, Gujarat, India expressed that “Facilities should be created at National level for providing clinical trial facilities. The institution should fund patenting like PCT applications and US and European Patents.”

As expressed by Prof. (Dr.) Debapriya P. Chattopadhyaya, FTE, MSU, Baroda, India –

“There is enormous potentiality of applying nano technology for improved performance of textiles.”(28.01.2014, 1615). In addition to the various points discussed I would like to raise a very important point which puts a big hurdle in our research. That is the cost of testing. The testing charges of instruments like Particle size analyser, Scanning electron Microscope, X-ray Diffraction, Differential Colorimeter, Atomic Force Microscope, Transmission Electron Microscope are very high. There is no single department where all these instruments are available. Some of them are not even available in our university. Students get their samples tested in different departments or other institutes. Many a times it becomes difficult for the students to arrange testing charges

Some of the nano testing is very expensive. We in the department of Textile Chemistry started synthesis, characterization and application of nano particles on textiles probably first in India. But we always faced problem in testing. So, if the facilities are available within university are made free or are charged very nominal to our research students it will enhance the quantum of research, as many a times we had to compromise in this area. We in the University may also keep separate fund for it where it can be charged. We have to generate fund from testing samples of other than M.S. University.

As expressed by Prof. Deota P.T. (28.01.2014, 1650) –“Policy should be framed so as to encourage more and more students to join Ph.D. Program & sufficient funds should be made available for the fellowship as well as research. Entry to Ph.D. Program should be made easier and less cumbersome. We have developed technology for isolation & estimation of Azadiarachtin from Neem Seed at lab scale. We would like to pilot scale up and establish it, so that, it can be beneficial to small and medium scale industries. It should be noted that world is favouring Bio-Pesticides in place of Chemical Synthetic Pesticides for obvious

reasons & hence this project carries a lot of significance for India in particular and world as a whole.”(deotapt@yahoo.com)

“The Research Output should reach the common people of the country. The study of Basic Sciences and the Products coming out of the Fundamental & Applied Research, like, nano particles & nano quasi-crystals are extremely useful in the treatment of diseases caused by bacteria & viruses.”(apratapmsu@yahoo.com)

“Foreign Universities are getting more of Indian Patents than the Indian Universities.” (Prof. A.N. Mishra, 28.01.2014, 1405). Though the Department of Pharmacy has got number of Patents, but, a sizable number of applications are pending with the Drug Controller General of India. Financial requirement of the process of Patenting is so heavy, that round the clock efforts of our Scientists are not duly respected. We are addicted to the product of the West, be it drugs or machines. When will we revive our values for the indigenous?

PROBLEMS to PIONEERS

There are many developmental challenges of India, such as , Assimilating the globalization, Managing Knowledge, Continuous updating of Knowledge & Skills, Creating new age institutions, Balancing materialism and values of orient, Phantom use of Resources, Trans-planet technology stabilization, Working with multiple languages and multiple cultures, Meeting the climatic & environmental challenges, Sustaining development, Collaborative Living, Wholistic development, Developing Vocational Skills, Enhancing Communication Skills, Quality control, Removing Public Private dichotomy, Controlling Rising materialistic values, Realizing even distribution, Controlling Ecological imbalances, Fair Recognition, Valid Accreditation, Sustaining Symbiosis, Respecting Cultural Heritage, Sustaining sensitivity to the basic values, Convergence of State, Society, Education & Judiciary, Respecting Rights of all, and Transcending time, space & mind. The research focus needs to be decided very carefully. Some of the challenges are presented as follows:

A. Emerging Problems of Dementia in India

With the changed scenario of Joint Families to Nuclear Families in India the problem of dementia has emerged very wildly. The elderly people of India are very commonly becoming victims of memory loss, that is, dementia. What is the resolve? Which disciplines this problem belongs to – Family & Community Studies, Social Work, Medicine, Education,

Psychology, Sociology, Economics, Political Science, Architecture? It belongs to all these and many more. Below is presented the case of an Indian Woman.

a. A Woman of 86 Year

Here is a person, mother of 8 Sons & Daughters, all grown up well settled Adults & Aged. None is ready to live with her, except, one. She is suffering from a severe memory loss. For example, after washing, she very often forgets to close the jet. As, a result the over head water tanks become empty. She has not been in a position to attend to it despite daily reminders. As a result the family members have started shouting at her at the pitch of their voice expecting her to close the jet post-usage. But, no results. Now the question is-Is shouting the solution. Answer is no. Instead, it is significantly damaging, both, the shouters and the shouted at. What is the diagnosis? What is the prognosis for its disposition?

1. Amelioration of dementia
2. Disconnection of Jet
3. Support Staff
4. Empathy of the Family Members
5. Dementia specific Social Architect
6. Separate Abode for the Dependent (“ANASHRIT ASHRAM”)
7. Dementia Patient Policy of India

B. Falling Heart & Brain Entrainment Ratio in Many Indian

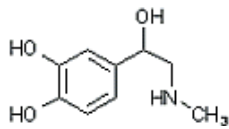
There is a falling Heart and Brain Entrainment Ratio in many Indians. It is a highly complex systemic problem. It could be attributed to many a factors, such as, eating habits, disregard of the cultural heritage of India, Lack of convergence amongst Legislative, Executive, Judiciary, Education & Society, Lack of Life Skills. A large majority of us neither know our strength, nor do we know our weakness. Creative Thinking & Critical Thinking, both, in one are rarely found. Neither we are in a position to cope up with stress fully, nor with emotions. Despite the abilities we do not exercise choice in time. We are slow in decision making. Hence, we go on inviting problems. We do not enjoy life & living. The heart is always fine-tuning its dopamine/adrenaline balance. Both adrenaline and dopamine are always in use in the heart. Every microsecond, in response to thoughts and to internal and external sensory perceptions, the heart is moving slightly more towards one nerve set and its neurotransmitter or towards the other. The degree and manner of heart wave resonance with thoughts and with internal and external sensory perception determines the moment to moment balance between

adrenaline and dopamine. If the heart is more resonant, the neurotransmitter balance shifts more towards dopamine. If the heart is less resonant or emotionally shut down, the neurotransmitter blend shifts more towards adrenaline. The ratio of adrenaline to dopamine at any given second determines *how* the brain will interpret the incoming sensory information at that moment, and the manner in which the brain will respond. Up until now, we have only mentioned dopamine as a paired neurotransmitter with adrenaline. In fact, dopamine is not just the “opposite” of adrenaline. Dopamine is the main driver of the heart. If the brain perceives a reason to be fearful, the heart’s dopamine triggers adrenaline and a tilt towards the *sympathetic* nervous system’s connection to the brain. If the brain is not fearful, the heart’s basic dopamine supply triggers more dopamine and a tilt towards the *parasympathetic* nervous system’s connection to the brain. Dopamine is the primary activator of the heart. Dopamine levels in the heart determine the vigor of the neural signals to the brain. Dopamine levels in the heart are determined by the amount of joy and the amount of resonance that the heart is feeling. The sheer joy of being alive is the energy that allows the heart to resonate and initiate the primary dopamine release for the heart. Dopamine does not cause joy. Joy causes the release of dopamine. The greater the joy, the greater the level of primary dopamine in the heart. Whether a person is happy or sad, he can always resonate with the sheer joy of being alive. Whether a person is in the midst of battle or in solitude, the sheer joy of living can be present behind his fear or his tranquility. Joy and the heart’s ability to resonate are very nearly the same. The former is more purely energetic, the other is the more physical manifestation of the joy energy.

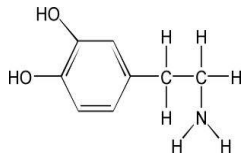
Just like light, which has a wave pattern and a photon, human joy has a purely vibratory component and a more tangible component. Just as the astral form of light does not require a photon, the vibratory component of joy exists whether the body exists or not. For example, light has two components: the light “wave” and the photon. The wave and the photon are considered to be equal and simultaneous, in terms of energy, but the photon is the denser, more tangible, more “crude” half of the combo. Like light’s relatively more tangible half, the photon, the electromagnetic wave of the resonating heart is the denser, more crude, more tangible component of joy. When the heart is resonating with the joy of being alive, it releases dopamine to itself. That dopamine then energizes the other heart responses. This underlying source of dopamine is what powers the heart’s balancing act between the dopamine and adrenaline that flows to the brain. The core dopamine in the heart drives the dopamine and adrenaline systems in the rest of the body. The dopamine stashes in the head, in the substantial area and other parts of the brain are merely satellite supplies of dopamine.

They are activated and dopamine is released into various parts of the brain, when the heart instructs the brain to respond to sensory events with joy. The core level of dopamine prepares a person, in body and brain, to be a feeling, sentient being.

Adrenaline



Dopamine



We should be in a position to sustain the equation of Adrenalin & Dopamin. There is a need to train Thinking.

C. Children Selling Indian Flags on Independence Day & Republic Day



Here is daughter-The Pride of India selling Indian Flags. Where is Her Home? Who are Her Parents? Which School She Studies? Where from She has brought these Flags of India? What for She brought these Flags? Why is She holding these Flags? What flows through these Flags? How is she holding these Flags? How do we read the configuration of Her Face-Her Eyes, Her Hair, Her Ear Rings, Her Smile, Her Vision?

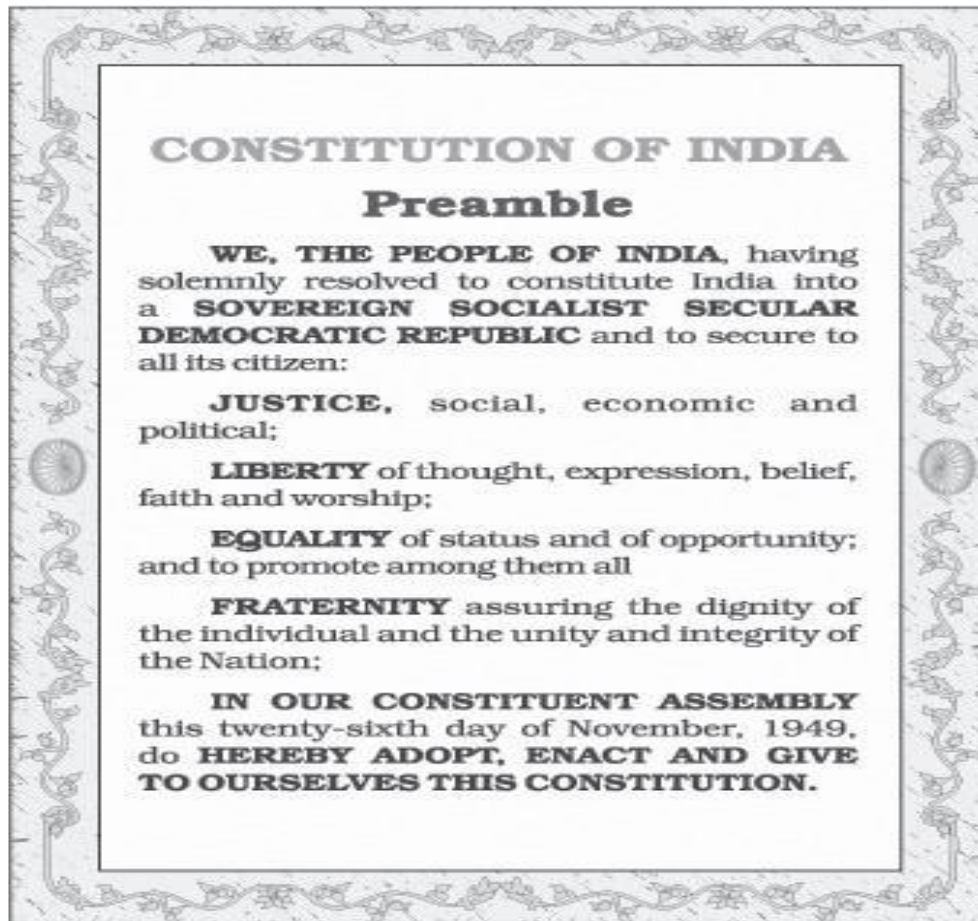
How about the UNO Convention on the Rights of Children? How about the Indian Constitutional Right to Education (RTE)? How about the KANYA KELVANI of Gujarat? How about the Maharaja Sayajirao Vision of the Girl Education? How about the Perceptions of Parents of their Girl Child? How about the Corporate Social Responsibility? How about the role of the Entire Universe?

Have the Legislative, Executive, Judiciary, Society, Polity, Education sincerely thought that why the State of many a girls is so miserable in India? Why the girls are perceived as objects, rather than, embodiments of all the values & virtues and the Soul for the genesis of human life? For realizing civilization & humanization, we ought to understand the bipolarity-Positive & Negative, High & Low, Hills & Valleys, PURUSH & PRAKRTI. How to make the masses understand the bipolarity of Nature? Bipolarity is essentially the basis for genesis of life & living in this Universe & Sustainable Development. It is not difficult to research the misperceptions of the beauties of nature. Beauties of nature need to be respected & appreciated. But, our obsessions for possession are destroying the beauties & bliss of the nature. Could we realize detached love for the nature through unconditional love for all the entities? Instead we have started treating the nature as a resource rather than adoring Thee as Source. Resource is endowed by the nature. Usage of resource has been presumed to be the prerogative of man. Man likes to be treated as a Source than Resource. The Apex Administrator of India is the Ministry of Human Resource Development.

Let, each one of us, determine to own a Girl Child. Here are some of the Proposed Actions by Young Indians, through Massive Action Research.

- ✚ I will adapt her as my daughter.
- ✚ I will purchase all the flags she is holding.
- ✚ I will make her realize the vision of human life.
- ✚ I will find some suitable Children Home for her.
- ✚ I will support her economically, as much, as I can.
- ✚ I will seek help from the NGOs for her.
- ✚ I will open Educational Classes for such children, free of cost.
- ✚ I will seek admission for her in a School & Support her Education.
- ✚ I will make her energetic, full of momentum, with vision & action.
- ✚ I will make her self-supportive.
- ✚ I will make her realize her childhood.
- ✚ I will Educate the State to Revisit Policies for Children.

Let us understand Bipolarity. Let us own our children Daughter or Son, Son or Daughter. Let us adore the Mother Nature as Source and abstain from exploiting Her, abusing Her, as Resource. Let us Learn to Respect the Preamble of the Indian Constitution:



D. Wholistic Education Problems

Wholistic approach demands development of a complete human where ideas spring, feelings flow, motor creates, spirit reins, and the self resonates with the self and the environment, for example:

a. Tea Preparation

Why do we prepare tea & how do we prepare tea?

Where are the tea gardens?

Where from the tea has originated?

Is it native or non-native?

If non-native, who introduced tea in India?

What is the chemical composition of tea leaves?

Which pan we make use of while preparing tea?

What is the origin of the LPG which we make use of for tea preparation?

How the gas stove is manufactured?

Why very often water is used as a medium for tea preparation?

Why do we add milk and sugar?

Why do we add basil, black pepper and ginger?

How long we should extract tea leaves?

What finally is the prepared tea, its composition?

How much and how frequently we should take tea?

How tea contributes to Wholistic development?

b. Production & Cracking of Crackers

Let us take up an example of Production & Cracking of a Cracker, namely, Multi-Colour Fountain (ANAR):

What are the ingredients of an ANAR?

Where from these ingredients are procured and how?

What is the ANAR container?

What are the determinants of multi-colors and height of the fountain?

Which chemical reactions take place when we spark the ANAR?

After the ANAR is cracked how do the evolving gases interact with the environment?

What are the probable effects of cracking ANAR?

WHAT are the chemistry, physics, mathematics, economics, environmental Science & Sociology of ANAR?

Is it joyful, harmful, or both?

What is the status of child labourers who work in factory of crackers?

Some Suggestions

1. Minimum 5% of the GDP should be spent on Education.
2. Minimum 2% of the GDP should be spent on Research.
3. There is rare, rather, no concurrence of the State Governments to the new Projects and Positions sanctioned by the Central Government, to own these after the initial Project Period. This indifference of the State Government is a countrywide phenomenon which is evident through the treatment of almost all the States. Then, why not Education be shifted from the concurrent list to the central list.

4. The creativity of the budding scholars is killed in the Indian Classrooms. There should be capable teachers & congenial culture to facilitate the germination & incubation.
5. There should be Research Culture in Indian Institutions. How long we will go on duplicating, replicating & stereotyping?
6. We ought to learn to love & value the indigenous.
7. Facilities should be created at National level for providing clinical trial. The institutions should fund patenting.
8. Facilities should be provided for patenting and scale production of the valuable products and their marketing.
9. Scientists should move from the laboratories to the operational level.
10. There should be university industry interface for developing research culture and ambience.
11. National meet of Researchers in various disciplines should be the integral feature of Indian Higher Education.
12. Indian Scholars, Scientists & Researchers should be respected indigenously. What are we busy with, if we don't have the even the minimal facilities to retain them?

Concluding Remarks

Developmental Challenges demand Pioneers with interdisciplinary competencies. How long will we compromise with the fragmented research? Should not it be wholistic related to the ground realities, which are, very often, rather always, multi-parametric?

Should not the research be collective & collaborative: Formal-Informal-Non-Formal?

Why the Scientists have not come out of their laboratories? Is not there a need to conduct naturalistic situational research through deep observation, reflection & intuition and construct grass root theories, addressing our problems, through our tools, through our sources & resources, to better our quality of life & living?

Indian brain is highly evolved, Indian artists, scientists, scholars, technocrats, researchers, and industrialists, as well as businessmen all are quality service oriented. There are pioneers and pioneers in India. We are more used to the western molecules in most of the domains where as the India molecules wait for years together to be patented. We have more craze for the western at the cost of indigenous. Our apex institutions are mad after the foreign products. Papers published in the foreign journals are better Academic Performance Indicators (APIs). Unless we Indian learn to respect the indigenous, and facilitate a suitable culture we will fail to have noble laureates. There is a lot of awakening amongst Indian pioneers not to let their

efforts go waste. It is high time that we learn to appreciate the passion and round the clock dedication of these pioneers. Indian higher education ought to revive and establish its identity as higher education.

Pioneer Women of India

Dr. Aerum Khan- Assistant Professor of Education, JMI, New Delhi

Dr. Archana Singh- CEC, New Delhi

Dr. Chhaya Goel- Former Professor of Education, MSU, Vadodara

Dr. Devraj Goel- Professor Emeritus, MSU, Vadodara

The universe is essentially bipolar in nature, such as, positive & negative, male & female, PURUSH & PRAKARTI, rich & poor, high & low. This bipolarity is the open secret of the nature for the expansion and sustenance of the Universe. But, the problem is that very often the bipolarity is least understood. Woman is an embodiment of values & virtues, such as, love & affection, truthfulness, compassion and forbearance, sacrifice & protection, adaptation & perfection, innovation, creation, construction, connection and sustenance. A Pioneer is number one quintessential innovator. Indian women are excelling in all the fields, such as, Medicine, Engineering, Social Work, Polity, Plantation & Gardening, Horticulture, Agriculture, Sericulture and Social Culture. There are women pilots, women truck drivers, women train drivers, women politicians, Army Officers and Commanders, administrative officers, warriors, religious leaders, and Governors. History is an evidence of unique women, namely, Rani Laxmi Bai, Meera Bai, Rani Durgavati, Jijabai, Sarojini Naidu, Begum Hazrat Mahal, Indira Gandhi, Medha Patekar, Savitribai Phule, Annie Besant, Mother Teresa, Bachendri Pal, Arunima Sinha, Cornelia Sorabji, Kadambini Ganguly, Rajkumari Amrit Kaur, Sister Nivedita, Elaben Bhat, Madhuri Shah, Harsha Mehta and Guha Phulera. Swami Vivekananda finds Ma Sita as the most ideal woman in this universe. Remarkable is the profile of Urmila. The intent of the present volume is to identify the Pioneer Women of India. Presented in this volume are the profiles of some of the Pioneers.

Firewoman: Harshini Kanhekar



Kanhekar created history when she became the first-ever female student to get admission in the fire engineering course at the National Fire Service College in Nagpur, Maharashtra—the only institution of its kind in India. She was always fascinated by the uniform. However, nothing stopped her from entering a male dominated profession. Sheer determination and confidence enabled Kanhekar become India's first woman firefighter and an inspiration to many.

Motorwoman: Surekha Yadav



Asia's first motorwoman is also India's first mail driver. Surekha, a diploma holder in electrical engineering from Karad, Maharashtra has been driving suburban local trains for over a decade. Before that, she worked as an assistant driver on goods trains covering long distances for 10 years.

Supreme Court Judge: Kumari Fathima Beebi



Justice M. Fathima Beebi completed her Law from Law College, Trivandrum, rolled as an advocate on September 14, 1950 appointed as Munsiff in the Kerala Sub-ordinate Services in May 1958, her career trajectory from being a subordinate judge (1968), chief judicial magistrate (1972), district and sessions judge (1974), judicial member of the Income Tax Appellate Tribunal (1980), became a High Court judge in 1983. She retired as the High Court judge in 1989. Then she became the first woman judge of the Supreme Court of India, from where she retired three years later in 1992.

Lawyer: Cornelia Sorabji



Was the first woman to practice law in India and UK. She was the first woman barrister from India, a social reformer and a writer. Sorabji has many firsts to her credit, first woman graduate from Bombay University, first woman to read law at Oxford University and also the first Indian national to study at any British university.

Photo Journalist: Homai Vyarawalla



India's first woman press photographer Homai Vyarawalla's work aptly captures a crucial time in India's history including the last days of the British Empire in India as well as India's newly gained independence. Vyarawalla, who passed away at the age of 99, was from a middle class Parsi family in Navsari, Gujarat. Born to an actor in a travelling Urdu-Parsi theatre company, she learned photography from Maneckshaw Vyarawalla, whom she married later. After a career of 33 years as press photographer, Homai gave it up at the age of 57.

Graduate & Physician: Kadambini Ganguly



The first Indian woman graduate (along with Chandramukhi Basu) and the first Indian woman to be trained in western medicine, Kadambini decided to pursue medicine post marriage. However, in spite of succeeding in joining the Calcutta Medical College in 1884 she had to deal with immense male hostility. Many members of the faculty were opposed to the idea of a woman physician. As a result, after four years of study Kadambini passed all the papers in her course except the one on medicine. This meant

that she could not get an MB degree and was instead awarded the degree of GBSM (Graduate of Bengal Medical College).

Fertility Expert: Dr. Indira Hinduja



Dr Indira Hinduja has created what perhaps is the biggest gift for childless couples — India's second test-tube baby, Harsha Chevda. What she started in 1988, has led today to a plethora of in-vitro fertilisation (IVF) clinics across Mumbai. But Dr Indira Hinduja, who made it all happen, has rightfully earned herself a place in Indian medical History. Most cannot forget that sense of wonder when they heard about the birth of Harsha. For Dr Hinduja, it was a culmination of a three-year-long painstaking research in IVF and embryo transfer. Dr Hinduja has successfully delivered more than 1244 test-tube babies in India. Dr. Indira Hinduja was born at Shikarpur (Pakistan) and during the partition, her family migrated to Mumbai. Indira was only a few months old then. After living in Belgaum for some years, they moved back to Mumbai in 1963. And ever since, it has been her home. She studied in Mahila Vidyalaya Belgaum and stayed near Kelkar Bagh. During her childhood she was unsure of what she wanted to do. She decided to take up medicine when she was in high school. Earlier, she wanted to be a musician.

Mountaineer: Bachendri Pal



Climbing the Everest is considered a daunting task even now though Edmund Hillary and Tenzing Norgay made it possible in 1953. Ever since the British set up Mount Everest Committee in 1921 to organize and fund expeditions, many mountaineers from across the globe have tried the feat. But, Bachendri Pal, an employee of the National Adventure Foundation was the first Indian woman to conquer Mount Everest. Another great and inspiring woman from India.

First Woman IPS Officer: Kiran Bedi



Kiran Bedi has worn many hats, a sincere and honest police officer, a social activist and a reputed tennis player. She is the first woman IPS officer in India and continues to inspire the women of India. She was part of the now defunct "Team Anna" and has been raising her voice against corruption for many decades. Honored with the Ramon Magsaysay award for service, she runs the NAVJYOTI India Foundation which helps drug addicts in rehabilitation and de-addiction.

Mountaineer: Arunima Sinha



Arunima Sinha, world's first female amputee to Scale Mount Everest, is set to share her story with the world. A National volley ball player, Sinha lost one of her legs when she was pushed out of a moving train by robbers while she resisted a robbery bid. Sinha who shares a special bond with the city, was here to deliver a motivational lecture to the Students of New Era School, Vadodara, Gujarat, India.

Sinha shared in her autobiography her journey of failures, struggles and consistent hard work that helped her realize the impossible dream. "People never believed me They doubted the ability of a disabled person to do something I proved them wrong." Said a proud Sinha.

Sinha encouraged the students to believe in their inner potential. "Not losing sight of your end goal relentless pursuit is the secret to achieve success" said Sinha. A young icon youth for many, Sinha was inspired by Swami Vivekananda and Cricketer Yuvraj Singh, who had successfully battled cancer, 'to do something' with her life. It was while undergoing treatment at AIIMS that she resolved to ascend the world's highest summit.

Sinha devotes all the prize money won through awards towards helping disable athletes. "The government should provide sponsorship and funds for disable sportspersons with potential. We have people who can win laurels for India but they lack sponsorship support," said Sinha, the dejection obvious on her face. Her dream is slowly taking shape in the form of 'Padit Chandra Shekhar Viklang Khel Academy' - a sports academy for the disabled which will produce India's future champions.

"If I can, so can you" is her message to the Indian Youth. (Times of India, Ahmedabad, Tuesday, August 26, 2014")

Essence of the Book

Born Again on the Mountains

By Arunima Sinha

Born Again on the Mountain is a complete Motivational Book I have ever read. The book encourages the people to face challenges as their opportunities. It is a must read book for all the people who feel demotivated being a handicapped person. They should be given your example of success. The way you told the Doctors to undergo a major Surgery without anesthesia was very hard decision. This shows that a girl has immense powers in her soul. This book has its own bliss. This book has all the challenges that man faces in his or her life and these are Struggle, Confidence, Pain, and you accepted them all very calmly. Your family was a great supporter and motivator for you at hard times. Sahib Ji motivated you a lot and I am proud of him. He told you to try climbing the Great Mount Everest and you accepted it as a challenge and succeeded in it with distinction. Every girl should be like you. Madam Bachendri Pal helped you and motivated you a lot. The mountain's challenges were very great but you told the mountain that no one can stop you to reach your destination. Your Boss on the mountain (Sherpa Neema Kancha) told you a lot to go back because of your tiredness and conditions of your leg but you were so much eager to reach the top that you forgot everything and prayed to the God. I am very happy to know that you are building a Sports Academy for the Handicapped. May God bless you and give you a great life ahead. I am Motivated a lot. Your name MUST be written in Golden words in India's History – ARUNIMA SINHA, THE FIRST FEMALE AMPUTEE TO REACH MOUNT EVEREST IN THE WORLD.....

(A Review by Master Anshul Goel, Std. IX (2014-2015), New Era Senior Secondary School, Naizampua, Vadodara-Gujarat-India)

First Woman President of India: Pratibha Patil



Pratibha Devisingh Patil is the first woman president of India. After graduating from Government Law College, Mumbai, her interest in social issues and particularly the state of woman in India motivated her to become politically active. She was elected to the Maharashtra Legislative Assembly at 27 and there was no looking back until she became the President of India at 72. A truly inspiring leader and a great woman, she will continue to serve as a great inspiration for the Women of India.

Wrestler: Karnam Malleswari



In a country like India, excelling in sports is very tough, even for the most talented. Being the first woman from India to win a [gold](#) medal in wrestling. Karnam Malleswari, proved woman power to the nation. Her choice of sport was odd, but she had enough determination and perseverance to come out as a winner. She is honored with many awards viz. Rajiv Gandhi Khel Ratna award, Padma Shri and the Arjuna Award.

Astronaut: Kalpana Chawla



The truly inspiring and daring woman from India who crossed borders and space, Kalpana Chawla, will be remembered by Indians around the globe for generations to come. In 2003, Kalpana Chawla was killed in the Space Shuttle Columbia disaster along with 6 other crew members. Kalpana has to her credit, more than 30 days in space. Several memorials have been built in her honor including the Kalpana Chawla Space Technology Cell, Kalpana Chawla International Space University Scholarship and the Indian satellite METSAT-1 being renamed as KALPANA-1.

First Women Chief Minister of any Indian State: Sucheta Kriplani



Sucheta Kriplani, an Indian freedom fighter and politician is the first women to become chief minister of any Indian state. She came to the forefront after the quit India movement. Revered for her honesty and sincerity, she is still remembered by old-timers as the best Chief Minister U.P. ever had.

Social Activist: Padmini Prakash



Padmini Prakash, a 31-year-old transgender from Coimbatore, she freed herself from her social and personal demons. At 7 pm on Independence Day this year, when the lights went on and the cameras started rolling in the Lotus News Channel studios, and she read out the day's headlines from a teleprompter, Padmini became the first transgender television news anchor in the country.

Padmini has acted in a television serial and she's dealt with various kinds of pressure in the past, especially during her days as a vocal social activist for transgender rights, protesting against the discrimination, harassment and stigma that sexual minorities face. But Padmini says she initially found it daunting to anchor a live news show because there is little leeway for error and it involves the responsibility of being unbiased and connecting with viewers.

"I was very worried because I also had to focus on my diction and maintain a steady narrative pace to ensure that there was clarity and viewers could understand me," Padmini said.

But she hit the ground running and has won praise from her employers, members of the transgender community and media veterans. A month after she started, Padmini has become the face of the Coimbatore-based Lotus News Channel's daily 7 pm special bulletin.

"We are supportive of Padmini because she is very hard-working," Lotus News Channel chairman GKS Selvakumar said. "After initial trials, we were convinced that she had the potential to be an excellent news anchor."

Padmini, who grew up in RS Puram in Coimbatore, was a first-year BCom student when she cut off all ties with her family and dropped out of college because she could no longer take the stigma and pressure. She travelled across the state and beyond and later returned to Tamil Nadu and became a Bharathanatyam dance instructor. Padmini, who now stays with her partner in Vellakinar in the suburbs of Coimbatore, also participated in and won several transgender beauty contests.

Rose Venkatesan, first transgender to become a television talk show host, says when representatives of the television channel asked her about Padmini, she had no doubts about recommending her. "I knew that she was a tough and determined person. I knew she was capable of handling the pressure," she said.

Former UGC Chairperson: Madhuri Ratilal Shah



Madhuri Ratilal Shah was an Indian educationist, writer and the chairperson of the University Grants Commission. She was the chairperson of the *UGC Review Committee on University System* set up in 1985. She also worked as the Education Officer of the Mumbai Municipal Corporation.

Madhuri Shah authored many books on education and poetry. *Without Women, No Development: Selected Case Studies from Asia of Non-formal Education for Women*, *Towards exploring some aspects of the relationship between education and creation of employment opportunities*, *Symphony: A Book of Poems Challenges to Higher Education in a Changing India*, *Instruction in education: Teaching technology* and a series by name, *Radiant English Workbook* are some of her notable works. She was awarded the fourth highest Indian civilian award of Padma Shri by the Government of India in 1977. Her life has been documented in the book, *Harmony: glimpses in the life of Madhuri R. Shah*, published in 1985, containing several of her interviews.

Social Activist: Ela Ben Bhatt



Ela Ramesh Bhatt (born 7 September 1933) is an Indian cooperative organizer, activist and Gandhian, who founded the Self-Employed Women's Association of India (SEWA) in 1972, and served as its general secretary from 1972 to 1996. A lawyer by training, Bhatt is a part of the international labour, cooperative, women, and micro-finance movements and has won several national and international awards, including the Ramon Magsaysay Award (1977), Right Livelihood Award (1984) and the Padma Bhushan (1986).

Rajkumari Amrit Kaur



Rajkumari Amrit Kaur (2 February 1889 – 6 February 1964) was the health minister in the Indian Cabinet for ten years after India's independence from the British Raj in 1947. She was an eminent Gandhian, a freedom fighter, and a social activist. She was also a member of the Constituent Assembly, the body that framed the constitution of India. She was a social activist and freedom fighter; few of her views are quoted here:

About the Plight of Harijans:

It is a crying shame that the people who cater for our services are relegated in most towns to live in the most abominable dwellings—if, indeed we can call their hovels by this name.

About Child Marriages:

Child marriage is eating as a canker into the vitality of our national life. Girls become mothers while they are children themselves, and bring into the world offspring who are, in the very nature of things, the victims of disease and ill health.

About the Plight of Women:

The abolition of early marriage and purdah...will remove two of the main obstacles in the way of the spread of female education. Needless to say that the position of the widows in Hindu homes, marriage laws and the laws relating to the inheritance of property by women need radical alteration.

In the realm of educational reform, we have urged ever since our inception that there should be free and compulsory education. Again, as far as proper facilities for the female education are concerned until such time as universal, free and compulsory primary education as well as an adequate supply of infant and girls' schools equipped with trained women teachers are introduced, we must continue to do our utmost to have the system of education in our existing institutions changed.

Social Worker: Sister Nivedita



Bhagini (Sister) Nivedita born **Margaret Elizabeth Noble**; (28 October 1867 – 13 October 1911) was a Scots-Irish social worker, author, teacher and a disciple of Swami Vivekananda. She spent her childhood and early days of

her youth in Ireland. From her father, and her college professor, she learned many valuable lessons like – service to mankind is the true service to God. She worked as school teacher and later also opened a school. She was committed to marry a Welsh youth who died soon after their engagement.

Sister Nivedita met Swami Vivekananda in 1895 in London and traveled to Calcutta (present-day Kolkata), India in 1898. Swami Vivekananda gave her the name Nivedita (meaning "dedicated to God") when he initiated her into the vow of *Brahmacharya* on 25 March 1898. In November 1898, she opened a girls' school in Bagbazar area of Calcutta. She wanted to educate those girls who were deprived of even basic education. During the plague epidemic in Calcutta in 1899 Nivedita nursed and took care of the poor patients.

Nivedita had close associations with the newly established Ramakrishna Mission. However, because of her active contribution in the field of Indian Nationalism, she had to publicly dissociate herself from the activities of the Ramakrishna Mission under the then president Swami Brahmananda. She was very intimate with Sarada Devi, the spiritual consort of Ramakrishna and one of the major influences behind Ramakrishna Mission and also with all brother disciples of Swami Vivekananda. She died on 13 October 1911 in Darjeeling. Her epitaph reads, "Here reposes Sister Nivedita who gave her all to India".

Queen of the Maratha ruled Malwa Kingdom: Ahilyabai Holker



Maharani Ahilya Bai Holkar (31 May 1725 – 13 August 1795) was the Holkar Queen of the Maratha ruled Malwa kingdom, India. Rajmata Ahilyabai was born in the village of Chondi in Jamkhed, Ahmednagar, and Maharashtra. She moved the capital to Maheshwar south of Indore on the Narmada River.

Ahilyabai's husband Khanderao Holkar was killed in the battle of Kumbher in 1754. Twelve years later, her father-in-law, Malhar Rao Holkar, died. A year after that she was crowned as the queen of the Malwa kingdom. She tried to protect her kingdom from plundering Muslim invaders. She personally led armies into battle. She appointed Tukoji Rao Holkar as the Chief of Army.

Rani Ahilyabai was a great builder and patron of many Hindu temples which embellished Maheshwar and Indore. She also built temples and Dharmshala (free lodging) at sacred sites outside her kingdom, at prominent religious places like Dwarka in Gujarat east to the Kashi Vishwanath Temple at Varanasi on the Ganges, Ujjain, Nasik, Vishnupad Mandir, Gaya and Parali Baijnath in Maharashtra. Seeing the destroyed and desecrated temple in Somnath, Rani Ahilyabai built a temple where Lord Shiva is still worshipped by Hindus.

Gyanpith Lekhika Mahashveta Devi



Mahasweta Devi (14 January 1926 – 28 July 2016) was an Indian Bengali fiction writer and social activist. Her notable literary works include *Hajar Churashir Maa*, *Rudali*, and *Aranyer Adhikar*. She worked for the rights and empowerment of the tribal people (*Lodha* and *Shabar*) of West Bengal, Bihar, Madhya Pradesh and Chhattisgarh states of India. She was honoured with various literary awards such as the Sahitya Akademi

Award (in Bengali), Jnanpith Award and Ramon Magsaysay Award along with India's civilian awards Padma Shri and Padma Vibhushan.

Mahashveta Ji Ki Ek Sundar Kavita

AA GYE TUM?

DVAR KHULA HAI ANDAR AAO..!

PAR TANIK THHARO;

DYODHI PAR PDE PAYDAAN PAR;

APNA AHAM JHAAD AANA..!

MADHUMALTI LIPTI HAI MUNDER SE,

APNI NARAJGI VAHAN UDEL AANA..!

TULSI KE KYARE MEIN

MN KI CHATKA CHADHA AANA..!

APNI VYASTTAYEN, BAHAR KHOONTI PAR HI TAANG AANA..!

JOOTON SANG, HAR NKAARATAMAK UTAR AANA.!

BAAHAR KILOLTE BCHCHON SE,

THODI SHRARAT MAANG LANA..!

VO GULAB KE GAMLE MEIN MUSKAAN LAGI HAI..

TOD KAR PAHAN AANA..!

LAAO , APANI ULJHNEN MUJHE THAMA DO..

TUMHARI THAKAAN PAR , MANUHAARON KA PANKHA JHULA DOON .!

DEKHO , SHAAM BICHCHAI HAI MAINE,

SOORAJ KHSITIJ PAR BANDHA HAI,

LALI CHIDKI HAI NABH PAR..!

PREM AUR VISHWAS KI MADDHAM AANCH PAR, CHAYE CHDHAI HAI,

GHOONT GHOONT PEENA..!

SUNO , ITNA MUSHKIL BHI NAHIN HAI JEENA..!!

..MAHASHWETA DEVI.

Nobel Peace Prize Winner Mother Teresa



Mother Teresa: She became the **first Indian woman to win a Nobel Peace Prize** in 1979. Mother Teresa founded the Missionaries of Charity, a Roman Catholic religious congregation, giving her life to social work.

First Woman PM of India Indira Gandhi



Indira Gandhi: She became the **first woman Prime Minister of India** and served from 1966 to 1977. Indira Gandhi was named as the "Woman of the Millennium" in a poll which was organised by BBC in 1999. In 1971, she became the **first woman to receive the Bharat Ratna award.**

Mallika Sarabhai



Mallika Sarabhai (born 9 May 1954) is an activist and Indian classical dancer from Ahmedabad, Gujarat, India. Daughter of a classical dancer Mrinalini Sarabhai and renowned space scientist Vikram Sarabhai, Mallika is an accomplished Kuchipudi and Bharatanatyam dancer and performer who has specialized in using the arts for social change and transformation.

Anna Malhotra: First woman IAS officer of India.



Anna Rajam George (née **Malhotra**) (born July 17, 1927) was the first female Indian Administrative Service officer of India. She belonged to the 1951 batch of the IAS and was married to R. N. Malhotra, her batchmate. Her first posting as a civil servant was in Madras State and reportedly chief minister C. Rajagopalachari was sceptical about giving a woman the charge of a district sub collector and instead offered her a post in the Secretariat. She did not comply and was eventually posted as a sub collector in Madras State, becoming the first woman to do so. She was also the first Malayali woman to hold a secretarial post in the central government. She was awarded Padma Bhushan in 1989.

Harita Kaur Deol: First woman pilot to fly solo in the Indian Air Force



Harita Kaur Deol: Flight Lt. Harita Kaur Deol was a pilot in the Indian Air Force. She became **the first woman pilot to fly solo in the Indian Air Force**, in 1994.

Priya Jhingan: First Indian woman to join the Indian Army



Priya Jhingan: With a dream to be in the Indian Army, Priyan Jhingan became **the first Indian woman to join the Indian Army** in 1993.

Udan Pari: PT Usha



Pilavullakandi Thekkeparambil Usha, popularly known as P.T. Usha, is an Indian track and field athlete from the state of Kerala. P.T. Usha has been associated with Indian athletics since 1979. She is regarded as one of the greatest athletes India has ever produced and is often called the "queen of Indian track and field".

Woman Tennis Player Sania Mirza



Sania Mirza: The professional tennis player became the **first ever Indian woman to win a Women's Tennis Association (WTA) title** in 2005. Later in 2015, Sania Mirza became the **first Indian woman to be ranked no. 1 in WTA's double rankings.**

Badminton Player Saina Nehwal



Saina Nehwal: Currently ranking no. 2 in the World, Saina Nehwal became **the first Indian to win a medal in Badminton at Olympics** in 2012. Later in 2015, she became **the first Indian woman to become no. 1 in World ranking.**

Woman Boxer Mary Kom



Mary Kom: Mangte Chungneijang Mary Kom, also known as Mary Kom is **the only woman boxer who has won a medal in each of the six World Championships**. She was the only Indian woman boxer who qualified for the 2012 Olympics and became **the first Indian woman boxer to win a gold medal in Asian Games** in 2014.

CONCLUDING REMARKS

Contribution of women in the development of Indian culture and society is impeccable. The values and morals along with the skills and expertise practiced by the girls and women of our country are excellent. All these earn tremendous respect throughout the world. Indian women consider their family and relations primarily. Bearing & rearing children; taking care of the elders and resonating with the life partner is considered as religion. Every woman has a unique story, but some of them leave an eternal mark on the society with their pioneer culture & creation. There is a lot to learn from the profile of each Indian woman from various fields. Their very names present the ethos of the profile. We feel proud of Indian women who are embodiments of various virtues. Their contribution in building India is remarkable. Mother India feels proud of her daughters- Fire Fighters, Train Drivers, Supreme Court Judges, Barristers of India, Press Photographers, Physicians & Doctors, In-vitro Fertilization Experts, Indian Women to Conquest Everest, Female Amputee to Reach Mount Everest, Police Officers, Social Activists, Players, Woman Prime Minister of India, Woman President of India, Women Athletes & Players, Women who crossed Borders & Space, Freedom Fighters, Women CMs of India, Transgender Social Activists, Woman Chairperson of the UGC, Founder of Self Employed Women Association of India, Woman Health Minister in Indian Cabinet for 10 Years, Nivedita who gave her all to India, the Queen, Warrior &

Philanthropist of India, Women Poets, Women in the Army & Women Pilots in the Air Force, and Women Activists.

There is no parallel to Indian Woman. They play all the roles easily & precisely. They are singers & engineers, dancers & managers, politicians & philosophers, Teachers & Doctors, Masters & Servants, Musicians & Technicians, Worshippers & Warriors, Producers & Marketers, Governors & Managers, Germinators & Nurturers. They play all the roles with decency, decorum, discipline & dedication. There are Indian Women Pioneers in every field. Their innovations, creations and connections are superb. They play all the roles joyfully & perfectly. They live with Wholistic Theory, Perennial Philosophy, Composite Culture, Unity in Diversity, Very often sacrifice, but keep the crown of the nation high, whether crop field, or war field, Superb Peasants, Skillful Martyars, whether Guitar, or Sitar, their SARGAM is marvelous, History in their soul, momentum in their motor muscles, comprehensive vision in their eyes, strong determination, deepest exploration, intuitive insight, totality of their experiences is full of perfection, light & delight. Selfless compassion is the wonderful attribute of women. Don't you think every woman is a PIONEER!

Webliography:

<http://indiatoday.intoday.in/education/story/first-indian-women/1/448279.html>

https://en.wikipedia.org/wiki/List_of_women's_rights_activists#India

<https://en.wikipedia.org/wiki/>

Quality & Autonomy of Indian Higher Education

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Indian Higher Education has been known for its quality since the establishment of the Ancient Indian Universities, namely, Nalanda & Takshila. Modern Indian Higher Education Institutions, namely, Indian Institute of Science, Bangalore and Indian Institute of Technology, Indore have been struggling for sustainable development of the Higher Education. But, progressively, the degeneration of a large number of Indian Higher Education Institutions is on the fore. It is mainly because of neo-liberalization, neo-privatization & blind- digitization. Liberal Art has become so liberal that it has lost its identity. Similar is the state of Science & Technology. Our fresh Engineers, how-so-ever, skilled & learned are wandering here & there for their survival. We are busy without business. Commerce is largely without service motive. Bureaucratic, conservative, table to table self killing model is leading our higher education nowhere. Values of the east are lost, whereas, the western styles & values are pouring. We have become more smart than civilized. There is identity crisis of Higher Education in India. DAAN, ANUDAAN, VIDAAN have become values of the orient. Unless we revive our ancient values & life styles we will be nowhere.

The Times World University Ranking 2019

The Times World University Ranking 2019 list is out. On a positive note, 7 more Indian Universities have made it to the list in comparison to last year and new institutes have outranked the older ones, this year. Indian Institute of Science

(IISc) Bangalore has made it to the 251-300 rank band and is the highest ranked Indian University in the list. The list comprises of more than 1250 Universities from 86 countries worldwide. While the Universities ranked in the global top 10 have retained their position, Yale University is the only newcomer in the list. Switzerland's ETH Zurich has slipped down to 11th position this year.

Among the 49 Indian Universities, IIT Indore has been ranked the second best Indian University beating highfliers like IIT Bombay, IIT Kharagpur and IIT Kanpur among others.

List of Indian Universities in Times World University Ranking 2019

SNO	Higher Education Institution	Times World University Rank 2019
1	Indian Institute of Science, Bangalore	251-300
2	IIT Indore	351-400
3	IIT Bombay	401-500
4	IIT Rourkee	401-500
5	JSS Academy of Higher Education and Research	401-500
6	IIT Delhi	501-600
7	IIT Kanpur	501-600
8	IIT Kharagpur	501-600
9	Savitribai Phule Pune University	501-600
10	Amrita University	601-800
11	BHU	601-800
12	University of Delhi	601-800
13	Indian Institute of Science Education & Research Pune	601-800
14	IIT Guwahati	601-800
15	IIT Madras	601-800
16	IIT Bhubaneswar	601-800

17	IIT Hyderabad	601-800
18	Jadavpur University	601-800
19	National Institute of Technology Rourkela	601-800
20	Panjab University	601-800
21	Tejpur University	601-800
22	Acharya Nagarjuna University	801-1000
23	AMU	801-1000
24	BITS Pilani	801-1000
25	Indian Institute of Science Education & Research Kolkata	801-1000
26	IIT (Indian School of Mines) Dhanbad	801-1000
27	JMI	801-1000
28	National Institute of Technology Tiruchirapalli	801-1000
29	Osmania University	801-1000
30	Pondicheery University	801-1000
31	Sri Venkateswara University	801-1000
32	Thapar University	801-1000
33	VIT University	801-1000
34	Amity University	1001+
35	Andhra University	1001+
36	Annamalai University	1001+
37	Cochin University of Science & Technology	1001+
38	G.B. Pant University of Agriculture & Technology, Pantnagar	1001+
39	GITAM University	1001+
40	University of Kerala	1001+

41	KIIT University	1001+
42	The Maharaja Sayajirao University of Baroda	1001+
43	Manipal Academy of Higher Education	1001+
44	University of Mysore	1001+
45	PSG College of Technology	1001+
46	SASTRA University	1001+
47	SATYABHAMA UNIVERSITY	1001+
48	SRM University	1001+
49	Tamil Nadu Agricultural University	1001+

Universities for Grant of Graded Autonomy in India

CENTRAL UNIVERSITIES

SNO	University	NAAC Score	Category under the regulations
1	JNU	3.77	I
2	University of Hyderabad, Hyderabad	3.72	I
3	BHU	3.41	II
4	AMU	3.35	II
5	EFLU	3.26	II

STATE UNIVERSITIES

SNO	University	NAAC Score	Category under the regulations
1	Jadavpur University ,Jadavpur, Kolkata	3.68	I
2	Algappa University Karaikudi	3.64	I
3	NALSAR University of Law, Telangana	3.60	I

4	Savitribai Phule Pune University	3.60	I
5	Andhra University, Visakhapatnam	3.60	I
6	National Law University Delhi, Dwarka	3.59	I
7	Utkal University, Bhubaneswar	3.53	I
8	Kurukshetra University, Kurukshetra	3.52	I
9	Sri Venkateswara University, Tirupati	3.52	I
10	Osmania University, Hyderabad	3.52	I
11	Guru Nanak Dev University, Amritsar	3.51	I
12	University of Jammu, Jammu	3.51	I
13	University of Mysore, Mysuru	3.47	II
14	Anna University, Chennai	3.46	II
15	Punjab University, Chandigarh	3.35	II
16	Kakatiya University, Warangal	3.35	II
17	Punjabi University, Patiala	3.34	II
18	Rajiv Gandhi University of Law, Patiala	3.32	II
19	National Law University Odisha, Cuttack	3.32	II
20	University of Madras, Chennai	3.32	II
21	Guru Jambheshwar University of Science & Technology, Hisar	3.28	II

INSTITUTIONS DEEMED TO BE UNIVERSITIES (Category I)

SNO	Institution	NAAC Score	Category under the regulations
1	Homi Bhabha National Institute Mumbai, Maharashtra.	A+ (3.53) 11.05.2015 to 10.05.2020	I
2	Rashtriya Sanskrit Vidyapeetha Tirupati, Andhra Pradesh.	A +(3.71) 15.11.2015 to 14.11.2020	I

3	Gandhi Institute of Technology and Management (GITAM) Visakhapatnam, AP.	A +(3.53) 28.03.2017 to 27.03.2022	I
4	Narsee Monjee Institute of Studies Mumbai, Maharashtra.	A +(3.59) 12.09.2017 to 11.09.2024	I
5	Sri Ramachandra Medical College and Research Institute Chennai, Tamil Nadu.	A +(3.62) 24.09.2014 to 23.09.2019	I
6	Dr. D.Y. Patil Vidyapeeth Pune, Maharashtra	A +(3.62) 03.03.2015 to 02.03.2020	I
7	Shanmugha Arts, Science, Technology & Research Academy (SASTRA)Thanjavur, Tamil Nadu.	A +(3.54) 11.05.2015 to 10.05.2020	I
8	Symbiosis International Pune, Maharashtra.	A +(3.58) 19.01.2016 to 18.01.2021	I
9	Institute of Chemical Technology, Mumbai, Maharashtra.	A ++(3.77) 27.11.2017 to 26.11.2022	I
10	Datta Meghe Institute of Medical Sciences Wardha, Maharashtra.	A +(3.53) 30.10.2017 to 29.10.2024	I

11	Tata Institute of Social Sciences Mumbai, Maharashtra.	A ++(3.89) 19.02.2016 to 18.02.2021	I
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INSTITUTIONS DEEMED TO BE UNIVERSITIES (Category II)

SNO	Institution	NAAC Score	Category under the regulations
1	TERI School of Advanced Studies New Delhi.	A (3.26) 23.03.2013 to 22.03.2018	II
2	Jain University Bangalore, Karnataka.	A (3.31) 19.07.2017 to 18.07.2022	II
3	Vellore Institute of Technology Vellore, Tamil Nadu.	A (3.42) 03.03.2015 to 02.03.2020	II
4	Manipal Academy of Higher Education	A (3.30) 11.07.2016 to 10.07.2021	II
5	KLE Academy of Higher Education and Research Belgaum, Karnataka.	A (3.34) 19.01.2016 to 18.01.2021	II
6	Amrita Vishwa Vidyapeetham Coimbatore, Tamil Nadu	A (3.40) 24.09.2014 to 23.09.2019	II
7	Kalinga Institute of Industrial Technology (KIIT) Bhubaneswar, Odisha.	A (3.48) 25.05.2016 to 24.05.2021	II
8	JSS Academy of Higher Education & Research Mysore, Karnataka.	A (3.34) 08.07.2013 to	II

		07.07.2018	
9	ICFAI Foundation for Higher Education and Research, Hyderabad, Telangana.	A (3.43) 26.05.2015 to 25.05.2020	II
10	Dr. M.G.R. Educational and Research Institute Chennai, Tamil Nadu.	A (3.31) 02.12.2016 to 01.12.202	II
11	Padmashree Dr. D.Y. Patil Vidyapeeth Navi Mumbai, Maharashtra.	A (3.40) 10.12.2014 to 09.12.2019	II
12	The Indian Law Institute New Delhi.	A (3.35) 28.03.2017 to 27.03.2022	II
13	Siksha 'O' Anusandhan Bhubaneswar, Odisha.	A (3.35) 16.11.2015 to 15.11.2020	II

Private Universities

SNO	University	NAAC Score	Category under the regulation
1	O.P. Jindal Global University Sonapat, Haryana	A (3.26) 17.03.2016 to 16.03.2021	II
2	Pandit Deendayal Petroleum University Gandhinagar Gujarat	A (3.39) 16.12.2016 to 15.12.2021	II

List of Colleges conferred autonomous status by the UGC:

SNO	Name of the College & Affiliating University
1	G. Narayanamma Institute of Technology & Science (For Women), 8-1-297/2/I, Shaikpet, Hyderabad-500 104 Telangana affiliated to JNTU Hyderabad, Telangana
2	Vivekanand College, 2130/E, Tarabai Park, Kolhapur-416 003 (Maharashtra) affiliated to Shivaji University, Kolhapur

3	Sri Vasavi Engineering College, Pedatadepalli, Tadepalligudem-534 101 (West Godavari Dist.,) (Andhra Pradesh) affiliated to Jawaharlal Nehru Technological University, Kakinada
4	Bonam Venkata Chalamayya Engineering College, Odalarevu-553 210, Allavaram Mandal, East Godavari Dist., Andhra Pradesh affiliated to Jawaharlal Nehru Technological University, Kakinada, Andhra Pradesh
5	Jai Hind College Basantsing Institute of Science & J.T. Lalvani College of Commerce, 23-24 Backbay Reclamation, A-Road, Churchgate, Mumbai-400 020 affiliated to University of Mumbai, Mumbai-400 032
6	Shri Vile Parle Kelavani Mandal's Mithibai College of Arts, Chauhan Institute of Amrutben Jivanlal College of Commerce and Economics, Vile Parle (West), Mumbai-400 056 affiliated to University of Mumbai

Times World University Ranking 2019 and Universities for Grant of Graded Autonomy on the basis of the NAAC Assessment & Accreditation

It is encouraging to find that in the Times World University Ranking 2019, 7 more Indian Universities have made it to the list in comparison to last year and new institutes have outranked the older ones.

It is evident from the above tables of list of Indian Universities in Times World University Ranking 2019 and Universities for Grant of Graded Autonomy on the basis of the NAAC assessment & accreditation that there are significant differences in the Times World University Ranking 2019 and NAAC Grading and autonomy thereof. For example three of the central universities, namely, JNU, University of Hyderabad, Hyderabad and EFLU which have been identified by the MHRD as Universities for Grant of Graded Autonomy do not appear in the top 49 Higher Education Institutions in the Times World University Ranking 2019, whereas, the others which appear in the Times World University Ranking 2019 have not been identified for grant of Graded Autonomy.

61.90% (13/21) of the State Universities for Grant of Graded Autonomy on the basis of NAAC Assessment and Accreditation find no place in the Times World University Ranking 2019..

81.82% (9/11) of the Institutions deemed to be universities (category-1) for Grant of Graded Autonomy on the basis of NAAC Assessment and Accreditation find no place , whereas, 19.18% namely GITAM & SASTRA find place in the Times World University Ranking 2019.

69.23% (9/13) of the Institutions deemed to be universities (category-1) for Grant of Graded Autonomy on the basis of NAAC Assessment and Accreditation find no place , whereas, 30.77% namely Manipal Academy, Amrita University, KIIT Bhubaneswar Odisha, and JSS Academy of Higher Education & Research, Mysore find place in the Times World University Ranking 2019.

None of the two private universities and six colleges for grant of Academic Autonomy find place in the Times World University Ranking 2019.

Status of Higher Education Institutions & Concerns

There is evident degeneration in the status of some of the Higher Education Institutions in India, whereas, up-gradation in the status of some of the Higher Education institutions. There is a need to find out the causes of degeneration & up-gradation, both. There is consistency in the Times World University Ranking 2019 and the NAAC Assessment & Accreditation in some of the institutions, whereas, there is inconsistency in a sizable number of institutions. What could it be attributed to?

It is very promising to find that eight of the State Universities Jadavpur University, Jadavpur, Kolkata, Savitribai Phule University, Pune, Andhra University Visakhapatnam, Sri Venkateswara University, Tirupati, Osmania University, Hyderabad, University of Mysore, Mysuru, Anna University, Chennai, and Punjab University Chandigarh have made it to the list of selected 49 Higher Education Institutions of India. GITAM, SASTRA, Manipal Academy, Amrita University, Kalinga Institute of Industrial Technology (KIIT) Bhubaneswar Odisha, JSS Academy of Higher

Education & Research are the deemed to be universities which find place in the selected 49 institutions.

Some Suggestions

1. Reality is out there & it is independent of the researchers who investigate it. So, there should be no significant differences in the rating or ranking of a Higher Education Institution by various agencies.
2. Various faculties & departments of the universities, together, ought to be amply representative of the universe. So, the establishment of the universities should be valid.
3. There is evident degeneration in a large number of the State Universities in India. Adhocism has become their common feature. The regular positions of VC, Registrar, Chief Account Officer, Auditor, Teaching Faculties and Support Staff ought to be filled in time.
4. There ought to be Technology Pedagogy Content Knowledge (TPCK) culture in Higher Education.
5. Open Education Resources and Massive Open Online Courses are on the fore in Higher Education. The quality, validity and compatibility of these resources & sources should be well established.
6. The focus of Higher Education Institutions should be on the Universe Development Index (UDI) rather than merely on Human Development Index (HDI).
7. There should be due focus on the input, process and output norms of Higher Education Institutions.
8. There is a need to conduct the case studies of some of the institutions which have degenerated, whereas, also that of those who have upgraded.
9. There is a need to renew the criteria for assessment accreditation and ranking of the Higher Education Institutions. In addition to infrastructure, teaching-learning-evaluation, student support & Progression, Internal Quality

Assessment, Total quality Management, Research & Development, Publication & Extension, there ought to be due focus on innovations & placement.

10. Universities ought to have due representation of the universe in terms of Faculties, Departments, Programs & Courses, as well as, Research & Development.

11. Competent & Fair teams of experts should go to the field for Assessment & Accreditation.

12. There ought to be due consideration of World Rank of the Higher Education Institutions rather than merely Internal Assessment & Accreditation for realizing autonomy.

Concluding Remarks

Quality & Autonomy should go together. Autonomous institutions should be identified very carefully. Some of the Higher Education institutions have been found to sustain their grades & ranks consistently. Higher Education ought to sustain its identity as Higher through germination, incubation, creation, construction & connection. Higher Education should have genuine focus on the universe. India has been known for its Education since ancient period. We need to revive & realize the ethos of Higher Education.

Scaling Educational Skills

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Abstract

The paper takes off with a question that whether the Educational Skills are Universal. How to dissolve the democratic and totalitarian dichotomy in the institutionalization of Educational Skills? It tries to scale the status of Teacher Educators on a Taxonomy of Educational Skills developed by the investigators on a five point scale. The objectives of the study were to study the relative status of Teacher Educators on various skills and their comprehensive profiles on various skills. The Paper presents the relative status of Teacher Educators on various skills and their comprehensive profiles on various skills. The emerging questions are What should be the considerations for the institutionalization of skills? How these skills can be universalized? All the skills which are acceptable by a democratic State may not be accepted by a totalitarian State? Are there phases in the development of skills, such as, awareness, nascent, competence, internalization and precision & ease in application? Can the various skills be developed simultaneously? Do skills, competencies and styles vary from teacher to teacher? Can the skills be revived? Where will temperament come? How about the development of Listening Speaking Reading Writing Skills across Lexican, Grammar & Phonetics? How to do balancing of skills? How to realize heart & brain healthy entrainment ratio? Which are the facilitating & impeding factors for skill development? Are the skills infinite? Is there skill ultimacy? To what extent Education System can cater to the demands of the Skills? Are the facilities with the teachers available for nurturing all the skills? To what extent the various programs & courses nurture the various skills? How to integrate Taxonomy of Educational Skills in Teacher Education? The Paper concludes that There is an immediate need to integrate Educational Skills.

Scaling Educational Skills

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Every skill for creation, construction, connection, peace & harmony has to be a universal skill. Democratic & totalitarian dichotomy needs to be dissolved to sense & appreciate the skills of the creator. India is a Sovereign, Socialist, Secular and Democratic Republic. These attributes of the Indian State ought to be emulated by every one. Such a State demands, nurtures and deploys all the skills. It is an age of skill, scale and speed in all the domains of life. The skills ought to be universal. The complex conditions of the 21st century demand universal skills in all. The emerging question is- are we really skilled people?

Dhodi Nayana (2011) has developed and implemented a program for Enhancing Info-Savvy Skills in Student Teachers. It demonstrates very well how the info-savvy skills of Asking, Accessing, Analyzing, Applying and Assessing were developed in the Pre-Service Teachers of India through surfing on Cultural Heritage of India, Buddhist Heritage of India and on the domains of their respective discipline methods. It has been a joyful experience to travel through this research volume experiencing various surfing skills, viz., skimming, scanning, authenticating, hyperlinking, switching, skipping culminating into Educational Immersion for seeking solutions.

Helaiya Sheetal (2010) developed and implemented a Life Skills Program for Student Teachers. The following Life Skills identified by the WHO were considered for the study:

- Self Awareness Skill
- Empathy Skill
- Interpersonal Relationship Skill
- Effective Communication Skill
- Critical Thinking Skill
- Creative Thinking Skill
- Decision Making Skill

- Problem Solving Skill
- Coping with Emotions Skill
- Coping with Stress Skills

An exhaustive attempt was made to differentiate all these Life Skills into various components. Number of Activities were designed, developed and implemented to enhance the Life Skills. The Life Skills Program was implemented on the Pre-Service Teachers during 2008-2009 at the Maharaja Sayajirao University of Baroda, Vadodara, Gujarat, India. Post-intervention scenario on the Life Skills of the Student-Teachers revealed that there was a remarkable gain in their Self Awareness Skill, Effective Communication Skill, Interpersonal Relationship Skill, Coping with Emotions Skill, Decision Making Skill and Problem Solving Skill. There was moderate gain in their coping with stress skill, Empathy Skill, Critical Thinking Skill and Creative Thinking Skill. The most impeding factor in life is that most of us lack Self Awareness Skill, that is, neither we know our strengths, nor do we know our weaknesses. We do not know our goals. As a result we are poor in many other life skills. If we fail to identify with the self, then we fail to identify with others also, that is, we lack empathy skill. Creative Thinking Skill and Critical Thinking Skill, both in one, is a rare combination. We need to learn how to zoom out and zoom in. The complexities of life are increasing day by day. We need to learn how to cope up with the stress and emotions. We need to learn how to be our own selves and equally how to be one with the others. We need to realize healthy constellation through empathy, interpersonal relations and effective communication. We need to make right decisions, timely. Teachers need to possess healthy life skills for development of healthy society. So the Life Skills should be integrated in Teacher Education.

Vaidehi P. Gupta (2013) conducted a Study- Role of ICT for Wholistic Development of the Student Teachers. It is evident from the study that ICT does play its role in wholistic development of Student Teachers. We need to extend the role of ICT for development of all the domains wholistically.

The complexity of the prevailing conditions demands skills for healthy, peaceful, harmonious, full & meaningful living under highly complex socio-cultural-political-economic-demographic conditions. So, there is a need to integrate skills in Education. There are numerous skills which various tasks demand. There is a need to arrive at skill level in all the areas to cope up with the challenges. Education ought to be rational as well as scientific. There is a need to realize Skill inclusive, Skill integrated, and Skill evolving School Education & Teacher Education at all levels, right from pre-primary to tertiary & continued education. The present paper attempts to evolve a taxonomy of Educational Skills & explore the status of Teacher Educators on various skills.

STATUS OF TEACHER EDUCATORS ON VARIOUS SKILLS

A skill scale was constructed to find out the status of Teacher Educators on various skills by the investigators as follows:

Scale on Educational Skills

Name:

Designation:

email ID:

SNO	SKILL	Very Good	Good	Average	Poor	Very Poor
1	Self Development Skills					
1.1	Monitoring one's own learning needs.					
1.2	Locating appropriate resources.					
1.3	Transferring learning from one domain to another.					
2	SOCIAL SKILLS					
2.1	Interpersonal & Collaborative Skills					
2.1.1	Demonstrating Networking					
2.1.2	Adapting to Varied Roles & Responsibilities					
2.1.3	Working Productively with others					
2.1.4	Exercising Empathy					
2.1.5	Respecting Diverse Perspectives					
2.2.	Communication Skill					
2.2.1	Who (Sender Analysis)					
2.2.2	Says What (Content Analysis)					
2.2.3	To whom(Receiver Analysis)					
2.2.4	Through which channel (Medium Analysis)					

2.2.5	With what Effect (Reach Analysis)					
2.3	Resilience Skill					
2.3.1	Critically sensing the deviant behaviour(s)					
2.3.2	Cause & Effect Analysis					
2.3.3	Marginal Analysis					
2.3.4	Functional Analysis					
2.3.5	Regression Efficiency					
2.4	Social Responsibility Skill					
2.4.1	Acting Responsibly					
2.4.2	Demonstrating Ethical Behavior in Personal Life					
2.4.3	Demonstrating Ethical Behavior in Workplace					
2.4.4	Demonstrating Ethical Behavior in Community					
2.5	Human Relations Skill					
2.5.1	Decency					
2.5.2	Decorum					
2.5.3	Discipline					
2.5.4	Empathy					
2.5.5	Sharing					
2.5.6	Fellow Feeling					
2.5.7	Politeness					
2.5.8	Peace & Harmony					
2.5.9	Healthy Competition					
2.6	Emotional Skills					
2.6.1	Self Awareness					
2.6.2	Self Management					
2.6.3	Social sensitivity					
2.6.4	Social Management					
2.7	Adjustment Skills					
2.7.1	Home Adjustment					
2.7.2	Institute adjustment					
2.7.3	Social Adjustment					
2.7.4	Emotional Adjustment					

2.7.5	Health Adjustment					
2.7.6	Symbiosis					
2.8	Human Development Climate Skills					
2.8.1	Trust					
2.8.2	Risk Taking					
2.8.3	Openness					
2.8.4	Reward					
2.8.5	Responsibility					
2.8.6	Support					
2.8.7	Feedback					
2.8.8	Team Spirit					
2.8.9	Collaboration					
2.9	Citizenship Skills					
2.9.1	Sovereign					
2.9.2	Social Sensitivity					
2.9.3	Learning about community					
2.9.4	Secularity					
2.9.5	Democratic					
2.9.6	Public & Republic					
2.9.7	Leadership					
2.9.8	Management					
2.9.9.	Cooperation & Collaboration					
2.9.1 0	Participation Skill					
2.10	Accountability & Adaptability Skills					
2.10. 1	Personal Responsibility in Personal Context					
2.10. 2	Personal Responsibility in Workplace Context					
2.10. 3	Personal Responsibility in Community Context					
2.10. 4	Setting High Standards					
2.10. 5	Meeting High Standards					
3	LIFE SKILLS					
3.1	Self Awareness					
3.2	Empathy					
3.3	Interpersonal Relationship					

3.4	Effective Communication					
3.5	Critical Thinking					
3.6	Creative Thinking					
3.7	Decision Making					
3.8	Problem Solving					
3.9	Coping up with emotions					
3.10	Coping up with Stress					
4	CRITICAL THINKING SKILLS					
4.1	Analyzing					
4.2	Reflecting					
4.3	Querying Evidence					
4.4	Conjecturing Alternatives					
4.5	Drawing Conclusion					
4.6	Stating Results					
4.7	Justifying Procedures					
4.8	Presenting Arguments					
4.9	Self Regulation					
5	REGULATING THINKING SKILLS					
5.1	Depressive to Booming					
5.2	Non-Pathological to Pathological					
5.3	Invalid to Valid					
5.4	Polar to Null					
5.5	Ego-centric to Socio-centric					
5.6	Obsessive to Final					
5.7	Partistic to Wholistic					
5.8	Non-sensible to Sensible					
5.9	Traditional to Modern					
5.10	Pessimistic to Optimistic					
5.11	Crooked to Straight					
5.12	Rigid to Flexible					
5.13	Unsocial to Social					
5.14	Dependent to Autonomous					
5.15	Narrow to Broad					
5.16	Practical and Theoretical					
5.17	Non-Technical to Technical					
5.18	Non-Logical to Logical					
5.19	Non-Imaginative to Imaginative					

6	RESEARCH SKILLS					
6.1	Skill of identifying problem					
6.2	Developing Conceptual Framework					
6.3	Skill of Reviewing & implication					
6.4	Skill of Research Questioning					
6.5	Developing Rationale					
6.6	Constructing Statement					
6.7	Enunciating Objectives					
6.8	Formulating Hypotheses					
6.9	Operationlization and or Explanation of Terms					
6.10	Deciding Research Type					
6.11	Population & Sampling					
6.12	Specifying Delimitation					
6.13	Constructing/Selecting Tools & Techniques					
6.14	Laying down Data Collection Procedure					
6.15	Working out/ Deciding Data Analysis Techniques					
6.16	Interpreting Analyzed data					
6.17	Formulating Findings					
6.18	Discussion Mechanism					
6.19	Converging into Theses					
6.20	Theory Building					
7	Constructivist Skills					
7.1	Engagement					
7.2	Germination					
7.3	Incubation					
7.4	Innovation					
7.5	Creation					
8	Connectionist Skills					
8.1	Interpretation of units					
8.2	Activation of the network of units					
8.3	Learning Algorithm					
8.4	Recurrent Neural Networking					
8.5	Evolving continuous, dynamic systems approaches					
9	Systems Thinking Skills					
9.1	Cognizing all the parameters					
9.2	Establishing interrelation &					

	interdependence					
9.3	Realizing Integrated Whole					
9.4	Ensuring Efficiency					
9.5	Ensuring Cost Effectiveness					
10	Info-Savvy Skills					
10.1	Asking					
10.2	Accessing					
10.3	Analyzing					
10.4	Applying					
10.5	Assessing					
11	Techno-Pedagogic Skills					
11.1	Media-Message Compatibility					
11.2	Media Designing					
11.3	Integration of message, media and modes					
11.4	Proximity of Message Forms					
11.5	Media Language Proficiency					
11.6	Media Choice					
11.7	Media Credibility & Message Authenticity					
12	Digital Age Skills					
12.1	Functional Literacy skills					
12.2	Scientific Literacy skills					
12.3	Technological Literacy skills					
12.4	Information Literacy skills					
12.5	Cultural Literacy skills					
12.6	Global Awareness skills					
13	Open Education Resourcing					
13.1	Learning-Content (geogebra, google earth)					
13.2	Creativity (hot potato, C map)					
13.3	Evaluation (R-campus & Mahara)					
13.4	Learning Management System (Moodle & Wiki spaces)					
13.5	Teacher-Managed Communication Platforms (Classroom 2.0 & Web Quest)					
13.6	Statistical Tools for data processing					
13.7	e-Journals					
13.8	e-books					

13.9	e-News Letters					
13.10	Webinars & Web Conferencing					
13.11	WBI					
14	Creative Leadership Skills					
14.1	Socio-centric rather than ego driven					
14.2	Empowers the people to make decisions rather than take decisions					
14.3	Listen oriented than tell oriented					
14.4	Pulls the organization towards a vision					
14.5	Listens to intuition					
14.6	Generates lasting commitment					
14.7	Open minded than opinionated					
14.8	Teaches importance of self responsibility rather than teaches subordinates to take directions					
14.9	Models self responsibility rather than in a self protect mode					
14.10	Knows, relaxing control yields results rather than is afraid of losing control					
14.11	Focuses on building on strengths rather than finding & fixing problems					
14.12	Teaches how to learn from mistakes rather than quick to fire those that fail.					
15	Administration Skills					
15.1	Planning					
15.2	Organizing					
15.3	Staffing					

15.4	Coordinating					
15.5	Budgeting					
16	TIME MANAGEMENT					
16.2	Spacing Things Out; Do not procrastinate					
16.3	Using Social Time Wisely					
16.4	Prioritizing and Reprioritizing constantly					
16.5	Keeping your health/sleep/exercise in check					
17	Spiritual Development Skills					
17.1	Religiosity					
17.2	Knowledge of the soul					
17.3	Quest for life values					
17.4	Conviction, Commitment & Character					
17.5	Happiness & Distress					
17.6	Brotherhood					
17.7	Equality					
17.8	Acceptance & Empathy					
17.9	Love & Compassion					
17.10	Flexibility					
17.11	Leadership in Educational Change					
18	YOGA Skills					
18.1	Yama or Eternal Vows: Ahimsa, Satya, Asteya, Aprigraha & Brahmacharya					
18.2	Niyama or Observances: Saucha, Santosha, Tapas, Savdhyaya, Ishvarapranidhana					
18.3	Asana: Firm, Comfortable Meditative Posture					
18.4	Pranayama: Regulation of the Vital Force					
18.5	Pratyahara					
18.6	Dharna					

18.7	Dhyana					
18.8	Samadhi					
19	Wholistic Development Skills					
19.1	Cognitive					
19.2	Affective					
19.3	Psychomotor					
19.4	Physical Health					
19.5	Spiritual					

Rationale of the Study

Educational Skills emerge scientifically through problem specific theorization, instantaneously. Now the question is have various skills been integrated in Teacher Education scientifically & comprehensively. 21st century conditions demand skills for healthy, peaceful, harmonious, meaningful and full living under highly complex socio-cultural-political-economic-demographic and environmental conditions. Skill is the Science applied artistically or art applied scientifically, precisely, easily, joyfully, cost effectively. It demands perfect, instantaneous coordination of mind and motor muscles patiently & passionately. Education ought to be science based, skill based and technology integrated. The present paper attempts to explore the status of Teacher Educators on various skills.

Objectives of the Study

1. To study the relative status of Teacher Educators on various skills.
2. To study the comprehensive profile of Teacher Educators on various skills.

Sample for the study

Sample for the study is constituted of 18 Teacher Educators of the School of Science & Education, Navrachana University, Vadodara, Gujarat, India (2015-16).

Tools & Techniques Employed

A Self Tracker on Taxonomy of Educational Skills was constructed by the investigators as presented above. Also FGD was conducted with the Teacher Educators post-administration of the Skill Tracker.

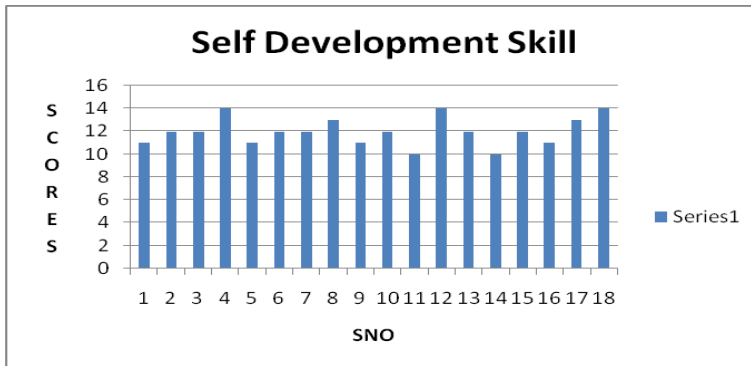
Data Collection

The Skill Tracker was administered on the 18 Teacher Educators. They registered their responses against a five point scale. It was followed by the FGD.

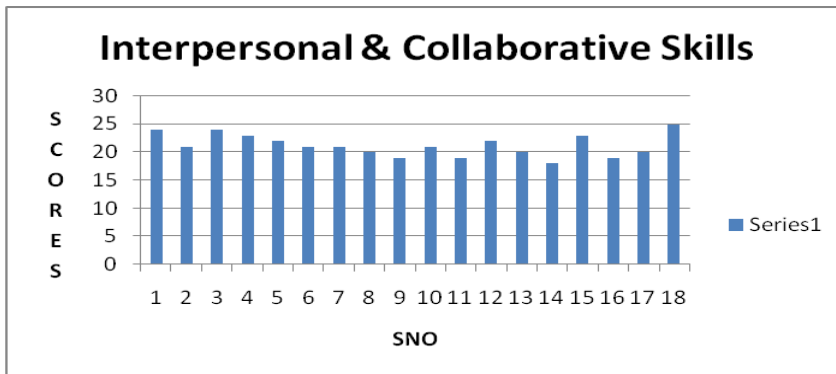
Data Analysis

The data were analyzed in terms of frequencies, skill-wise and over all. Data analysis is presented as follows:

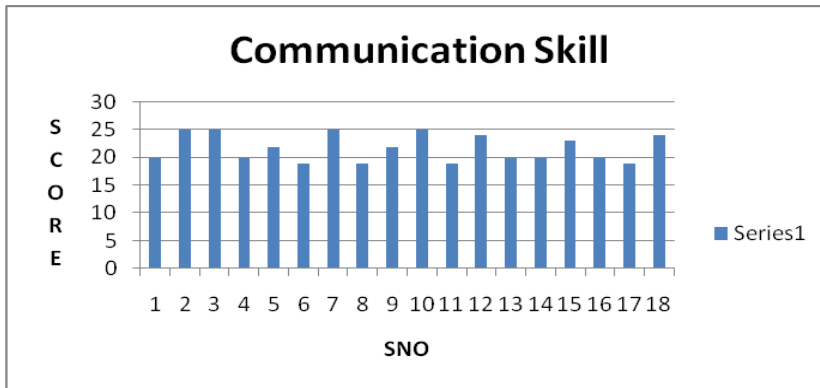
Relative Status of the Teacher Educators on various Skills



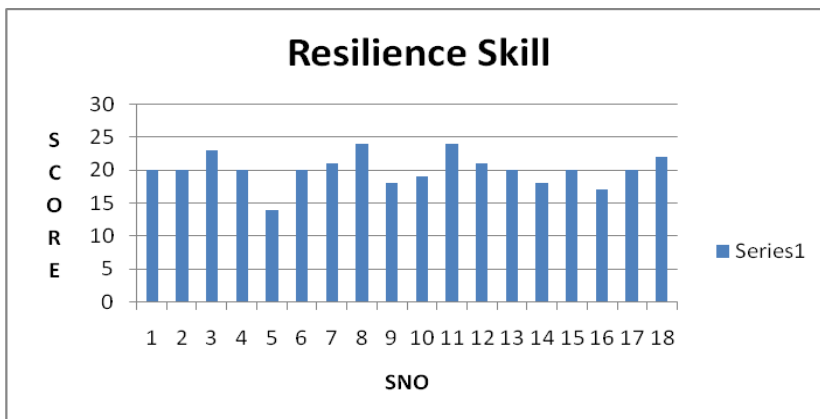
The maximum score obtained on Self Development Skills is 14 out of 15, whereas, minimum score obtained is 10, whereas, the mean score is 12.



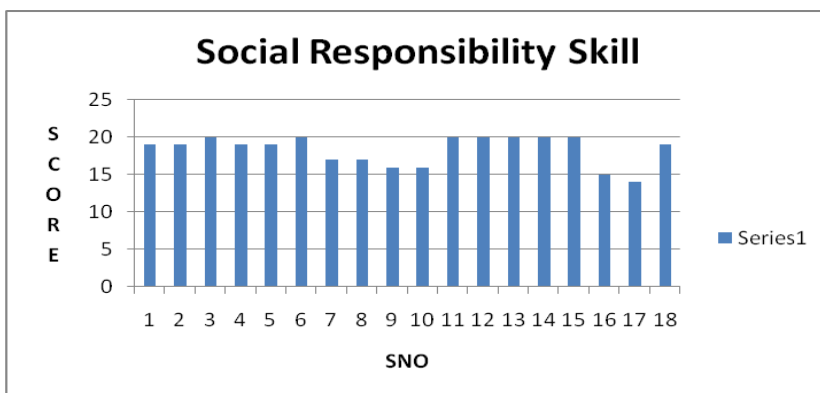
The maximum score obtained on Interpersonal & Collaborative Skills is 25 out of 25, whereas, minimum score obtained is 18, whereas, the mean score is 21.22.



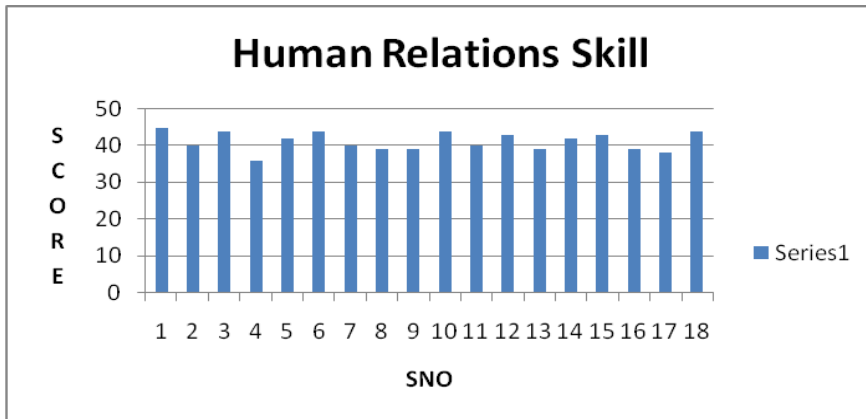
The maximum score obtained on Communication Skills is 25 out of 25, whereas, minimum score obtained is 19. The mean score is 21.72.



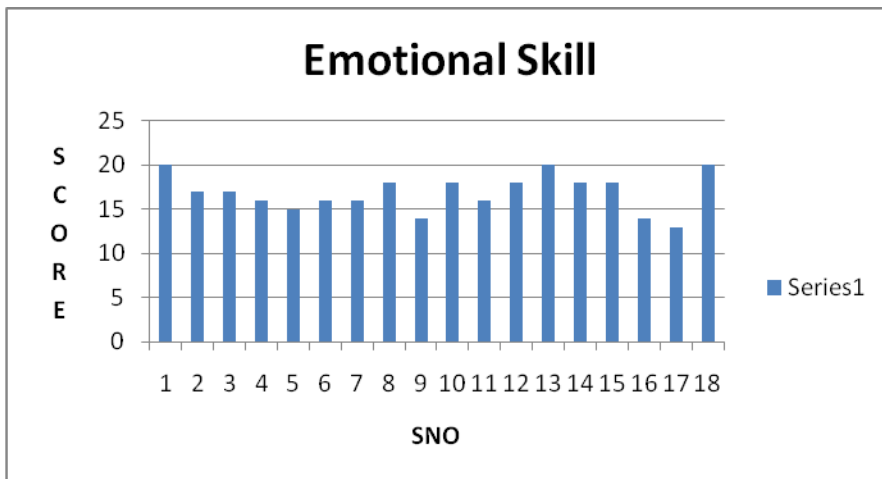
The maximum score obtained on Resilience Skill is 24 out of 25, whereas, minimum score obtained is 19. The mean score is 20.05.



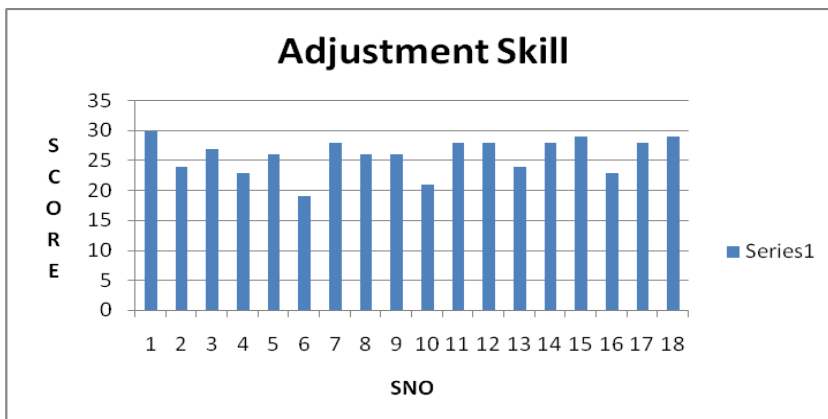
The maximum score obtained on Social Responsibility Skills is 20 out of 20, whereas, minimum score obtained is 14. The the mean score is 18.33.



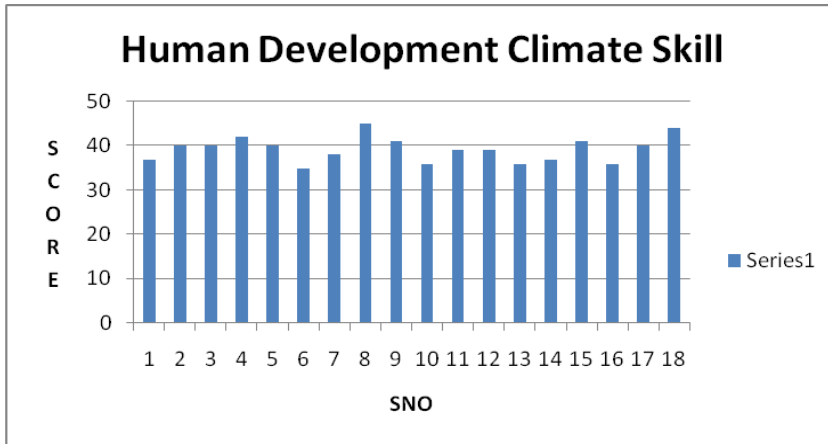
The maximum score obtained on Human Relations Skills is 45 out of 45, whereas, minimum score obtained is 36. The mean score is 41.17.



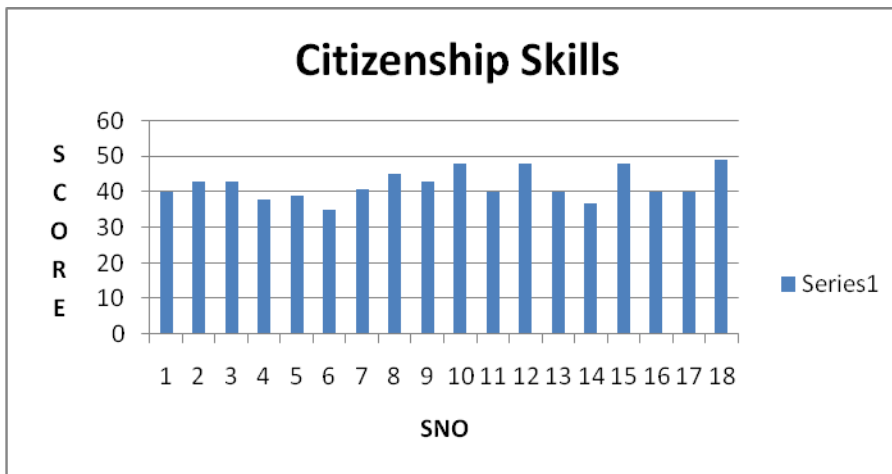
The maximum score obtained on Emotional Skills is 20 out of 20, whereas, minimum score obtained is 13. The mean score is 16.89.



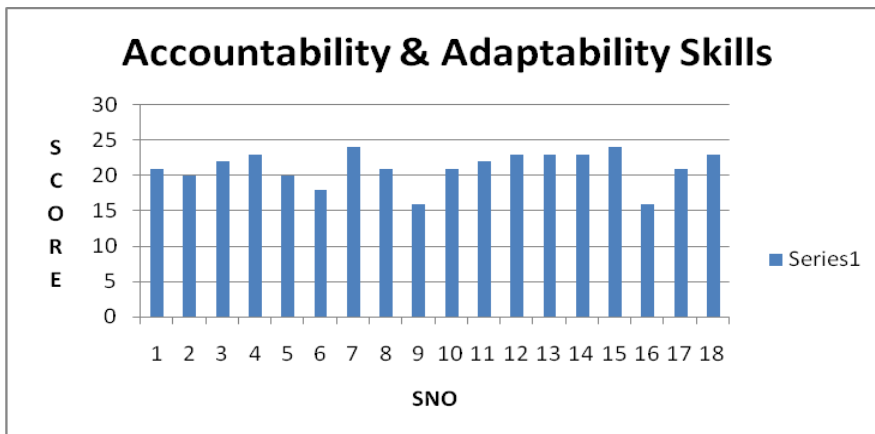
The maximum score obtained on Adjustment Skills is 30 out of 30, whereas, minimum score obtained is 19. The mean score is 25.94.



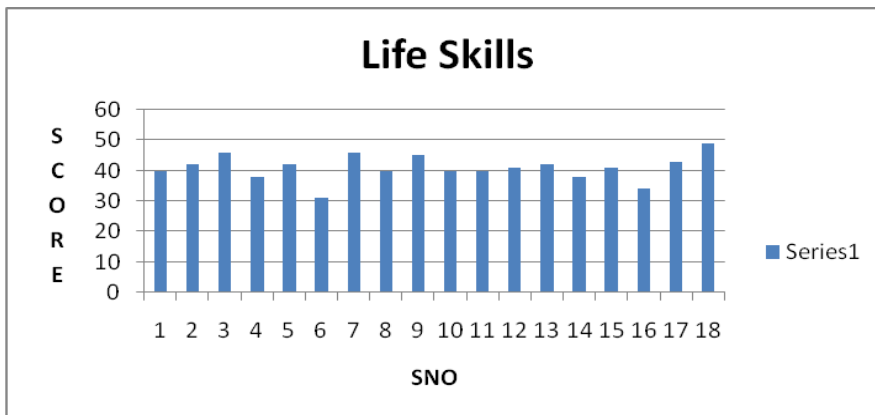
The maximum score obtained on Human Development Climate Skills is 45 out of 45, whereas, minimum score obtained is 35. The mean score is 39.22.



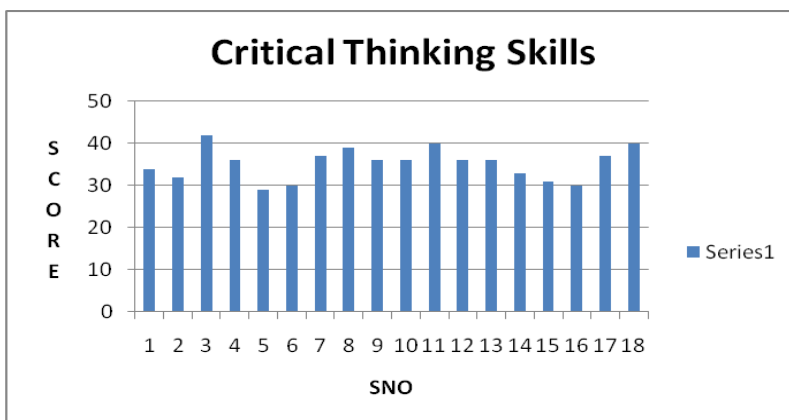
The maximum score obtained on Citizenship Skills is 49 out of 50, whereas, minimum score obtained is 35. The mean score is 42.06.



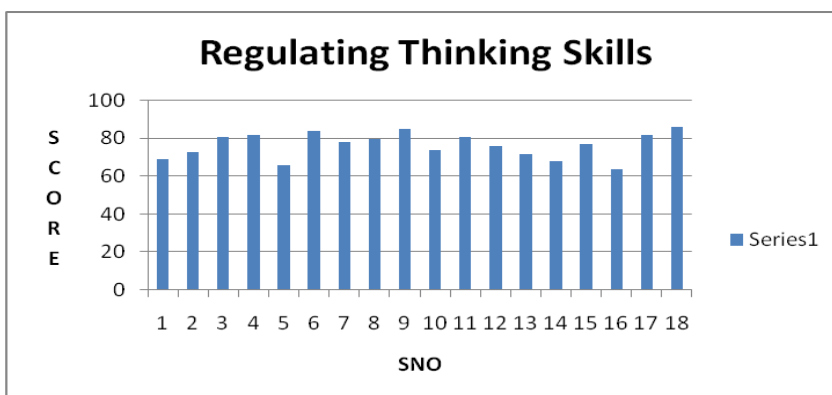
The maximum score obtained on Accountability & Adaptability Skills is 24 out of 25, whereas, minimum score obtained is 16. The mean score is 21.17.



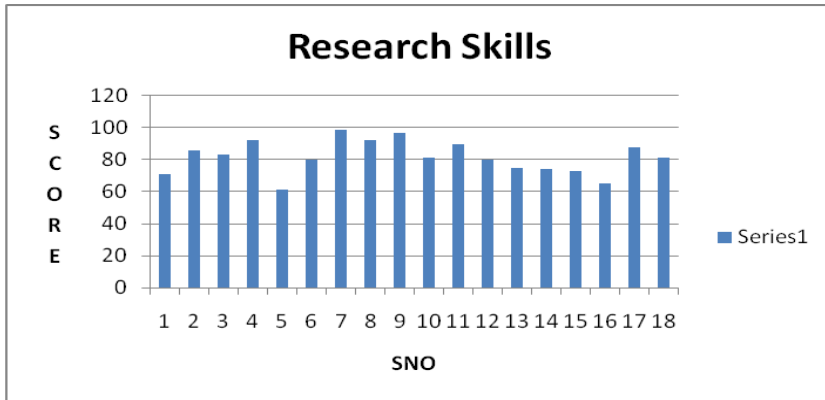
The maximum score obtained on Life Skills is 49 out of 50, whereas, minimum score obtained is 31. The mean score is 41.



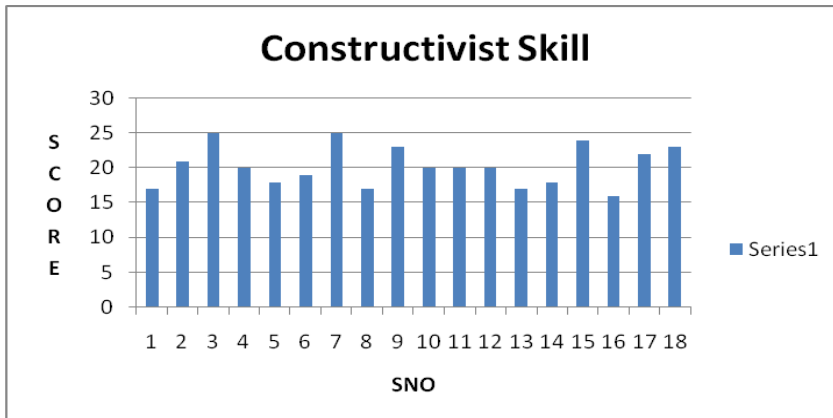
The maximum score obtained on Critical Thinking Skills is 42 out of 45, whereas, minimum score obtained is 29. The mean score is 35.22.



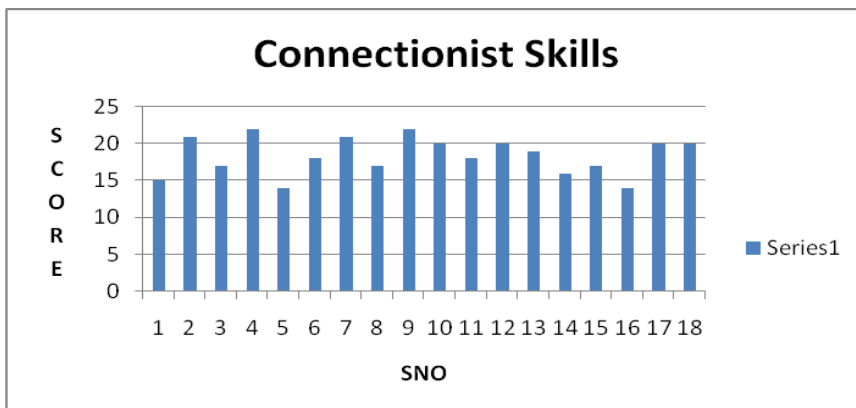
The maximum score obtained on Regulating Thinking Skills is 86 out of 95, whereas, minimum score obtained is 64. The mean score is 76.56.



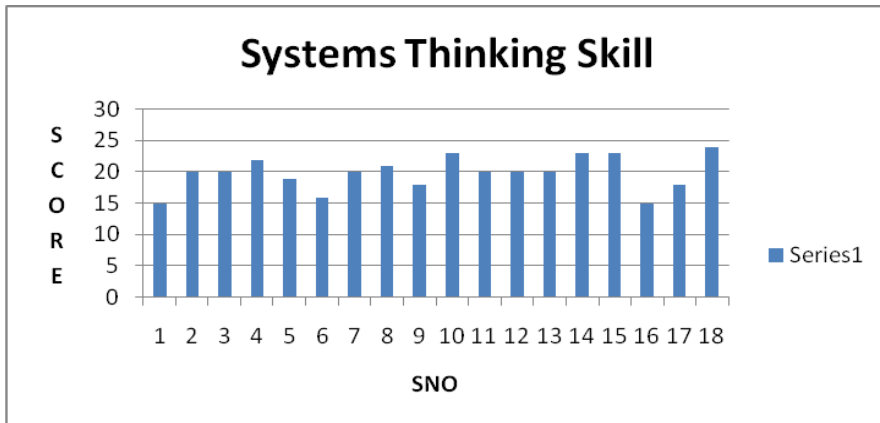
The maximum score obtained on Research Skills is 99 out of 100, whereas, minimum score obtained is 61. The mean score is 81.56.



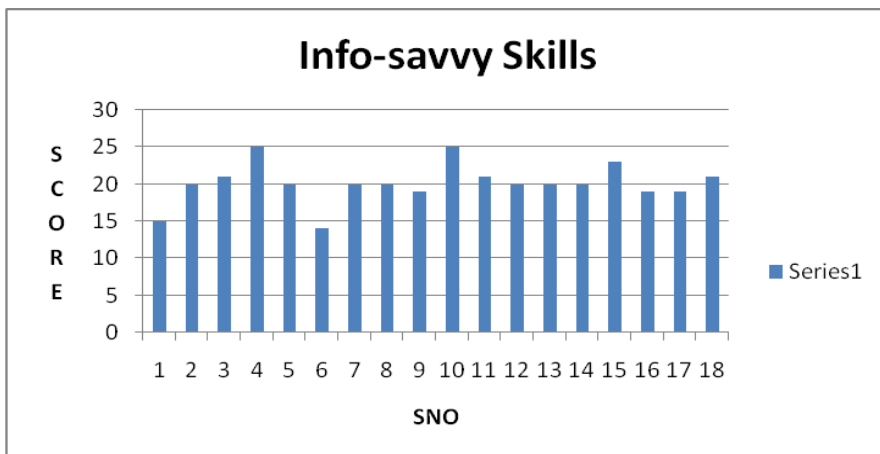
The maximum score obtained on Constructivist Skills is 25 out of 25, whereas, minimum score obtained is 16. The mean score is 20.28.



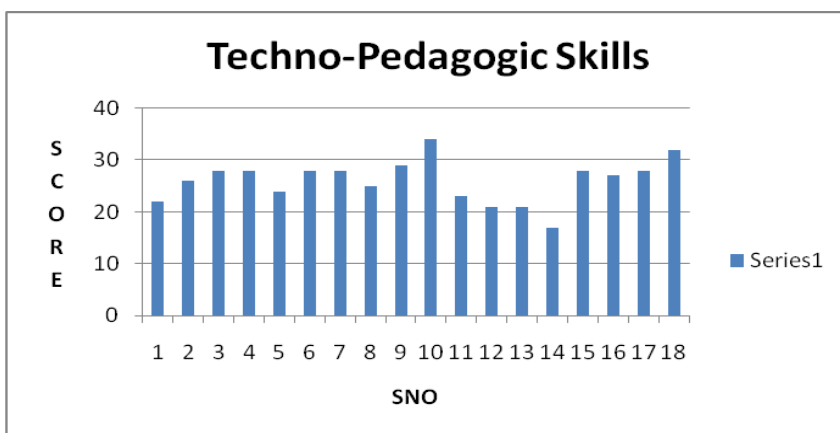
The maximum score obtained on Connectivist Skills is 22 out of 25, whereas, minimum score obtained is 14. The mean score is 18.39.



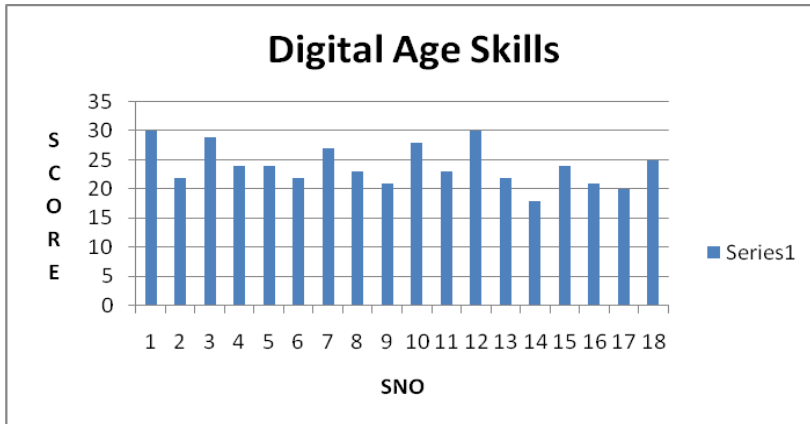
The maximum score obtained on Systems Thinking Skills is 24 out of 25, whereas, minimum score obtained is 15. The mean score is 19.83.



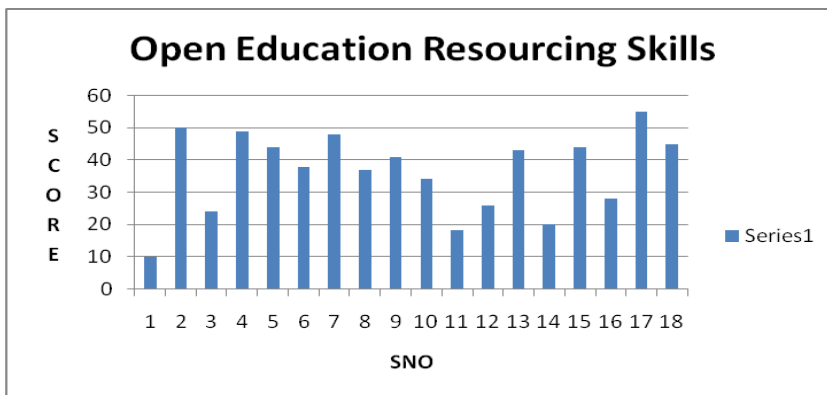
The maximum score obtained on Info-savvy Skills is 25 out of 25, whereas, minimum score obtained is 14. The mean score is 20.11.



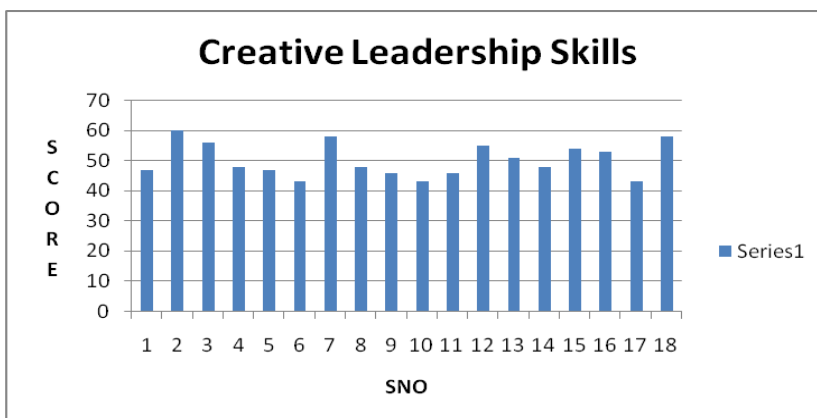
The maximum score obtained on Techno-Pedagogic Skills is 34 out of 35, whereas, minimum score obtained is 17. The mean score is 26.06.



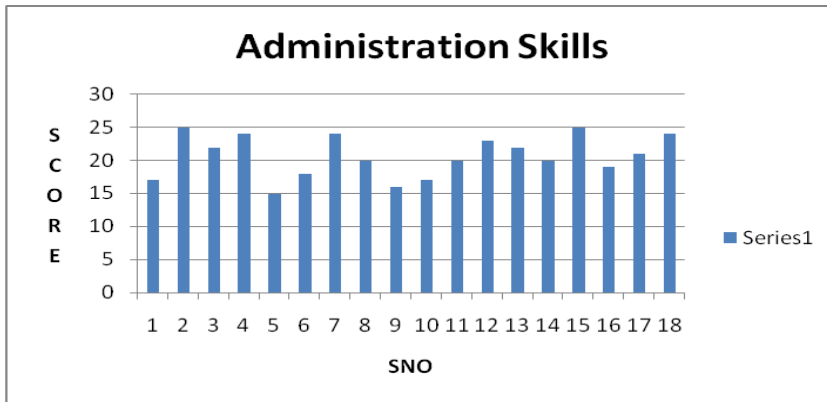
The maximum score obtained on Digital Age Skills is 30 out of 30, whereas, minimum score obtained is 18. The mean score is 24.06.



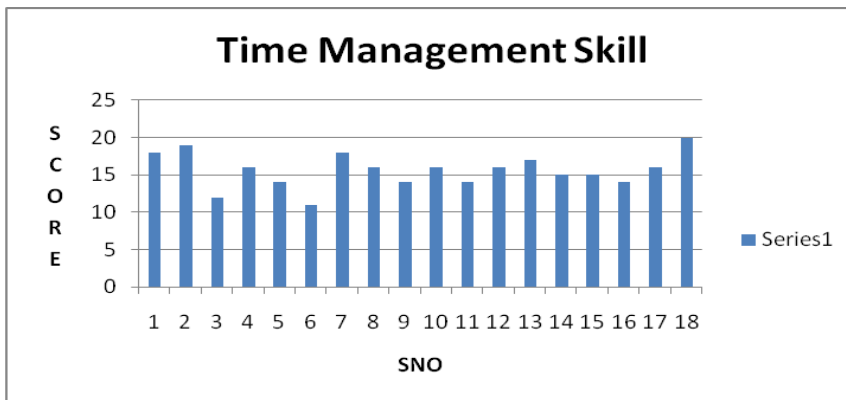
The maximum score obtained on Open Education Resourcing Skills is 55 out of 55, whereas, minimum score obtained is 10. The mean score is 36.33.



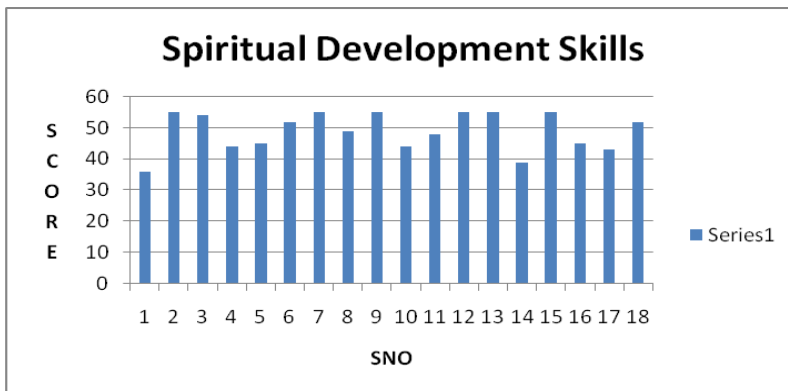
The maximum score obtained on Creative Leadership Skills is 60 out of 60, whereas, minimum score obtained is 42. The mean score is 50.22.



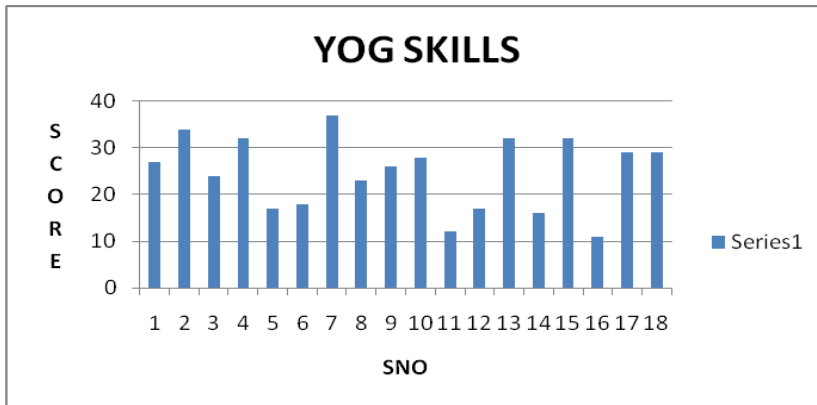
The maximum score obtained on Administration Skills is 25 out of 25, whereas, minimum score obtained is 15. The mean score is 20.67.



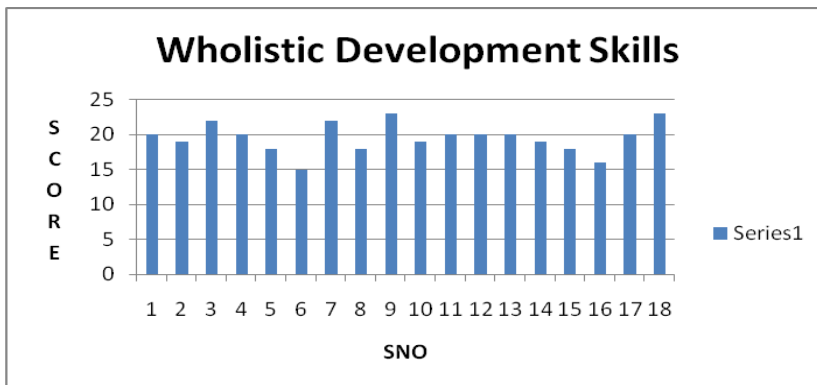
The maximum score obtained on Time Management Skills is 20 out of 20, whereas, minimum score obtained is 11. The mean score is 15.62.



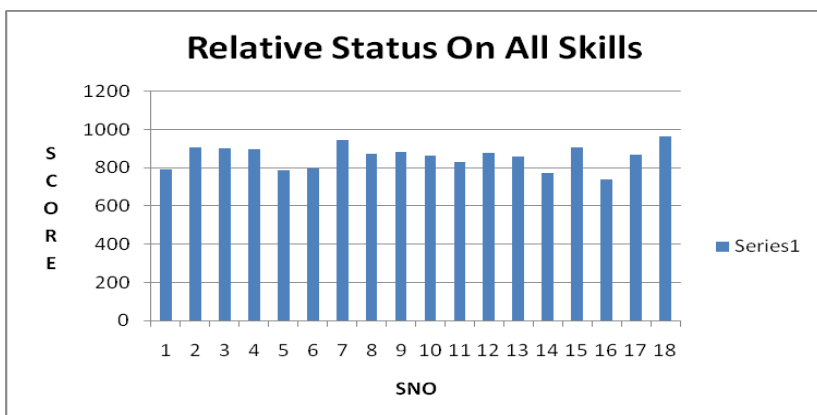
The maximum score obtained on Spiritual Development Skills is 55 out of 55, whereas, minimum score obtained is 36. The mean score is 48.94.



The maximum score obtained on Yog Skills is 37 out of 40, whereas, minimum score obtained is 11. The mean score is 24.67.



The maximum score obtained on Wholistic Development Skills is 23 out of 25, whereas, minimum score obtained is 15. The mean score is 19.56.



The maximum score obtained on the Skills as a Whole is 965 out of 1060, whereas, minimum score obtained is 741. The mean score is 858.83.

Emerging Questions through FGD

- What should be the considerations for the institutionalization of skills?
- How these skills can be universalized?
- All the skills which are acceptable by a democratic State may not be accepted by a totalitarian State?
- Are there phases in the development of skills, such as, awareness, nascent, competence, internalization and precision & ease in application?
- Can the various skills be developed simultaneously?
- How to develop info-savvy skills?
- Do skills, competencies and styles vary from teacher to teacher?
- Can the skills be revived?
- Where will temperament come?
- How about the development of Listening Speaking Reading Writing Skills across Lexican, Grammar & Phonetics?
- How to do balancing of skills?
- How to realize heart & brain healthy entrainment ratio?
- Which are the facilitating & impeding factors for skill development?
- Are the skills infinite?
- Is there skill ultimacy?
- To what extent Education System can cater to the demands of the Skills?
- Are the facilities with the teachers available for nurturing all the skills?
- To what extent the various programs & courses nurture the various skills?
- Why there is added focus on skills in 21st Century than on knowledge?
- How to reduce anger, stress & strain?
- How to live full, meaningful, healthy, hilarious and resonating life?
- How to integrate Taxonomy of Educational Skills in Teacher Education?

Concluding Remarks

The complexities of the living conditions demand skillful persons in various dimensions of life. All the skills have their own significance. Info-Savvy & Digital Skills are as important as Spiritual Intelligence and Yoga Skills. Self Awareness Skills are as important as Systems Thinking Skills. Production Skills are as important as Consumption Skills. Zooming out is as important as Zooming in. Personal Skills are as significant as Citizenship Skills. General as well as Special Skills have their own value. Research is as important as Construction. Downloading is as important as uploading. How can life be a network of arrays of innumerable skills, where, ideas spring, feelings flow, motor creates, spirit reins, and the self resonates with the sphere in this digital age? Dancing crops, flowing wisdom, enchanting music, touching songs, resonating dance, immersing

verses, speaking sculptures, enlightened learners, innovative researchers, skillful scholars and creative constructors are the wonderful springs of nature.

India ought to have skill, scale & speed to realize sustainable development. We need to be proficient on hard skills & soft skills, Science Process Skills & Digital Age Skills, Research Skills & Constructivist Skills, Laboratory Skills & Connectionist Skills, Self Direction Skills & Social Development Skills, Digital Age Skills & Spiritual Development Skills, Cognitive Skills & Emotional Development Skills, Micro-Specialist Skills & Wholistic Development Skills, Time-Space-Personnel Management Skills & Spiritual Development Skills, Production Skills and Marketing Skills, Human Development Skills & Universal Becoming Skills, Production-cum- Consumption Skills, Downloading Skills & Uploading Skills, becoming skills & debecoming skills, and above all Skills for living and leading full meaningful, happy & healthy life. There has to be added focus on Healthy Relationship Skills realizing trust, transparency, cleanliness, honesty, patience, tolerance, truthfulness, compassion, forbearance, respect, controlling emotions and expression. Also we need to observe decency, decorum, discipline in every meeting by viewing wisely, listening deeply and speaking analytically and critically, also, agreeing to disagree at times

The scope of skills is infinite. The skills ought to be universal. There ought not to be any disclaim or disclaimer. When will we learn to adore the biosphere which is full of life, energy and wonderful skills? When will the Teacher Education rise above the ritual of microteaching and Teach us the wholistic skills, the balancing skills, the resonating skills, the immersion skills, the production skills, the consumption skills, the prosumption skills, the transcendence skills, the life skills? There is an immediate need to integrate Educational Skills.

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Scope of SCOPE in Indian Higher Education

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The complex structure of society, progressively, has made human psyche more complex. Modernization may not be civilization. The scarcity of human touch among the people living with virtual reality tending towards individualism has made the whole society unassumingly sick. Being healthy is not reflected by absence of illness, but, presence of good health. Hedonic, superficial happiness has led people to adopt unhealthy attitude, behavior and culture. Be it a mental issue like anxiety and depression or physical issue like blood pressure and obesity, every problem, begins with cognition and behavior. Thus mental health should be priority in every organization and situation in order to achieve a healthy physical, mental, spiritual equilibrium. Psychology as a science is evolving with the evolution of society. Application of Psychology is unlimited today. Intervention research from psychological perspective is necessary in every context. The present article explores the scope of SCOPE, that is, Spiritual Psychology, Clinical Psychology, Organizational Psychology, Positive Psychology and Educational Psychology in Higher Education.

Spiritual Psychology

Every entity in this universe is Thy creation and abode. Spiritual psychology deals in individual as an integrated whole, universe as uni-verse, that is, harmonious resonating interrelated, interconnected, interdependent whole. It tries to explore the bonds amongst physical and metaphysical. Spiritual Psychology deals in development of balanced beings realizing heart and brain entrainment. There is optimum secretion of various neurotransmitters, such as, adrenaline, dopamine, acetylcholine, serotonin and endorphins. Adrenaline belongs to sympathetic nervous system. It provides fight and flight response. Thus, there is increased heart rate and immune system activation. It is a good predictor of happiness. Dopamine is released in the Substantia Nigra Ventral Tegmental Area of Hypothalamus. Increased level of dopamine leads to positive mood. Acetylcholine is secreted in the basal forebrain. It is responsible for motor muscle movement. Serotonin is released in the reticular formation Raphe Nuclei which is a part of brain stem. Increased level of serotonin leads to satisfaction, optimism

and happiness. If the level decreases, then it leads to depression. Endorphins are released in the Central Nervous System & Pituitary Glands. These are peptides and released while laughing. These are feel good hormones. Our body, mind and spirit should always be in tune. When all of our sub-systems are in tune then there are optimally balanced secretions. The ultimate aim of higher education is to facilitate full, meaningful, healthy and happy existence, where, ideas spring, feelings flow, motor muscles create, soul reigns and the self resonates with the universe.

Clinical Psychology

Clinical Psychology deals in cases of mental health of the individuals- their diagnosis & prognosis. There are many a disorders of psychopathology, such as, Attention Deficit Hyperactive Disorder, Generalized Anxiety Disorder, Stress, Strain, compulsive obsessive neurosis, depression aggression, hallucination, anorexia, bulimia nervosa, psychosis. Earlier people believe in simple living and high thinking. Now there is reversal of the proverb. We go on thinking round the clock, recursively and endlessly. There is a need to train thinking. We do not know which problems we are suffering from. We go to doctors to find out what are our problems. At times we do not know our own problems. Is not it strange? Clinical Psychology tries to provide suitable treatment for mental disorders.

Organizational Psychology

Organizational Psychology converges on Total Quality Management. It deals in healthy Time-Space- Personnel- Material Management. It helps a person in realizing intrinsic, as well as, extrinsic motivation. It utilizes synergy through complete networking. It employs human relations model, realizing healthy organization for optimum returns on investment.

Positive Psychology

Positive Psychology deals in meaningful and fulfilling life. It deals in happy, healthy and resonating life. It deals in realizing resilience at the earliest. Positive psychology provides us a platform to be very strong. A strong personality is one which is not swayed away by the wild currents- fore or against. Positive psychology develops positive in-look and outlook. We do not have the rights to undermine ourselves, nor others. Every entity has its place. Everyone has its role to play. Let us learn to appreciate. Positive psychology helps us create healthy culture, positive ripples and currents.

Educational Psychology

Educational Psychology is the branch of Psychology concerned with the scientific study of human development. It deals in various theories of learning. There is focus on classical conditioning ($S \rightarrow R$), as well as, operant conditioning ($R \rightarrow S$). It deals in personality as a function of heredity and environment, that is, an interaction between nature & nurture. Educational

Psychology deals in adjustment everywhere. The ultimate aim of education is development of universal beings having healthy interrelation, interdependence and healthy co-existence. Educational Psychology focuses on holistic development- cognitive, affective and psychomotor. It deals in the taxonomy of educational objectives, taxonomy of educational skills and taxonomy of affect attributes. It deals in various domains, namely, cognitive, behavioral, creative, innovative, constructive and connective. It deals with every stage of cognitive development- sensory-motor, pre-operational, concrete operational and formal operational. It is with us from transduction to induction to deduction to deduction- induction. It deals in memory, understanding and reflection. It takes us from scribbling stage through pre-schematic stage and schematic to pseudo- naturalistic and naturalistic stage. It helps us design & provide differentiated and differential inputs. There is due focus on aptitude & attitude. Educational Psychology develops and attempts to induce the learners in various fields based on the predictors of their competencies. Educational Psychology provides a wide range of experiences including instructional design, educational technology, curriculum development, organizational learning, special education, classroom management and student motivation. Educational psychology finds expression in every facet of life, in every bit of function, such as, walking, talking, meeting, thinking, smiling, laughing, eating, LSRW, communicating, sleeping, driving. It deals in life skills- self awareness, self management, social awareness, social management, critical thinking, creative thinking, decision making, problem solving, coping up with stress and coping up with emotions. It deals in all sorts of conflicts- approach- approach, approach-avoidance, avoidance- avoidance. It tries to resolve the conflict between emotions and consciousness. It keeps track of the natural, spontaneous, irregular, stormy outbursts. Educational Psychology employs a variety of Psycho-meters for measuring the status on various constructs, such as, intelligence, creativity.

SCOPE: Research & Innovation

There is a need of promoting research, innovation and excellence in all the branches of applied psychology, such as, spiritual, clinical, organizational, positive and educational. The ultimate aim of applied psychology and all the allied sciences is all round development of the universe. There is a need to transcend from Human Development Index to Universe Development Index. How to? There is a need to apply Psychology and allied sciences for realizing full, meaningful, happy, healthy and harmonious life. There is a need to explore why the beauties of the childhood are fading, why the youth is bewildered, why the old are restless, why there is emerging chaos in the universe. Why have we entered into an era of stress and strain, tensions and obsessions, repression and depression, hostility and aggression. Why there are within and cross border fires? Progressively number of mentally sick persons is growing larger. Number of mental hospitals and mental patients is significantly on the increase. Children are restless in schools, young ones are wandering on the roads, old people are restless in the ANASHRIT

ASHRAMS. What is the resolve? Applied Psychology and all the allied sciences need to revive their identities and operate at the functional level. There can be amalgamation of traditional & positive psychology for promoting societal structure & dynamics. There can be preventive, corrective, adaptive and perfective maintenance of mental health employing positive psychology techniques. Eclectic Yoga- BHAKTI, GYAN, KARMA & RAJ can facilitate healthy life. Clinical Psychology can relieve us of many a disease. Organizational psychology can integrate us holistically. Educational psychology can help us to learn to be, learn to learn, learn to do and learn to live together as universal beings. It can train the heads, teachers and team leaders to become first level counselors. All our scriptures have a lot to offer to the discipline of educational psychology.

Thinking Patterns

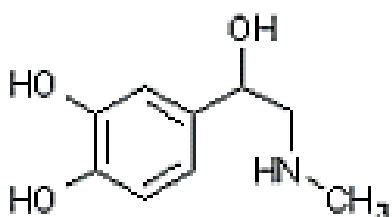
Mind has a tendency of wandering. Control on the mind demands inner control, not to be swayed away by any attraction or passion. Nothing can deviate a person with full inner control. We ought to be serene rather than turbulent, calm rather than stormy, expressive & booming rather than depressive & repressive, positive than negative, final & decisive rather than recursive & lurking, neutral rather than polar, modern rather than primitive, cultured rather than ultramodern, socio- centric & ethnocentric rather than self centric & ego centric, sharp & decisive rather than blunt & obsessive, wholistic rather than patristic, optimistic rather than pessimistic, happy rather than sad, simple rather than complex, considerate rather than rigid, social rather than unsocial, independent rather than dependent, broad minded rather than conservative, determined & active rather than idealistic & passive, logical rather than irrational, factual & theoretical rather than propositional & hypothetical, creative rather than stereotyped, pioneer than conservative & copier, confident rather than diffident, relaxed rather than stressful, focused rather than deviant, flexible rather than rigid, open rather than closed, resonating rather than stagnant & isolated, constructive & connective rather than destructive & disruptive, innovative rather than customary, resolved rather than engrossed, peaceful rather than disturbed, free rather than confined, striving rather than starving, resolved rather than recursive, final rather than obsessed, normal rather than psychoneurotic, lucid than ambiguous, fruitful than futile, innocent rather than cunning, intuitive rather than peripheral. But how to realize such a state? Thinking regulators demand healthy neurons and their interconnections, mental control, spiritual control, control on the motor muscles, simple living & high thinking. Thinking is the cause of both, peace & chaos. Thinking is trainable.

Heart Brain Entrainment

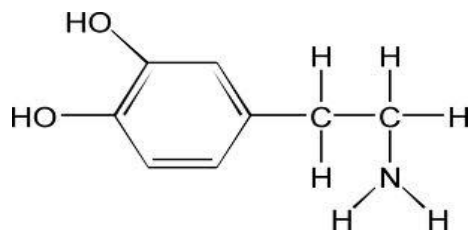
Health & happiness depend upon the dopamine adrenaline balance. Dopamine is the primary activator of the heart. Dopamine levels in the heart determine the vigor of the neural signals to

the brain. Dopamine levels in the heart are determined by the amount of joy and the amount of resonance that the heart is feeling. The sheer joy of being alive is the energy that allows the heart to resonate and initiate the primary dopamine release for the heart. Dopamine does not cause joy. Joy causes the release of dopamine. The greater the joy, the greater the level of primary dopamine in the heart. Whether a person is happy or sad, he can always resonate with the sheer joy of being alive. Whether a person is in the midst of battle or in solitude, the sheer joy of living can be present behind his fear or his tranquility. Joy and the heart's ability to resonate are very nearly the same. The former is more purely energetic, the other is the more physical manifestation of the joy energy. The core level of dopamine prepares a person, in body and brain, to be a feeling, sentient being.

Structures of Adrenaline & Dopamine



Adrenaline



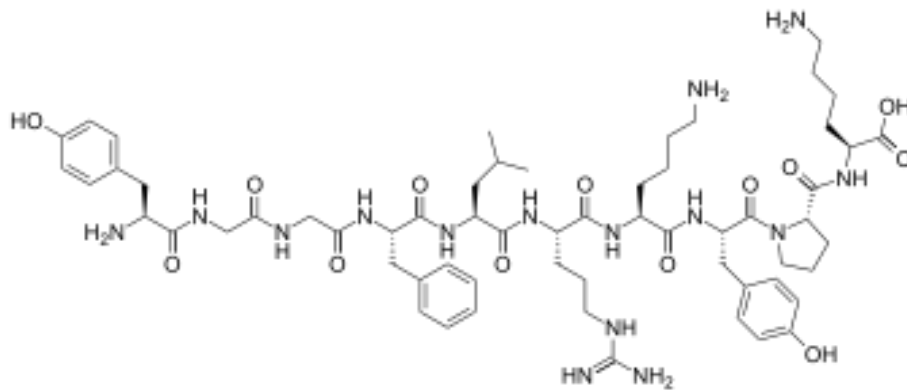
Dopamine

Beauty of Laughter

Beauty is not looks alone – it is holistic as it encompasses both physical and mental attributes. Enhancing this wholeness of self is laughter - an elixir for wellness. It helps to outwardly reflect the inner glow of good health, happiness and joy. The well being of people is largely dependent on fitness levels both physiologically and psychologically. The constant struggle to cope with enormous stressors in life takes its toll on one's appearance. Laughter reduces stress levels and stimulates the production of endorphins, natural opiates known for their relaxing effects. It also helps to release muscular tension and reduce the negative physical symptoms of stress, worry and anxiety. Laughter is a wonderful expression! When it comes from deep within it can help to release inner tensions. Laughter produces endorphins

in the brain after responding to a rewarding activity according to modern neurophysiology!
Laughter can be medicine for the soul!

Endorphins



Chemical structure of *alpha*-Neoendorphin (α -Neoendorphin)

Role of Tears

Shedding off the tears, sharing the sad state also relieves us of disease & discomfort & helps in realizing peace. We have basal tears, reflex tears & emotional tears. The cornea is continually kept wet and nourished by basal tears. Tear fluid contains water, mucin, lipids, lysozyme, lactoferrin, lipocalin, lacritin, immunoglobulin, glucose, urea, sodium and potassium. Lysozyme fights against bacterial infection. Reflex tears are released during irritation to the eyes say while cutting onion or pepper spray. Negative or positive emotions cause psychic tears. Emotional tears have more of protein based hormones.

Peace & Play

Arriving in the optimum state of energy keeps us calm & cool. Playing any game – Hockey, Cricket, Football, Bad Minton, Table Tennis, Lawn Tennis keeps us happy & gay. Athletics such as, Jump & race, Disc Throw, Javelin Throw keeps us fit. Climbing up hill & coming down hill helps us sustain momentum. Peace & Play are perfectly interrelated.

Peace & Yoga

Peace begins when everything else ceases to be. Peace is complete yoga at the functional level. Yoga is that ultimate state of bliss when we are integrated unit self. Peace demands Gyan Yoga, Bhakti Yoga, Karma Yoga and Raj Yoga. Peace is by realizing which we can DARSHAN entire COSMOS. Yoga is the pre-requisite for peace.

Resilience

Variability & Central Tendency or deviation & regression are the realities. It is always desirable that we realize resilience & normal state at the earliest. Sooner it is realized less damaging it is. This is an age of stress & strain. But the state of peace demands instant resilience. There are numerous pressures these days, such as, high blood pressure- low blood pressure, compulsive obsessive neurosis, depression & hypertension, which could be both self invited & environment offered. We ought to be strong enough not to deviate, if at all we deviate then there must be most efficient resilience.

Some of the focus areas of SCOPE

Could we focus on the areas, such as,

- Psychological First Aid
- Status of life skills in Institutes of Higher Education
- Mental Health of the people on social media
- Thinking Patterns of the Youth
- Mental Status of the Graduates
- Profiles of the Doctors of Philosophy
- Affect Attributes of the Top Administrators
- Profiles of the Teachers & Learners
- Total Quality Management (TQM) of the Educational Institutions
- Time- Space-Personnel-Management (TSPM) of the Educational Institutions
- Mental Hygiene & Learner Guidance
- Intelligence Quotient, Emotional Quotient, Spiritual Quotient, Health Quotient
- Major Depressive Disorder
- Bipolar Disorder
- Compulsive Obsessive Neurosis
- Mood Disorder
- Delusion of Grandeur
- Delusion of Paranoia
- Catatonic Behavior

- Contagious Emotions
- High Functioning Depression
- Vulnerable Hypothesis Disorder
- Trigger factors that can enable a disorder
- Employing Neuroimaging Techniques (FMRI, MRI, PET) in healing biological pathology
- Addressing Dementia
- Addressing Motor Neuron Disease
- Research & innovation on the medicinal values of various plants
- Holistic development through higher education
- Role of spiritual psychology in psycho- neuroimmunology
- Practice of Yoga and meditation in intervention of biological pathology
- Practice of Yoga and SATAVIK Food in amelioration of ankylospondalitis
- Spiritual psychology techniques in ameliorating depression
- Implications of BHAGAVAD GITA and RAMAYAN for Higher Education
- Indian Psychology & Indigenous Practices as focus of empirical research

Concluding Remarks

In this era we rarely re-create ourselves. We rarely have the time to converse with the self. We are lost in all forms of social media. Rarely we have the time to share our states with others. We do consult doctors for physical problems, but, rarely share mental disorders. We may be on the e-networks round the clock, but, we rarely connect with the people. Progressively our problems escalate. Now, we are a society of the alienated. Whom to share our problems with? Beauties of childhood are lost, energies of adolescents are wasted, young ones have lost directions and old are losing peace! How to revive our basic nature? How to revive our own culture? Let us be our own selves. We are very good at experimentation, but, relatively poor in patenting and marketing. Our scientists need to be more dynamic. Why not to produce our own labeled medicines? Let us explore deeper into the domains of AYURVEDA. The weeds, plants and trees can relieve us of many a physical and mental disorders. There ought to be cost effective diagnosis of the cases and prognosis for their disposition. We ought to revive all forms of Yoga. We ought to have first-hand counselors in the form of educators to provide psychological first aid. There should be development of assessment tools to ensure greater accessibility and easier identification of mental disorders, so that, these could be treated timely.

These days clinical depression is very frequently on the fore. Very frequently somebody is found hanging here and there. Even happy –go-lucky guys commit suicides. Why do we feel neglected and alienated despite hard work & dedication day and night? Why do we not share our states with each other? What does the community do except shedding post-facto

tears and chanting prayers? When will we revive our own culture, the culture of the orient, the culture of the ARYAVRUT? Our higher education has to be higher. The convocations ought to be with full invocation. Where does the degree of a degree leads us to? Our Higher Education which ought to be intimate with the reality is really cut off from the reality. The research has become mechanistic. There is a need to de-mechanize research. Life is not defined by degrees, designations and positions. It is truly defined by arrays of choices and actions. Let us infuse life into and through education. SCOPE has a lot of scope in addressing many a problems on the fore. Let us explore with full immersion! Let us learn to respect each other! Let us learn to help each other! Let us learn to share with each other! Let us learn to value each other!

Teacher Education & School Education Symbiosis

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Introduction

With the advent of 2015 A.D. the latest NCTE Gazetted Norms of November 28, 2014 present a sea change. We welcome Two Year D. El. Ed., Two Year B.Ed., Two Year M.Ed. We welcome half the size (50) B.Ed. Unit, Enhanced Size (50) M.Ed. Unit, Corresponding Increase in the Teacher Education Staff Size. We are yet to formulate compatible curricula with the enhanced time duration of the Teacher Education Programs. We have excellent Philosophers & Philosophies, we have excellent Sociologists & Sociology, We have excellent Psychologists & Psychology, We have excellent Historians & History, but, how many of these find expression at the functional level. There are wide gaps between expectation & expression. Then what has made the NCTE cut down the Pedagogic Qualifications of the prospective Teacher Educators? How long will the Philosophers, Sociologists, Psychologists & Historians reside in Papers only? When will they be liberated? The Teacher Education is lost in the rut & routines of Micro-Teaching mainly, while, the present century has already flagged many challenges. When will we integrate even basic skills to realize Skill Integrated Education? The latest NCFTE (2009) envisaged to have Humane & Professional Teachers. Do we really have, two, in one? Most of the Teacher Education Institutions do not have laboratories. It is very good, because, Education cannot afford to reside in laboratories only. What use are research & innovation if these do not find expression at the field level. There are wide gaps between the Teaching Competencies expected & practiced. We have more of descriptive & evaluative research than suggestive. We have more of quantitative research than qualitative. Ideas & Ideals are Excellent. The emerging question is how to convert idealism into realism.

Let us reflect upon our Education Policies and Frameworks. There is rare expression at operational level. Our Education Policy & Curriculum Frameworks reside more in volumes than at functional levels. The emerging questions are whether the RTE assures and ensures Education. Why Rights of Children have not been realized in India? Why creativity thinking & critical thinking of children is not optimally developed in our classrooms? How much is the correspondence amongst Educational Objectives, Curricula, Modes of Transaction and Evaluation? What is the status of Multiple Intelligence, Life Skills and Continuous Comprehensive Evaluation in our schools? Have we sincerely tried to sustain and strengthen the knowledge base in various disciplines & domains? Are we respecting the beauties of childhood, booming energy of adolescence, paths of the youth and Sparks of the Teachers? Have we realized Total Quality Management of our Educational Institutions? When Bhutan could sustain its cultural heritage & ethos then how is it that we have not? How many schools observe YOGA & YAGYA? Which schools nurture the childhood of children? Psychological, Sociological, Historical, Environmental, Physical & Meta-Physical Foundations are going weak day by day. There is perceptible degeneration of values & institutions. Are we really skilled & competent teachers & administrators? How many of us are post-conventional, autonomous, innovative, creative, revolting Educational administrators and teachers? How many of us are dedicated learners & teachers?

Identity of Education in India

Some of the Universities in India, both, old and new, such as, University of Mumbai, Maharashtra, University of Guwhati, Assam and Ravenshaw University in Odisha are conferring Doctoral Degrees in Education under the Faculty of Arts. Education is not even considered by them an entity and faculty. So, there is a question of identity. Education which is unconditional greatest Service in Society has not been recognized by the Service Sector in India. UPSC in India has failed to include Education as a discipline. *There is a false notion that Education has only a little core, but, more of periphery. Education suffers from the missing elements of unique discipline which are non replicable in other disciplines.* It seems that such thinking has failed to appreciate that Education is the core of every discipline. Education is interdisciplinary. All the disciplines emerge from Education and merge into Education. Education does have a unique body of knowledge, a repertoire of unique skills and attitudes and a code of conduct. As the code of conduct of a doctors is –“We will keep serving the humanity without considering our comfort or discomfort.” Similarly, the code of conduct of an Educationist is –“We will strive for Integral Humanism & Universal Being. Can we estimate the energy, purity and strength of the Soul of Education? Warriors may conquer at times physically, geographically, materially, it is only Education which through knowledge can bewitch the minds and liberate the souls. We always feel proud of the teachers who taught us and who are teaching us. Their text is its own

testimony. They do not require testimonials. The globe strives to emulate Indian Teachers & Learners. The following poem tries to depict Indian Teachers.



Teacher Education: Ethos

*We were never interested in B.Ed.
It is B.Ed. which interested us
We opted for wandering wild
But Education captured us;*

*Far from structure of Phenol
Far from synthesis of Cholesterol
Far from super- het Receivers
Far from gold medal achievers;*

*Far from differential & integral Calculus
Far from Geometry & Quadratic Equation
Far from Equity & Logical Operators
Far from Mega Projects & Micro Processors;*

*It is Education which eternally accomplished
The DNA structure, core & ethos of Life
More than Knowledge & Epistemology
Transcended us of Mind, Space & Time;*

*Education facilitates our transition
From atom to nucleus, from dot to globe
One with the universe, the latest version
From self to Self, the blissful immersion!*

Since ages the universe has been concern of Education. All were having access to Education for sharing their states. Teachers and Educationists were universally respected. Now the scenario is changing. Education is losing its identity. Legislative, Executive, Judiciary, Education, all together, have largely failed in realizing identity of Education. Rather than others seeking guidance from Education, Education is being invited to receive dictations. Arbitrary Policies & Judicial Over-activism are likely to damage Education. There is evident identity crisis of

Education. It is high time for Education to realize its Identity. Now the question is why the identity crisis?

There is crisis of character. Soul of Education is being killed through ruthless expansion and privatization leading to marketization of Education. Market is being perceived as the arbiter of the morality. Blind ultra modernization has resulted into the corrosion of Eastern Values. We have lost our sensitivity to the basic values & SANSKARAS. The soul provides energy, whereas, the SANSKARAS provide modus operandi, but, the unbridled marketization of Education has reduced Education to a commodity to be brought & sold mechanistically in the market. Expression without essence and laughter without resonance are worthless. Convocation without invocation is useless. Graduates & Post-Graduates, degrees of a degree are of little value. Degrees do not guarantee achievement. Achievement is a function of variety of factors in which Knowledge, not merely Degree, is one of the elements. What use is the humanity degree which does not develop decency, decorum and discipline and fails to process us as human beings? What use is the Science degree which does not reconstruct in us open minded scientific outlook? What use are the law degrees if there is lawlessness. What use are the Political Science Degrees if we fail to develop Statesmen? What use is that Art which fails to manifest thematic creative expression? Mathematical formulas are empty & mechanistic if these fail to represent the reality. Social Science degrees which fail to produce Social & Civic Personalities and Citizens are gross wastage. What use is a Doctor of Philosophy Degree if we fail to philosophize the field?

NCFTE (2009) & NCF (2005): Journey So Far

1. Attempts have been made to enrich the curriculum to provide for overall development of children through CCE. With all ifs and buts, with all Haves and Have Not, the CCE has its own Strength & Power. Continuous Comprehensive Evaluation is a Powerful Regulator. The voices of the Children in this context are- *“Play Way Activities We Play, The Science We Experiment, The Mathematics We Speculate, Stories We Narrate, Games We Play, Musical Notes We Generate, Keep Us Healthy & Gay. The continuous flow of the CCE has made our Studies full of life. The CCE has infused energy in all of us, the Teachers, Learners, Parents and the Society. We may be tired after days work, but, we don't feel tired. CCE is not a burden. It is a band of Rhythm, Rhyme & Resonance. Along with the learners the innovativeness, creativity and efficiency of the teachers also increase significantly. The whole of School System including Watchmen, Support Staff, Sweepers, Gardeners, Mess Staff, Office Staff, Teachers, Learners, Parents, Society, CBSE, the Primary Section Coordinator, School Management and the Principal Madam function synergetically. The entire School System is fully lively & fruitfully functional due to CCE.”*(Goel Anshul, Std. IX, New Era Senior Secondary School, Vadodara, Gujarat, India)
2. There is added focus on Multiple Intelligence & Life Skills.

3. Critical Pedagogy has been promoted in various dimensions of the School through Cooperative Learning, Participatory Approach & Action Research.
4. Attempts to motivate children from marginalized sections of society for expression of their knowledge & skills related to work and to have cumulative human experience along with children from other sections are there, but, rare.
5. Rare attempts have been made to develop Citizenship Skills. There is evident rejection of the old and acceptance of the new.
6. There are segregated schools on the bases of Public & Private, Medium of Instruction, Religion, Region, and School Boards. All this segregation has resulted into the fragmentation of the Society. There are marked differences between Municipal Corporation Schools & Private Schools, Native Schools & International Baccalaureates.
7. The private school students may have higher academic achievement, but, they may have ethos related limitations.
8. Very often a non-native language for instruction is barrier in constructing knowledge.
9. Even now the children are deprived of the learning opportunities that occur in classroom with children from diverse Socio-Economic & Cultural Backgrounds.
10. A large number of Public Schools still suffer from shortage of facility of infrastructure. It affects adversely not only academic learning but also overall health of the children.
11. There are rare teachers who have both teaching competencies & teaching attitude. Humane & Professional Teachers, both, in one are rarely found.
12. There is a need to redesign Teacher Education Curricula and modes of transaction, as well as, approaches to inculcate universal values, namely, truthfulness, compassion & forbearance and cope up with the present day challenges.
13. Our School Education has to be strong enough to appreciate the preamble of Constitution of India which demands determination & action to constitute, sustain and strengthen India into a Sovereign, Socialistic, Secular, Democratic, Republic State.
14. The sharp disparities between different Social & Economic Groups are everywhere in the perceptible range in India. Even now the children of the disadvantaged groups are educationally most vulnerable.
15. Though we have large number of multi-grade schools based on mechanical principle of Teacher-Pupil Ratio, within 1Kilo Metre of each habitation, yet, we have not been in a position to provide compatible Pedagogy.
16. Child Centered Education is still in infancy.
17. Constructivist Learning Approach has been talked a lot, but, rarely implemented in the Schools.
18. Many a Schools have initiated into Activity Based Approach, but, it needs to be strengthened.
19. Rarely teachers are competent to deal with Inclusive Classes.
20. Diagnosis & Remediation are done rarely.
21. School Stereotypes exist even now, such as, notion of uneducable children, marginalized groups, Gender Type Stereotypes, Children with disabilities, first generation learners.
22. Problems of bridging the home language and school language.
23. A vast array of human vocations, such as, weaving, carpentry, farming and occupations, such as, shop keeping constitute a valuable form of knowledge. These forms of knowledge are of practical nature, tacit, but, often only partially articulated.
24. Neither the curricular nor the co-curricular activities are up to the mark.
 - Many a children in English Medium Schools are not at ease with English.

- Mathematics Teaching-Learning is dull & dry.
 - History & Civics are gone.
 - No sensitivity to cultural heritage & religious heritage & eastern values.
 - Social Sciences seem to have normative responsibility.
 - Science is losing Scientific Outlook & In-look.
 - Wholism is a figment of imagination.
25. Health Education, Human Rights Education, Environmental Education, Art Education, Physical Education, Education for Peace & Harmony have become empty slogans.

Challenges & Reality

- Manpower Planning is improper in Teacher Education. There is remarkable increase in the number of Teacher education Institutions.
- There are mismatches between the Teaching Degrees & Levels Taught.
- Some of the States filled new vacancies with Para-Teachers, while trained teachers remained unemployed. Honorarium per month of the Para-teachers appointed in different States ranges from Rs. 1000/= pm (Andhra Pradesh) to Rs. 4500/= pm (MP).
- In some of the States, such as, MP, Gujarat future teachers in the formal system will be “SHIKSHA KARMIS/SHIKSHA SHAYAK” on performance contract.
- Indian Teachers have been teaching in the Schools in West Asia, particularly, the United Arab Emirates. Mathematics, Science & English Teachers are in maximum demand. Thousands of Secondary School Teachers are already employed in foreign schools.
- There are problems of Education right from pre-natal stage to old age.
- Children are losing their beauties of childhood.
- The eastern ethos & sensitivity to the basic values are fading.
- Children are interested in fast & junk food than home made food.
- Children are going far away from nature, because, we have failed in sustaining the beauties of nature.
- The entire School Education- History, Civics, Language, Mathematics, Science are losing their essence.
- The creativity of the children is killed by the schools.
- There are problems of cell phones & face books.
- Only God knows what the children Twit, Skype & Watts App.
- Adolescents are bewildered. It seems the Sociologists, Psychologists and Counselors have largely gone defunct.

- Educational Institutions have started disowning their own Product. What are the SET, NET, TEL, TAT representatives of? Why should the quality of product of Educational Institutions be questioned?
- There is little convergence amongst State, Society, Education & Judiciary.
- More than Solutions, there are Problems of all sorts of Education-School Education, Teacher Education, Medical Education, Engineering Education, Law Education, Art Education, Science Education.
- Education, Research & Development are the least priority as is evident through the investment by the State.
- Apex Institutions, such as, NCERT, NCTE, NUEPA, ICSSR, CIIL, UGC & NAAC have lot of potential but for expression.
- Health Education & Environmental Education are the most neglected areas.
- Public at large is indifferent towards Education.
- Corporate Social responsibility finds rare expression.
- Rather than wholistic, what we have is fragmented Education.
- There is no where dedicated Teacher education in India.
- The identity of Education as highest interdisciplinary is rarely recognized & respected.
- Content-Pedagogy-Technology integrated Education is a big challenge.
- Skill Training is lacking. Education is failing to appreciate innovative courses, such as, Taxonomy of Educational Skills.
- Teacher Education on Life Skills, such as, lateral & critical thinking, innovativeness, problem solving needs to be strengthened.
- We need thorough preparation for Teacher Education at all levels, from Pre-Primary through Higher.

Teacher Education: Quality Concerns

- **Manpower Planning in Teacher Education**

Total Number of Teacher Education Institutions in India as on 31.03.2013 was 16170, whereas, the approved intake was 1197271. Surveys be conducted by all the States in India to ascertain the Teachers required at various levels. There should be one to one correspondence between School education & Teacher Education. Man Power Planning in Education & Teacher Education ought to be done scientifically.

- **Multi-Mode Teacher Education**

It is highly desirable that the first Professional Degrees/Diploma in Teacher Education be offered only in Face to Face (F2F) mode. But, F2F mode of Teacher Education is not that credible as it used to be. Even in the F2F mode, it is publicly evident that there are Teacher Education Degrees, such as, D.El.Ed., B.Ed. ,

particularly, in the Private Sector with & without attendance. A large number of Teacher Education Institutions are under staffed. Infrastructural facilities are inadequate. There are innumerable problems.

Further, Open & Distance Learning (ODL) mode can also provide very good platform. Many a web 2.0 Tools, Social Networking Sites, like, Edublogs, Blackboard, Twitter, Groups in Facebook, Skype, Whatsapp are very good, where, teachers can interact in synchronous as well as asynchronous mode. It can be blended with F2F mode. Web Portals are required where many a teachers come together. There are many Open Education Resources for Teacher Educators, Teachers & Learners, namely, GeoGebra , Google Earth, Hot Potato, C-map , R-campus, Mahara, Moodle and Wikispaces, Classroom 2.0, Visual Field Trip, In-Service Training Program, Academic Association, Collaboration & Forum, Journals & other Resources, Statistical Tools, and Web Conferencing. There are many a mass media, such as, Educational radio, ETV, along with Satellites.

No mode of Teacher Education, however modern or classical, stand alone, is self contained. There ought to be mutual support. Teacher Education in India ought to be multi-mode. There should be sharing of strengths amongst various modes, namely, F2F, ODL, Electronic, Correspondence.

- **Dedicated Teacher Education Programs**

Dedicated Teacher Education Programs ought to be tried at the laboratory level, such as, B.A./B.Sc./B.Tech./B.Com. B.Ed. (10+2+4), M.A./M.Sc./M.Tech./M.Com. M.Ed. (10+2+7), M.A./M.Sc./M.Tech./M.Com. Ph.D. (10+2+7+3). These Programs be offered as Innovative Programs. The duration of Teacher education Programs (B.Ed. & M.Ed.) has been increased. Will increase in Time Duration of Teacher Education Programs assure and Ensure Quality Teacher Education? There ought to be added focus on In-Service Professional Development of the Teachers. Rather than issuing life Long Teaching Licenses, these could be renewed periodically.

- **B.Ed. integrated or B.Ed. Sequential**

The nation has decided to offer B.A. Ed. in all the Central Universities of India. Though it is an arbitrary National policy decision, but, it does not mean that B.A. Ed. Integrated has supremacy over B.A. B.Ed. Sequential. Both have their due place in the realm of Teacher Education. The face validity of both the programs reveals that both these ought to have separate norms.

- **Innovative Teacher education**

Innovative Teacher Education, such as, Personalized Teacher Education, Wholistic Teacher Education, Technology Integrated Teacher education, Bachelor of Computer in Education (B.C.Ed.), Master of Computer in Education (M.C.Ed.), Integrated Teacher Education, e-Teacher Education ought to be promoted.

- **Specialized Teacher Education**

Teacher Education ought to specialize in many areas, such as, Art Education, Health Education, CSR & Education, ICT in Education, Yoga Education, Value Education, Inclusive education, Social Networking,

Taxonomy of Educational Skills, Taxonomy of Educational Research. There is a need to offer programs, such as, B. El. Ed., M. El. Ed., B.C.Ed., M.C.Ed., Bachelor of Management Education (B. M. Ed.), M. M. Ed.

- **Capacity Building Courses in Teacher Education**

Courses, such as, follows could be offered by the SCERTs, ASCs , RCCs, IASEs, and CTEs:

ICT in Education, Social Networking, Info-Savvy Skills, Techno-Pedagogic Skills, Teacher in the Digital age, Open Education Resources, Taxonomy of Educational Skills, Taxonomy of Educational Research, Educational Research Thrust in India, Collective Wisdom of India, Researching Pioneer Competency , Teacher Competency: Mapping & Management, Researcher Competency: Mapping & Management, Health Education in India, Corporate Social Responsibility & Education, Vocational & Occupational Skills, Management Skills, Life Skills & Attitude, Management Skills, Adjustment Skills, Special Education Skills, Human Development Skills, Accountability & Adaptability, Communication Skills, Self Direction Skills, Social responsibility Skills, Human Relations Skills, Emotional Skills, Spiritual Intelligence Skills, Innovation, Creation & Construction Skills, Wholistic Education Skills, Interdisciplinary Skills, Value Integrated Education, Yoga Education Skills, Qualitative Research in Education, Employing Mixed Research Methodology, Development of Tools & Techniques for Educational Research, Shifting Paradigms of Teacher Education, Quality Indicators of Teacher Education, Ensuring quality of Teacher Education, Identity of Education, Cultural, Moral & Religious Heritage of India, Developmental Challenges & Educational Determinism, Status of Educational Predicaments & Constitutional Right To Education, Status of Human Development Index in India, Universal Happiness Index, Status of Teacher Education in India, Establishing Equivalence of Teacher Education Modes, Formulating Teacher Education Policy, Establishing Norms for Teacher Education Parameters, Education for the Disadvantaged Groups, Inclusive Education, Continuous Professional development of Teachers, Career Advancement in Teacher Education, Re-visiting Teacher Education Curricula, Re-Visiting Act, Norms & Regulations of Teacher education, Establishment of Inter-University Consortiums in Teacher education, Exploring the Possible Roles of State, Society, Education & Judiciary in Teacher Education, Research Agenda for Teacher Education, Developing Competencies of Teacher Educators for Enhancing Creative Writing Abilities of the Learners, ICT Aided Constructivist Approach for Professional Development of Teachers, Reflections on the Academic Performance Indicators, Indian Consortium of Research in Education & Strengthening Educational Research, Action Research as “ My Research”, Research Synthesis & Meta Analysis, Educational Philosophy of India, Quality of Indian Teacher Education, Manpower Planning in Teacher Education, Digital Lesson Designing & Implementation, Developing Professional & Humane Teachers, School Curriculum Framework & Teacher Education Curriculum Framework, Teacher Education: Public & Private, Multiple Intelligence, Policies & Programs, Assessment through Rubrics, Portfolio Assessment, Working With Community, Symbiosis, Participatory Approach of Problem Solving, Cooperative Learning, E-Learning Packages on various Methods, Specialized Teacher Education Programs, Pedagogy: Critical, Reflective & Constructive, Teacher Education for Disadvantaged & Differently Able Groups, Physical Education, Education for Skill Development, Education for

Parenting, Development of Skills for Food Processing, Psychology of Infant, Child, Adolescent, Young, Adult & Ripe, Education of Eastern & Western Values

- **Unique ID of Every Teacher Educator & Teacher Education Institution**

Time & Again there is a suggestion that the NCTE should provide unique ID to every Teacher Educator and Teacher Education Institution. How can NCTE provide unique identity? If unique identity is a number, certainly a centrally established agency can provide it. But in reality the unique ID is acquired through peer review and evaluation over a period of time. Unique Identity is earned through dedication, innovation, continuous struggle and identification with Education & Teacher Education. Therefore we need to clear which shade of identity we are referring to as a goal.

- **Career Advancement of Teacher Educators**

Let the Professionals have Career in Teacher Education. Do not upgrade us or downgrade us through the questionable scales. Career Advancement in Higher Education has become more of a matter of Whims and Fancies of , so called, Expert Committees. There are questions asked , such as, was there a casualty in the Promotion Committee. We need to perfect the APIs. Very often mere nomothetic compliance is promoted than real merit.

- ***Teacher Educators for D. El. Ed are not Qualified***

Most of the Teacher Educator at the D. El. Ed. are not qualified for the Elementary Level. Most of them have M.Ed. or Masters Degree in any School Teaching Subject & Diploma in Education. M.Ed. (Elementary) or degree & Diploma in Elementary is highly desirable, but, rarely available. A foundation course in Elementary Education ought to be mandatory for their confirmation as Teacher Educators at the D. El. Ed. level, because, unless they have understanding of the Stages of Social Maturity of the Children how can they educate them. There are many a Stages of Social Maturity, such as, Incorporative, Impulsive, Interpersonal, Institutional, and Inter-Individual. How can they be Teacher Educators at this stage without having comprehensive understanding of the children; their wholistic profile-Physical, Cognitive, Affective, Psychomotor, Spiritual & Environmental?

- ***Questioning the Legitimacy of our own Products***

We have started questioning the legitimacy of our own products, rather we have started disowning our own products as evident through TETs & TATs above School Teachers, NETs & SETs above Higher Education Teachers, API for promotion of Higher Education, APS for Judgment of our Publications. The entire nation has become a vicious circle. May God help us to come out of it. *The following poem tries to depict the reality:*

Anti Plagiarism Software & Academic Performance Indicators (APS & API)

When we are down with Academic Plague Epidemic

Why do we require Anti Plagiarism Software?

We do not have even a single Nobel Laureate during eight decades

Why there is a need to run TURNITIN, PLAGUETRACK, DUPLICHECK & ITHENTICATE?

When we have polluted, both, our GANGA & SHODH GANGA

Why do we need CROSS CHECK, PUBLICATION, & CUSTOM REPOSITORIES?

When we have lost our HERITAGE, INNOVATIVENESS & RESEARCH QUEST

Why there is a need to be painful detecting Theft & Piracy?

Anti plagiarism Software & Academic Performance Indicators

Disregard Identity of Indian Education

Mechanized Research, Meek Constructions, Empty Publications

Are the Repositories of our round the clock Production!

Shedding off the wonderful ornaments - APS, API, TET, TAT, NET, SET

We need to identify, formulate & address real Indian problems

In every breath, at every step, in every experiment, on every path

We need to kindle fresh thinking, spring innovation, Invest & Invent!

Not Anti Plagiarism Software, We need Innovation Friendly Software

Not Human Development Index, We Need Universe Development Index

Not Councils & Commissions, We Need Education Identity-Vision & Mission

Not Grants Commission, We Need Self Supportive Production & Patents!

Research & Innovation: Some Expression

Every problem demands research. Our research methodology starts in womb & continues through out life. Every moment we ought to be innovative, because, of the latest novel problems encountered by us. There can be numerous approaches for research & innovation. Some of these find expression as follows:

1. Symbiosis

a. We should learn to play together, be it Hockey, Football, Cricket, Basket Ball, Badminton, Lawn Tennis, Carom or any game for that matter. Every game demands energy, skills, coordination,

oneness, unity, fellow feeling, liberation, full resonance with the players, ingredients and field, of course, sportsmanship.

b. Everyday with the dawn, a marvelous phenomenon occurs at many places in India. People throw a party to birds & animals, variety of food, such as, JAWAR, BAZRA, Home ROTI, Sliced breads and biscuits. In villages it is very common. Daily, there is a deeply touching view every where in India, where, Pigeons, Parrots, Squirrels, Kabars, and at times some guest visitor birds also join - A marvelous, gracious Sangam of Plants, birds, animals, & human beings.

c. During 1980s A.D., one day afternoon a Pig started crying, because of suffocation. It was, because, some pig hunters with rope tied bamboos were trying to capture it. The cry was so painful that all the persons of the community, Boarders from the University campus hostels, Residents of the Servant Quarters, came out and passers by on the hostel road stopped and stood still, and like the silent spectators were experiencing the sordid seen, but, no one acted. Mean while a cow came running towards the spot. The cow fought with the hunters and kept fighting till the time the predators did not leave the pig & place and the Pig was Safe & Secure. We very often hear that "Man is a social animal". What use are those feelings and wisdom which do not emanate into action?

2. Participatory Approach of Problem Solving

Participatory Approach of Problem Solving has been found to be very effective for addressing a problem.

a. Designing a computer program for solving a problem

A class is asked to design & develop a program for addressing a problem. Number of programs are designed and developed by the classmates. Various programs are presented by the classmates to the entire class. Each program presented is evaluated on some criteria by the classmates. Coefficient of concordance is computed to identify the best program.

b. Teaching Statistical Techniques of data processing through cooperative learning

A statistical technique of data processing is introduced by the teacher to the class. Then the class is given problem for statistical data processing. Some work out the solution correctly, whereas, others incorrectly. Those who are not in a position to work out the solution correctly are asked to discuss with those who have worked out. It has been found that along with learning statistical data processing techniques, these learners develop many affect attributes, such as, cooperation, team work, sharing, diagnosis & remediation, civilization & citizenship. The very look establishes the face validity & process validity of the class.

3. Wholistic Approach of Teaching-Learning

Wholistic approach demands development of a complete human where ideas spring, feelings flow, motor creates, spirit reins, and the self resonates with the self and the environment, for example:

a. Tea Preparation: Why do we prepare tea & how do we prepare tea? Where are the tea gardens? Where from the tea has originated? Is it native or non-native? If non-native, who introduced tea in India? What is the chemical composition of tea leaves? Which pan we make use of while preparing tea? What is the origin of the LPG which we make use of for tea preparation? How the gas stove is manufactured? Why do we add basil, black pepper and ginger? How long do we extract tea leaves? What finally is the prepared tea, its composition? How much and how frequently do we take tea? How tea contributes to Wholistic development?

b. Production & Cracking of Crackers: Let us take up an example of Production & Cracking of a Cracker, namely, Multi-Colour Fountain (ANAR): What are the ingredients of an ANAR? Where from these ingredients are procured and how? What is the ANAR container? What are the determinants of multi-colours and height of the fountain? Which chemical reactions take place when we spark the ANAR? After the ANAR is cracked, how do the evolving gases interact with the environment? What are the probable effects of cracking ANAR? WHAT are the chemistry, physics, mathematics, economics, environmental Science & Sociology of ANAR? Is it joyful, harmful, or joyfully harmful? What is the status of child labourers who work in factory of crackers?

4. Flow of Collective Wisdom Through Reflective Dialogues

Here a group or class experiences a phenomenon in real life situation or Technology Enabled. The group members are asked to record their reflections, followed by reflective dialogue in the class, such as, A child selling Indian Flags on the advent of Independence Day or Republic Day, A Cat & Dog friendly together, A Beautiful Young Girl wearing Costly Ornaments , A Cow standing with its Calf with. It has been found to have very significant effects. The class really realizes collective wisdom.

5. Personalized Teacher Education

The personalized Teacher Education demands healthy & peaceful ambience and highly dedicated resourceful Humane Teacher Educators. It is also called ZLP (Zero Lecture Program). The features of this program are such as follows: The Pupil Teachers devise their own Programs & Schedule, whereas, the Teacher Educators are Facilitators. The entire B.Ed. Program Course-wise is distributed amongst various groups of the Class. The group members prepare their Lessons and Present to the group. The groups are rotated. There is sharing within and between the groups. The evaluation is done by the Self , Peers and Teachers & graded on the bases of congruence. There is a very healthy Classroom Culture & Field Culture right from morning till evening . The Personalized Teacher Education Program is going on at School of Education, DAVV, Indore, MP, Department of Education, Banasthali Vidyapeeth, Banasthali, Rajasthan, and Department of Education, University of Lucknow, Lucknow. Right from Day1, the Pupil Teachers identify with their selves as Teachers round the clock. Identity of Teachers & Teacher Educators is well recognized and appreciated through this Innovative Program.

6. Dedicated Specialized Teacher Education Programs

School of Education, Devi Ahilya Vishwavidyalaya, Indore during 1990, designed, developed and implemented many a innovative programmes, such as, Bachelor of Computer Education (B.C.Ed.), Master of Computer Education (M.C.Ed.), Futurology of Education. These programs were self supportive. These could be run on the basis of Collective Wisdom of these Programs. It is immense

Teacher Education Strength to find the Pass Out of these Programs as Domain Leaders in many countries, namely, India, USA, UK, Hong Kong, Germany to name some of these.

7. Open Education Resources for Teacher Educators, Teachers & Learners

There are many OERs for Learner and Learning , such as, GeoGebra , Google Earth, Hot Potato, C-map, R-campus, Mahara, Moodle and Wikispaces, Classroom 2.0, Visual Field Trip, In-Service Training Program, Academic Association, Collaboration & Forum, Journals & other Resources, Statistical Tools, and Web Conferencing.

8. Constructivist & Connectionist Approach

Learning can be seen as a process of that of understanding and contextualizing socially, culturally, historically and politically relevant issues. Hence it is important that the teacher's role is revitalized. Teacher Education system has to inculcate the culture of germination of new ideas, incubation, innovation, creation and construction. Every construction ought to be interconnected.

9. Indian Consortium of Research in Education (www.icorecase.org)

Centre of Advanced Study in Education, Baroda is establishing ICORE at CASE. It is the Consortium of Institutions and individuals for Research in Education. It is a self-managing network of educational bodies that play a substantive role in the field of educational research. I-CORE aims at assembling a diverse coalition of partners to formulate questions worth asking, contribute to research which is relevant in the contemporary contexts, helps in understanding educational mechanisms, promotes holistic learning and highlights their policy implications worthy of action. The consortium is entirely a voluntary effort with its secretariat at the CASE, It is the Consortium of Institutions and individuals for Research in Education. It is a self-managing network of educational bodies that play a substantive role in the field of educational research. I-CORE aims at assembling a diverse coalition of partners to formulate questions worth asking, contribute to research which is relevant in the contemporary contexts, helps in understanding educational mechanisms, promotes holistic learning and highlights their policy implications worthy of action. The consortium is proposed entirely as a voluntary effort with its secretariat at the CASE (Centre of Advanced Study in Education), Faculty of Education and Psychology, The M. S. University of Baroda. The member institutions and individuals shall be required to contribute towards its activities. The CASE will further strengthen networking with the apex national agencies, such as, UGC, NCERT, NUEPA, AICTE, AIU, CIIL, EFLU, ICSSR, HBCSE and also at the international level with various institutions and agencies at Sweden, Germany, UK, USA, Australia, China, Thailand and all the SAARC countries. I-CORE shall be a non-profit forum consisting of institutions organized and operated for educational and professional purposes. An institution shall be eligible for membership if it has made a definitive, substantial, and continuing commitment to a credible research program or to I-CORE 's goal to facilitate high-quality research providing core services (from development of research proposal to surveying previous researches to statistical analysis, and evaluation expertise). Specifically, the Consortium seeks to become an intellectual Center that will maximize the potential of education researchers and foster the development of networks of collaboration and support among educationists.

10. Computer Networks: Internet, INFLIBNET

It is digital age. Within one seventh of a second a message can cover the entire globe, the speed of electro magnetic waves being 7 times the circumference of the earth. So the globe at large has been in a position to realize omnipresence, recency & immediacy. Internet is a store house of global wisdom. We can have full networking with the globe any where, anytime, any purpose. For that we need to be info-savvy, net-savvy and techno-savvy. Every one of us ought to be skilled in Asking, Accessing, Analyzing, Applying and Assessing. We have various Information Library Networks. Indian Library Network is INFLIBNET. We can become members of the INFLIBNET and have access to the Learning Resources of all the interconnected libraries.

11. Cosmic Collective Wisdom

The entire cosmos is full of collective wisdom. Varieties of Airplanes flying in the sky have realized the wisdom of flying birds with wings & hollow bones. Two Beautiful Blue Velvet Beatles crossing a road breadth-wise, holding a fully spherical seed of a fruit, climbing on it, pushing & pulling it, caught the attention of many a passersby, presented willful, wiful, and unparallel collective wisdom controlling & holding the most unstable spherical seed, rolling swiftly, steadily, balancing the push & pull scientifically, playfully, cheerfully, lovely. Whenever, passing from there we always aspire the phenomenon to recur.

12. Genesis of Bharati Text Editor

We were trying to study the relative effectiveness of various modes of Computer Assisted Learning Material (CALM) for learning Rhymes and BAL GEET at the Lower Primary level, in Hindi and English. The different modes were Text, Text-Graphics, Text-Graphics-Music, Text-Graphics-Music-Recitation, Text- Graphics-Music-Recitation-Enacting for learning Rhymes and BAL GEET for Vocabulary, Analytical Understanding, Comprehensive Understanding, LSRW, and Joyful learning. Then the available commercial Hindi Text Editors, namely, Prakashak and Sulekh were not fixing the MATRAS properly. One of the B.C.Ed. Students developed a Hindi Text Editor over one year and named it "BHARATI" after the name of his Mother. This indigenous Hindi Text Editor worked very well. Another problem which we encountered was with respect to production of Musical Scripts of the Rhymes. One of our students who is expert on Harmonium taught us Harmonium for six months. We could confidently and proficiently produce the musical scripts. This is how the collective wisdom of the group was utilized for conducting the research work.

Symbiosis of Teacher Education & School Education

- There is only a little symbiosis between Teacher Education & School Education.
- There are mismatches , such as,
 - Domain & Pedagogy
 - Problems & Skills
 - Teaching Style & Learning Style
 - Teacher & Learner
 - Mason & Construction

NEED FOR TAXONOMY OF EDUCATIONAL SKILLS

Teacher Education Institutions are lost in the rut & routines. There have been Committees, Commissions, Curriculum Frameworks, State, Society & Judiciary interventions. But where is the expression?

We need to introduce Taxonomy of Educational Skills in Education at the National level. The proposed Taxonomy of Educational Skills has been differentiated into eight domains as follows:

- Self Development Skills
- Social Development Skills
- Interpersonal & Collaborative Skills
- Communication Skill
- Self Direction Skill
- Resilience
- Social Responsibility Skills
- Human Relations Skills
- Emotional Skills
- Adjustment Skills
- Human Development Skills
- Citizenship Skills
- Accountability & Adaptability Skills
- Life Skills
- Critical Thinking & Training Thinking
- Leadership, Administration & Management Skills
- Creative Leadership Skills
- Administration Skills
- Time management Skills
- Key Skills for Every Manager
- Spiritual Development Skills
- Yoga Skills
- Wholistic Development Skills

Renewal of the Courses in Education

There is a need to renew most of the courses in Education. We should come out of our old coats. Do we expert committees know what are our problems and needs? We may stroll with

crowns of idealism but we have to face the stark reality. For example, there is a need to renew curricula of Teacher Education & School Education. Courses such as follows are proposed to be introduced in Teacher Education:

1. Corporate Social Responsibility & School Education

CSR & School Education be introduced in Teacher Education Curricula at the earliest.

Objectives:

- To set up and manage a School.
- To support School learning.
- To connect with the Parents.
- To provide Career Guidance & Psychological Counseling to Students & Parents.
- To ensure progression from Primary to Upper Primary, Elementary to Secondary and Secondary to Higher Education.

Units:

Unit-1: Concept of Corporate Social Responsibility

Unit-2: CSR & Elementary Education

Unit-3: CSR & Secondary and Higher Secondary Education

Unit-4: CSR for Realizing Compatible Education

Unit-5: Independence of both the Corporate & Society through Interdependence

2. Corporate Social Responsibility & Higher Education

Objectives:

- The Prospective Teacher Educators will study the following Roles of Corporate Sector.
- Sharing Cost of Higher Education.
- Supporting & Strengthening Higher Education.
- Establishing Linkage between Learning & Earning.
- Strengthening Research & Development.

Units:

Unit-1: CSR & Science Education

Unit-2: CSR & Social Science Education

Unit-3: CSR for Vocational Education & Programs

Unit-4: CSR & Research & Development in Education

Unit-5: CSR & neo-capitalism & neo-liberalism in Higher Education

3. Health Education in India

Objectives:

- The Prospective Teacher Educators will build a scenario of Health Education in India.
- The Prospective Teacher Educators will develop a Knowledge Base of the Most Common and Uncommon Diseases in India; their Diagnosis & Remediation.
- The Prospective Teacher Educators will learn the Tech Related Health Risks & Learn How to Fix These.
- The Prospective Teacher Educators will study the Health Education Vision & Mission of India.

Units

Unit-1: Health Education Scenario in India: Entity & Identity

Unit-2: Most Common & Uncommon Diseases in India

Unit-3: Tech-Related Health Risks & How to Fix Them

Unit-4: Health Issues & Health Education: Vision & Mission

Unit-5: Approaches to Sound Health

4. Mental Hygiene & Health Guidance

Objectives:

- The Prospective Teacher Educators will develop a knowledge base of the Mental Health Problems.
- They will learn the Diagnosis & Remediation of the Mental Health Problems.
- They will learn How to Strengthen Mental Hygiene & Health

Units:

Unit-1: Nature & Scope of Mental Hygiene & Health

Unit-2: Analysis of the Defense Mechanisms & Conflicts

Unit-3: Mental Disorders & Treatment

Unit-4: Counseling for Mental Health

Unit-5: Technology Enabled Diagnosis & Remediation

5. Taxonomy of Educational Skills

Objectives

- The pupil teachers will be in a position to identify and classify various Educational Skills.
- The pupil teachers will be in a position to employ various Educational Skills, viz., Techno-savvy Skills, Techno-Pedagogic Skills, Research & Construct Skills, Yoga & Spiritual Development Skills and Self Development & Citizenship Skills.

Units:

Unit-1: Techno-Savvy Skills

Unit-II: Techno-Pedagogic Skills

Unit-III: Research & Construct Skills

Unit-IV: Yoga & Spiritual Development Skills

Unit-V: Self Development - Citizenship Skills & Life Skills

6. ICT in Education: Designing & Development

OBJECTIVES:

This course helps the prospective teacher educators to-

- appreciate the educational possibilities and opportunities of ICT
- use ICT as a medium of learning.
- develop perspectives and approaches on ICT supported assessment.
- undertake research using ICT
- design an individual website.
- use open source software for educational purposes

Units

Unit-I: Understanding ICT

Unit-II : ICT: Curriculum and Pedagogy

Unit-III: ICT for Professional Development and Educational Research

Unit-IV: Open source movement and Web designing for Education

Unit-V: Utilization of e- Resources

7. ICT in Education: Web Technologies and E-Learning

OBJECTIVES

To prepare the prospective teacher educators to

- apply web technologies in classrooms
- understand the issues related to Copy Rights
- organize learning in a virtual environment
- design and develop e-content for any school subject
- critic on e-content
- identify and organize appropriate e-content from the world wide web
- understand recent trends in ICT in Education.
- develop competencies related to Wiki editing

Units

Unit-I: Web 2.0 & Semantic Web for Teaching-Learning

Unit-II: Information sources and copyright Issues

Unit-III: E – Learning

Unit-IV: Learning Course Management and Online Evaluation

Unit-V: Designing, Development and validation of e- content material

Recommendations:

1. Institutional Plants should have healthy structure & ambience.
2. There should be adequate manpower planning for Teacher Education & School Education.
3. There should be symbiosis in School Education & Teacher Education.
4. Cultural heritage inclusive of eastern values ought to be revived in Indian Schools.
5. Educational Curricula & Modes of Transaction ought to be renewed.
6. There should be added focus on Activity Approach.
7. Cooperative, Collaborative & Participatory Learning ought to be practiced.
8. There should be adequate focus on Constructivist & Connectionist Approaches.
9. Creative & Innovative Teaching-Learning should be enhanced.
10. All the laboratories of Schools-Science, Maths, Technology, Psychology, Language ought to be in healthy state.
11. All the schools should conduct Action Research- My Problem, My Sources & Resources, My Methodology, My Solution, Quality enhancement of my school.
12. Every school ought to have Guidance & Counseling Cell.
13. All the subjects-Science, Maths, Technology, Social Science should realize their essence.
14. Life Skills, Multiple Intelligence Skills, Emotional Maturity Skills, Spiritual Development Skills , Science Process Skills, Creative Composition Skills should have due focus in Indian Schools.

15. Health Education ought to be integral constituent of School Education.
16. There should be adequate focus on Games & Sports.
17. All the Teachers & learners should be Techno-Savvy.
18. There should be networking amongst Schools within India & between other countries.
19. Mathematics, History & Geology seem to be the weakest links of the present day schools. These ought to be strengthened.
20. Value Education, Peace & Harmony Education ought to be strengthened.
21. There ought to be essence learning rather than mere cognitive perceptual learning.
22. CC E ought to be scientifically & humanistically implemented.
23. Schools ought to be full of life, rather than full of forced discipline.
24. Taxonomy of Educational Research should find expression in, both, Teacher Education & School Education.
25. Education ought to realize its identity.

Concluding Remarks

When there is change every else where, then, how come Teacher Education & School Education are Stale & sterile? When will there be valid Manpower Planning in Education? How will we realize healthy Teacher Education & Schools Education? How will we realize Corporate Social Responsibility in Education? How will we realize Technology Integrated Education? When will we design Activity Based Curricula? When will we learn cooperatively? When will we practice Participatory Approach of Problem solving? When will we design suitable Inclusive Education? When will we introduce the Constructivist & Connectionist approaches? When will we realize creative & critical thinking simultaneously? How will we learn to address the developmental challenge? When will we learn to sustain the cultural heritage of India & to have perfect vision of the invisible? When will we learn to value the indigenous? When will Education realize its identity in India?

Pumping in crore of rupees can facilitate Education, but, it demands crore of Heads, Hearts, Hands & Souls in full resonance to realize Education. RTE can legalize Education, but, it demands the wish & will of all to culture Indian Education. Once again we need to have full determination with action to realize Elementary Education, Higher Education, Vocational Education & Professional Education. Visual Learning Environment, Health, Life Skills, Social Networking, Corporate Social Responsibility, Technology Integration, Activity Base, Cooperative Learning, Participatory Learning, Inclusive Education, Constructivist Approach & Connectionist Approach, Choice Base, all these aspirations, have their roots in ancient Indian Education. Could we revive the eastern history to modernize Teacher Education & Education?

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Techno-Pedagogic Skills Interwoven in a film

‘SAFAR GHAR SE SCHOOL TAK’

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Let us recall our first transition from home to school. Each one of us has a highly touching story to narrate, because, it is a deeply feeling phenomenon. A child for the first time leaves home for school, where, home and school, facially, both have different cores & cultures. Bondage between the child& home, child & peers, child & nature, child & school, differ and differ significantly. Home attracts and the school pulls. There is very often, rather, always a tussle between home and the school, to begin with. The present study has made an attempt to techno-pedagogically analyze a film – SAFAR GHAR SE SCHOOL TAK for parents and teachers for facilitating first transition of a child from home to pre-school. The techno-pedagogic analysis of the film has been done in terms of various techno-pedagogic elements, such as medium is message, temporal and spatial contiguity of various message forms, message credibility and media fidelity, message compatibility in totality, technological feasibility, technological fidelity, and pedagogic suitability, aspect ratio of picture and text, self contained status and speed of delivery of the film, content and quality of the film in terms of various elements, such as audio, video, frames, and communication elements, such as who, says what, to whom, through which channel, and with what effect through correspondence amongst sender, message, medium and receiver.

It is digital age. The immediate focus of India is Digital India. It is to realize transparency by surfing through digital age skills, such as, skimming, scanning, skipping, switching, hyper-linking and full immersion with scale & speed, any where, any time, any task, any field. It is not only for realizing transparency, but, along with to realize recency, immediacy and omnipresence through the speed of electromagnetic waves which travel with the speed of

3×10^{10} cm/sec which is 7 times the circumference of the earth, meaning thereby, that a message can cover the circumference of the earth within one-seventh of a second. It is the speed of digital waves.

Indian Education has immediate focus on e-content development and communication. E-content development & transaction demands interweaving of content, pedagogy and technology, employing various techno-pedagogic principles, such as, media message compatibility, temporal & spatial contiguity of various message forms, such as, picture, text & sound, message credibility and media fidelity. It also demands production skills. There has to be a judicious sharing of the shots by the different cameras, smooth transition from one to the other, controlling jerks while zooming out and zooming in. There has to be a perfect coordination amongst the different cameramen, producer, and shots selector and mixer. Finally it has to be quality production, observing all the quality parameters, resulting into a perfect view composition. E-contents have various quality parameters, such as, original, mediagenic, concise & precise, interwoven & interesting resulting into an attractive view composition. It has to be HiFi & WiFi, that is, having High Fidelity & Wireless Fidelity for wider coverage.

Digital world demands digital culture. What use are digital volumes if not innovative. The digital has to observe its own testimony. Every bit of it has to be rich and reaching. For realizing this objective the e-designing, development, production and transaction have to be perfect. At times there is quality & identity loss while duplicating, converting from one medium to the other and losses during mediation and transmission. All these need to be controlled. It is true that no camera shots can capture the reality as it is, but, the losses ought to be minimal. If not natural then it should tend to be natural & self contained .

What use are the oceans of MOOCs and OERs if these lack originality. The e-form demands to be quintessentially innovative. The e-volumes have to be pioneer. Every e-production has to be original & innovative rather than mere conversion. Many a problems are on the fore. We rarely meet our predicaments, because, what use are those feelings which do not emanate into action. Every e-content is expected to be an embodiment of our knowledge, values and skills. Who says high tech is mechanistic? It can have deepest reach & highest touch. We need to develop digital culture in India. Cash less transactions in India cannot be realized over night, it is because, a large majority of us are not techno-literates. System conversion from one form to another has to be done in a highly civilized way. Direct conversion in one go at the massive level is rarely feasible. Suitably, we can go for parallel conversion , phased conversion or modular conversion. The very aspiration of techno-conversion overnight can create chaos. Modernization may not be civilisation. Any conversion by any one has to be done with all decency, decorum and discipline , irrespective of , who does it. E-conversion demands e-culture.

Digital crowd in India is easily perceptible. Every one is after e-production, whether, e-literate or illiterate. Commerce is trying to superimpose all the disciplines. There are blind slips in the e-valleys. Whether we like or not, e-forms will prevail. Before there is ir-repairable damage let us try to develop e-culture. It is not a journey to fly and arrive at. We

have to travel patiently. Enough of imitation. We ought to do indigenous production observing relevance, quality & compatibility.

Steps of Digital Scripting Process:

Program Ideas:

All the digital scripts originate with the germination of an idea. “My Grand Pa accompanied me to the Municipal Corporation School which was miles away from home walky and left me in Std. I Class which was in the open under a PEAL TREE in Haryana, the class teacher Master Kashi Ram only in the Arm Chair. After some time when the attention of the teacher diverted from me, I ran away with the speed of storm towards Home. Grand Pa on the way ran after me, caught hold, and again took me to the School. Again I ran away. This time I could the skip the attention of Grand Pa. When he reached home, he found me already there. Next day he purchased some orange slices on the way to the School, left me there and orange slices with the teacher, suggesting him to give those to me periodically and treat me affectionately, so as to retain me in the school. Well, it worked and worked very well.” Progressively, while guiding doctoral research in Education, it clicked me that why not to produce a film for facilitating first transition of the children from Home to School. This germination of the idea & incubation resulted into Programming, production and connection.

Program Brief:

Then based on the germination and incubation of the ideas, it was decided to script a film- “SAFAR GHAR SE SCHOOL TAK” for facilitating first transition from Home to the Pre-School. It also provided a road map for how to proceed.

Program Research:

It is at this stage that the script writer must plan and carryout thorough research both on the topic as well as target viewers looking out for the related inputs on the topic. At this stage , it is important for the script writer to get to know the viewers well- their background, interests, likes and dislikes. It helps the script writer to collect, select and organize relevant program materials most suitable for the viewers.

Selection of Contents:

At this stage the most relevant materials, visual sources and resources, and information which match the program objectives are decided/selected.

Message Planning:

Here many considerations come into focus, such as:

- Identifying key concepts or ideas to be highlighted.
- Selecting a suitable format for program presentation.

- Exploring media possibilities, such as, use of examples and analogies, graphics, photographs, reality bites, stock shots, animation, experiments, and other sources and resources both audio and visual.
- Choosing a definite storyline for message presentation: using human characters in the story- men, women, children, presenter, anchor, cartoons, puppets, animals and birds.

Program Structure & Visual Treatment:

Here the script writer will give thought to such questions as follows:

- How will the program begin?
- How will the program end?
- What will be the shape & order of the sequences that will form the middle part?
- How many sequences will the program finally contain and in which order?
- What will be the length, sequence, emphasis and amount of educational content of each of the sequence?
- To what extent the content of each of the sequences match the program objectives? If not fully, then, how can content & objectives be matched optimally?

Storyboard Making:

The storyboard means a detailed , shot-by-shot description of the program on sheets of paper divided into two vertical columns. The rectangular boxes (3:4) in the left hand column are used for drawing pictures/sketches with shot sizes described on each; and the right hand column is used for writing supporting words, sound effects and music.

Draft Script:

The story board when complete , leads to the preparation of a draft script. The draft script is the first full length script that includes a complete listing and description of all visuals, captions, commentary, dialogues, actions, movements, music, sound effects and any kind of pre-recorded inserts or audio/video inputs. The draft scrip must be discussed with all the team members, experts, as well as, producer to get their reactions and suggestions on various aspects. The script writer must be open to criticism and ideas.

Final Script:

Now the final script is prepared and passed on to the producer after considering and incorporating the suggestions. This is how the scripting of the film – SAFAR GHAR SE SCHOOL TAK was done. Then the film was converted to the digital form.

Rationale of the Study:

Wish our school could tend to be like our home. This is a pious expectation, but, only a figment of imagination. The over-discipline, mechanized classrooms, incompatible curricula, dull modes of transaction, less emphasis on teaching-learning and more on examination have made our educational institutions dull and dreary, where, beauties of childhood are destroyed, energies of the adults are wasted, and the prime of the youth is killed. Could our education be cultured right from the induction of a child to the exit of a youth? For that we ought to revive and sustain our educational cultural heritage & set the modernization pace very carefully. Our Education Policy has to perfect. The views of the democratic public are not baseless to be disrespected by the republic. Why should there be excessive delay in Educational Policy formulation? The answer is evident. The education is not even being considered as an entity. The question of identity does not arise. But, Education has its own identity & responsibility. When the army of Educationists marches on the roads its movement will echo & re-echo. Education will definitely revive its identity so that the entire chaos prevailing in my country is controlled. A new order will emerge. Digital India will be realized in the right earnest. Our education will be civilized right from induction to convocation. The children will have joyful state with momentum in their motor and vision in their eyes. The convocations will be with invocations. The graduates will have power in their soul and full immersion and connection in the universe to make this sphere live able. Our Education will prepare both for *PRAVARTI & NIVARTI*. The present paper attempts to analyse a film – *SAFAR GHAR SE SCHOOL TAK* techno-pedagogically to facilitate first transition of a child from home to school, so that, the Education is compatible rather than mechanical.

Objectives of the Study:

To study the perceptions of Educational Multimedia Research Centre (EMRC) students on the techno-pedagogic skills interwoven in a film ‘SAFAR GHAR SE SCHOOL TAK’.

Research Methodology:

Population:

All the Students of all the EMRCs in India

The Film:

The film ‘SAFAR GHAR SE SCHOOL TAK’ was produced by Mrs. Sucheta Jasrai- a Doctoral Scholar of CASE, Faculty of Education and Psychology, the Maharaja Sayajirao University of Baroda, Vadodara-Gujarat, India under the Guidance of Prof. Devraj Goel, Head CASE. It is an Award Winner Film (Adult Category) of the CEC (Consortium of Educational Communication), New Delhi.

Sample:

One student of B.Sc. (Electronic Media), six students of M. Sc. (Electronic Media) and 18 students of MBA (Media Management), Devi Ahilya Vishwavidyalaya, Indore constituted the sample (25) for the study. The sample was drawn conveniently & purposively.

Tool & Technique:

A perception Scale of 25 items on five points- Excellent, Very Good, Good, Poor, Very Poor, and an open ended item for seeking suggestions on improving the film was constructed by the investigators. Also, Focused Group Discussion (FGD) was conducted with the sample students.

Data Collection:

The film was screened on 26.11.2016 in the conference hall of the EMRC, DAVV, Indore. The sample students viewed the film. After that the Perception Scale was administered followed by the FGD.

Data Analysis:

The data with respect to the 25 close ended items were analysed in terms of frequencies and percentage responses, whereas, the responses to the open ended item were content analysed. Table-1 presents the data analysis.

Table-1: Perception of EMRC Students on the techno-pedagogic skills interwoven in a film 'Safar Ghar Se School Tak' to facilitate first transition of children from home to pre-school

S.No.	Items	Excellent	Very Good	Good	Poor	Very Poor
1.	How was the message-medium-pedagogy compatibility?	4 (16%)	9 (36%)	12 (48%)	0	0
2.	How was the temporal contiguity of various message forms (picture, text and sound co-existence)?	0	3 (12%)	17 (68%)	5 (20%)	0
3.	How was the spatial contiguity of various message forms?	1 (4%)	10 (40%)	14 (56%)	0	0
4.	How was the temporal and spatial contiguity of various message forms?	1 (4%)	5 (20%)	18 (72%)	1 (4%)	0

5.	How were the credibility/ testimony of the messages?	9 (36%)	14 (56%)	2 (8%)	0	0
6.	How was the media fidelity (expression without communication loss)?	2 (8%)	11 (44%)	10 (40%)	2 (8%)	0
7.	How was the pedagogic compatibility (suitability/ appropriateness for the target viewers)?	6 (24%)	14 (56%)	5 (20%)	0	0
8.	How well the content, technology and pedagogy were interwoven?	6 (24%)	7 (28%)	10 (40%)	2 (8%)	0
9.	How were the messages credibility, technologic fidelity and pedagogic suitability?	0	9 (36%)	15 (60%)	1 (4%)	0
10.	How was the aspect ratio of the pictures and text in the film?	0	11 (44%)	11 (44%)	3 (12%)	0
11.	How was the quality of the messages?	6 (24%)	11 (44%)	8 (32%)	0	0
12.	How powerful were the visual stimuli?	6 (24%)	11 (44%)	6 (24%)	2 (8%)	0
13.	How powerful were the audio stimuli?	1 (4%)	7 (28%)	11 (44%)	5 (20%)	1 (4%)
14.	How was the configuration of the view composition of the film?	1 (4%)	8 (32%)	11 (44%)	5 (20%)	0
15.	How self-contained was the film?	6 (24%)	10 (40%)	9 (36%)	0	0
16.	How was the speed of delivery of the film?	3(12%)	4 (16%)	17 (68%)	1 (4%)	0
17.	How was the level of attention of the viewers of the film?	4 (16%)	9 (36%)	6 (24%)	6 (24%)	0
18.	How was the feel of the film for	6 (24%)	17	2 (8%)	0	0

	facilitating first transition from home to school?		(68%)			
19.	How is the deploy-ability of the film country-wide?	2 (8%)	9 (36%)	14 (56%)	0	0
20.	How was the level of adjustment of the children progressively?	1 (4%)	13 (52%)	11 (44%)	0	0
21.	How was the level of transition through the film?	2 (8%)	9 (36%)	13 (52%)	1 (4%)	0
22.	How effective were the tips for facilitating first transition?	3 (12%)	13 (52%)	9 (36%)	0	0
23.	How was the view of the transition reality through the film?	7 (28%)	14 (56%)	4 (16%)	0	0
24.	How was the feel of the film as a whole for realising the objectives enunciated?	7 (28%)	11 (44%)	7 (28%)	0	0
25.	How do you perceive the film as a whole?	2 (8%)	7 (28%)	16 (64%)	0	0

It is evident from Table 1 that the frequencies (>75%) of the responses have been registered on the points Excellent, Very Good and Good against all the 25 statements, representing the techno-pedagogic skill level of the film. The quality of the film could be enhanced by further focusing on the entire view composition of the film. The message, media, technology integration was found to be compatible. There was spatial and temporal contiguity of the various message forms, such as, audio, video & text. Testimony of the text and fidelity of the media were well observed. The content, pedagogy and technology were found to be well interwoven. There was ample content validity, pedagogic suitability and technology integration. Aspect ratio of the pictures and text was observed reasonably. The quality of the messages was observed. The audio and video stimuli were found to be powerful. The view composition of the film was found to be balanced in terms of background, configuration, foreground & the entire view. The film was found to be self contained. The speed of delivery was found to be suitable. The level of attention was found to be at the level of full immersion. The film could reasonably facilitate the first transition of children from home to pre-school. The film was found to have medium level of deploy ability because it was delimited to an urban school setting. As a whole the film was found to at the mid point of the five point scale, that is, good.

Suggestions for improving the quality of the film- SAFAR GHAR SE SCHOOL TAK:

The suggestions made by the respondents are presented as follows on the basis of content analysis of the open ended item.

1. The film chose a very rare topic. More such concepts should be chosen to depict unspoken and unexpressed feelings.
2. The audio quality could have been improved. The speed of delivery could be enhanced. The music could be of better quality.
3. The shots taken could have been more creative. Children have so many expressions. They are excellent actors. Their expressions could be valuably utilized.
4. The present day schools have changed, children have changed. New technology can be used for the film production.
5. SAFAR GHAR SE SCHOOL TAK is a good documentary on the teaching system of India on how a child starts school life from home to school. Though there are some commonalities, but the adoption varies from child to child. We could add thinking of the present day parents with respect to their wards. Many more dimensions, such as education system, child behaviour, financial position of parents could also be included which affect the child behavior. Scenario of only one private school has been produced. The public school scenario could also be produced.
6. The film production could have been done with advanced technology. The content is good, but the video quality could be improved. If the film is re-produced with visuals of today's scenario and society then it will have better appeal. Sound was running faster than the visuals. The film speed was fast. There could be blank audio space for assimilation of the flowing messages. Poetry related to childhood could find place in the film. Problems and confusion of parents could be still discussed along with solutions. Presentation of a few success stories could enhance the effect.
7. Show the new play schools which are filled with new themes and projects. Video quality could be improved.
8. Even the educated parents are not aware of making their children ready before sending them to school.
9. The parents should create school like atmosphere at home for preparing children for school.
10. The interviewer should not put the same stereotyped question to all the parents. There could be a variety of expression. She could interact with the children also.
11. Characters could be more attractive. Visual quality could be better, as well as, the back ground music related to the conditions of transition of the children.

12. Add sub-titles in English or English version could also be produced with Hindi captions.
13. Sound quality and voice quality could be improved. Technical disturbance in sound could be controlled.
14. Messages could have been more appealing.
15. Framing could have been better. Visual and audio mismatch could be controlled.
16. Interaction amongst the parents and teachers could be organized after school and recorded.
17. Lip synching could be better. Better scenes and background music could be added.
18. Teacher's point of view should be there. A scene where parents making their children understand about going to school could be added. Some of the visuals could be better quality.
19. There should have been added focus on dialogues.
20. Some games taught by the teachers could be shot.
21. More of animation could have been added.
22. Camera angles and view composition must improve.
23. More sound effects could be added.
24. The jerks in zoom-in and zoom-out could be controlled.
25. The placing of the tips could have been at the end or just before the conclusion, so that, it could be more effective.
26. We could add a bit more interviews with the experts. The interviews with the teachers could also help.
27. The content was good. But, at times there were distractions which could be controlled through background music.
28. We can change the frame and technology for the visual medium for the film. New technology could be utilized for audio of the film. We could take new places for shooting. We could talk to children, as well as, more number of experts.
29. At the end there could be a caption that "come and know the views of children". But, no views are shown on how children feel on the first day of their school.

Concluding Remarks

The film 'SAFAR GHAR SE SCHOOL TAK' has been well designed developed and produced techno-pedagogically. It is a quality film for facilitating the first transition of the

children from home to pre-school. The utility of the film could be enhanced by screening it in various localities and schools by adding subtitles in English and other regional languages. There is no end to perfection. Voices of the children and teachers, soothing sites of the schools, aspect ratio of the pictorial and textual, suitable frame size, sensitivity of the presenters, such as, lip-syncs and speed of delivery, expertise of more experts and production skills, like, controlling jerks while zooming-out and -in and correspondence between the anchor and camera could definitely enhance the quality of the film.

The film has been found to be definitely useful for Parents and Teachers in facilitating the first transition of children from home to pre-school. Every e-content for Education ought to be original & techno-pedagogical.

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TQM of Teacher Education

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INTRODUCTION

The advantages of Total Quality management (TQM) have been valued by all. Many organizations have achieved excellence by practicing TQM. Most of the principles of TQM can be implemented in the domains of Teacher Education. This paper presents the essence of TQM, a scenario of TQM in Teacher Education institutions and how the Teacher Education institutions can enhance the Total Quality.

The investigator has come across various studies related to Secondary Teacher Education Institutions and the review of related literature revealed that teacher education plays a significant role in universe development. Education plays a vital role. It is rightly said that the future of a country is in the hands of children who are in schools. Teachers' responsibility is to mould the children into valuable members of the society and draw the best out of them. Therefore, the convergence today is on the relevance and quality of Teacher Education Institutions. The various studies conducted on Teacher Education, namely, Bhatia (1987), Kohli (1974) focused on curriculum revision in accordance with societal needs. Studies conducted by Trivedi (1966), Joshi (1974), Panchal (1977), focused on innovation practices in Secondary Teacher Training Institutions. Studies conducted by Dash (1985) focused on the development of Teacher Education institutions in terms of quality & social services. A Study conducted by Gupta (1985) focused on the problems faced by these institutions. Studies conducted by Vats (1972) focused on administration and management, whereas, Pandey (1969) & SIE (Gujarat) (1969) focused on

the status of Teacher Education Institutions. Study conducted by Yeshodhara and Pour (2010) focused on the Total Quality Management in Education. Articles by Dedhia (1995), Prasad (1998), Bhalla (2012) focused on the perspectives of TQM in Education. A study conducted by Kumar & Manjunath (2012) focused on TQM & productivity.

Quality created by the creator ought to be sustained & nurtured by the created. No institution can remain healthy and survive unless its people work honestly, diligently and continuously. Quality is a construct of vision & mission which demands commitment. Quality is a way of life. It needs inner driving force. It demands a quality culture which depends upon visionary leadership, meticulous organization, healthy environment, & efficient management. Quality is all pervasive. The spirit of quality can be best nurtured by observing it in every bit of act. Quality is in our minds. It springs naturally, beautifully, and blissfully through sensitivity & concern. There can be no quality without substance. There can be no identity without entity. Teacher Education needs to revive & realize its identity.

RATIONALE OF THE STUDY

For a democratic and developing country like India, Education is linked with national development in all facets. The task of building an enlightened, strong, and prosperous nation rests on its children who are to be nurtured. To achieve this goal of national development, mere enrolment is not enough. It is also important what kind of education is provided by the schools. Quality Education demands Quality Teachers. For this we ought to establish Quality Teacher Education Institutions.

Government of India has taken some steps to meet the needs of quality Teacher Education institutions and raise their standard. As envisaged in the latest National Policy on Education and Programme of Action (1986), the centrally sponsored scheme of Restructuring and Reorganizing Teacher Education was taken up in 1987 to create a viable institutional infrastructure, academic and technical resource base for orientation, training and continuous up gradation of knowledge, competence and pedagogical skills of school teachers in the country. National Council of Teacher Education (NCTE) was established in August 1995 with a view to achieve planned and

co-ordinate development of teacher education system throughout the country to regulate and observing standard of Teacher Education.

The focus of the present study is the Total Quality Management (TQM) of Teacher Education. The Investigator wants to find the TQM of secondary teacher education institutions in Gujarat. Various aspects have been considered, such as, a) Infrastructural amenities provided b) professional development of the staff c) leadership qualities of the heads and the administrators d) contribution of institutions in social development, and e) curricular aspects.

Total Quality Management was initially focused in Industries to enhance the quality of Industrial parameters- input, process, throughput , output and market t. In 1992 Edward Demming took the initiative of employing TQM in education field. Although quality in education is a massive challenge, since industries deal with goods of some kind, whereas, education deals with human beings. Commitment to quality makes students proud to learn and work diligently for improvement. Quality improvement is a never ending process.. Hence, insight into quality indices needs to be given due attention.

STATEMENT OF THE PROBLEM

Total Quality Management in the Secondary Teacher Education Institutions

OBJECTIVES OF THE STUDY

- 1) To study the perception of Teacher Educators on TQM of their Institutions.
- 2) To compare the Teacher Education Institutions based on the following criteria:
 - Work Place Culture of the Institution
 - Teaching Learning Scenario of the Institution
 - Administration of the Institution
 - Professional Development of the Teachers
 - Infrastructural Facilities of the Institution
 - Networking with Alumni, Educational Organizations & Industries

HYPOTHESES OF THE STUDY

- 1) There is no significant difference between the workplace culture of the selected Teacher Education Institutions.
- 2) There is no significant difference between the teaching learning scenario of the selected institutions.
- 3) There is no significant difference between the administration of the selected institutions.
- 4) There is no significant difference between the professional development of the teachers of the selected institutions.
- 5) There is no significant difference between the infrastructural facilities of the selected institutions.
- 6) There is no significant difference between the networking with alumni, educational organizations & industries of the selected institutions.

EXPLANATION OF THE TERM

Total Quality Management: It is a quality management strategy, which can be applied as a means for improving student/staff morale, increasing productivity and delivering higher quality services to both internal and external customers.

OPERATIONALIZATION OF THE TERM

Total Quality Management: Perceptions of the teacher educators on TQM in their institutions were studied through a Perception Scale which contained Statements on various aspects of TQM.

DELIMITATION OF THE STUDY

The Study was delimited to the three English Medium Secondary Teacher Education Institutions of Gujarat.

METHODOLOGY

DESIGN

The present study is a descriptive survey.

POPULATION

The population for the present study comprised of all the Teacher Educators of the English Medium Secondary Teacher Education Institutions of one of the States of India.

SAMPLE

Out of nine English Medium Teacher Education Institutions in the State three (Two Private & One Public) were conveniently selected by the investigator. All the Teacher Educators of the selected institutions constituted the sample for the study.

TOOLS FOR DATA COLLECTION

A five point Perception Scale was constructed by the investigator to seek the perceptions of Teacher Educators on TQM in their institutions.

DESCRIPTION OF THE TOOLS

The Perception Scale (Five point Likert Scale) consisted of 53 close ended items based on different dimensions (i) Workplace culture of the institution (15 items), (ii) Teaching learning scenario of the institution (15 items), (iii) Administration of the institution (6 items), (iv) Professional development of teachers (5 items), (v) Infrastructural facilities in the institutions (9 items) & (vi) Networking with alumni, educational organizations & industries (3 items).

At the end there was an open ended item on suggestions of Teacher Educators for enhancement of TQM in their institutions.

DATA COLLECTION

The investigator administered the perception scale on the Teacher Educators.

DATA ANALYSIS

The responses of the teacher educators were analyzed quantitatively using frequency & percentage. The suggestions for enhancement of TQM were analyzed qualitatively using content analysis technique .

FINDING S OF THE STUDY

Findings of the study have been presented institution-wise as follows:

A. Teacher Education Institution -1

1. Workplace Culture of the Department

- 1) 50% of the respondents have perceived that the teachers always seek new ideas, 40% often, whereas 10% sometimes.
- 2) 30% of the respondents have perceived that there is always an ongoing collaborative work across subject areas, whereas 70% often.
- 3) 60% of the respondents have perceived that teachers' ideas are always listened to in the institution, 30% often, whereas 10% sometimes.
- 4) 80% of the respondents have perceived that faculty meetings are always conducted to solve educational problems, whereas 20% often.
- 5) 70% of the respondents have perceived that most of the teachers are always working as hard as they can, in meeting high educational standards, whereas 30% often.
- 6) 70% of the respondents have perceived that all the teachers are never working as hard as they can, in meeting high educational standards, whereas 30% rarely.
- 7) 70% of the respondents have perceived that they always feel some personal responsibility when institutions' goals are not met, 20% often, whereas 10% sometimes.
- 8) 20% of the respondents have perceived that teachers always coordinate among themselves across subject areas, 50% often, 10% sometimes, 10% rarely, whereas 10% never.
- 9) 60% of the respondents have perceived that classes are always conducted regularly and sincerely by the teachers, whereas 40% often.
- 10) 40% of the respondents have perceived that the teachers always have excellent content/method mastery, 30% often, whereas 30% sometimes.
- 11) 30% of the respondents have perceived that internal quality assurance cell is always functional, 40% often, 20% sometimes, whereas 10% never.
- 12) 40% of the respondents have perceived that interdisciplinary research is always promoted, 20% often, 20% sometimes, whereas 20% rarely.

- 13) 50% of the respondents have perceived that institution is always has a healthy and conducive teaching learning environment, 30% often, whereas 20% sometimes.
- 14) 50% of the respondents have perceived that grants are always being utilized optimally, 20% often, 20% sometimes, whereas 10% rarely.
- 15) 40% of the respondents have perceived that institution sometimes contributes in meeting educational development challenges in society, 40% rarely, whereas 10% never.

2. Teaching-Learning Scenario of the Department

- 1) 50% of the respondents have perceived that the teachers always seeks new ideas, 40% often, whereas 10% sometimes.
- 2) 30% of the respondents have perceived that there is always a ongoing collabrative work across subject areas, whereas 70% often.
- 3) 60% of the respondents have perceived that teachers' ideas are always listened to in the institution, 30% often, whereas 10% sometimes.
- 4) 80% of the respondents have perceived that faculty meetings are always conducted to solve educational problems, whereas 20% often.
- 5) 70% of the respondents have perceived that most of the teachers are always working as hard as they can, in meeting high educational standards, whereas 30% often.
- 6) 70% of the respondents have perceived that all the teachers are never working as hard as they can, in meeting high educational standards, whereas 30% rarely.
- 7) 70% of the respondents have perceived that they always feel some personal responsibility when institutions' goals are not met, 20% often, whereas 10% sometimes.
- 8) 20% of the respondents have perceived that teachers always coordinate among themselves across subject areas, 50% often, 10% sometimes, 10% rarely, whereas 10% never.
- 9) 60% of the respondents have perceived that classes are always conducted regularly and sincerely by the teachers, whereas 40% often.

10) 40% of the respondents have perceived that the teachers always have excellent content/method mastery, 30% often, whereas 30% sometimes.

11) 30% of the respondents have perceived that internal quality assurance cell is always functional, 40% often, 20% sometimes, whereas 10% never.

12) 40% of the respondents have perceived that interdisciplinary research is always promoted, 20% often, 20% sometimes, whereas 20% rarely.

13) 50% of the respondents have perceived that institution is always has a healthy and conducive teaching learning environment, 30% often, whereas 20% sometimes.

14) 50% of the respondents have perceived that grants are always being utilized optimally, 20% often, 20% sometimes, whereas 10% rarely.

15) 40% of the respondents have perceived that institution sometimes contributes in meeting educational development challenges in society, 40% rarely, whereas 10% never.

3. Administration in the Department

1) 50% of the respondents have perceived that the teachers always seeks new ideas, 40% often, whereas 10% sometimes.

2) 30% of the respondents have perceived that there is always a ongoing collaborative work across subject areas, whereas 70% often.

3) 60% of the respondents have perceived that teachers' ideas are always listened to in the institution, 30% often, whereas 10% sometimes.

4) 80% of the respondents have perceived that faculty meetings are always conducted to solve educational problems, whereas 20% often.

5) 70% of the respondents have perceived that most of the teachers are always working as hard as they can, in meeting high educational standards, whereas 30% often.

6) 70% of the respondents have perceived that all the teachers are never working as hard as they can, in meeting high educational standards, whereas 30% rarely.

7) 70% of the respondents have perceived that they always feel some personal responsibility when institutions' goals are not met, 20% often, whereas 10% sometimes.

8) 20% of the respondents have perceived that teachers always coordinate among themselves across subject areas, 50% often, 10% sometimes, 10% rarely, whereas 10% never.

9) 60% of the respondents have perceived that classes are always conducted regularly and sincerely by the teachers, whereas 40% often.

10) 40% of the respondents have perceived that the teachers always have excellent content/method mastery, 30% often, whereas 30% sometimes.

11) 30% of the respondents have perceived that internal quality assurance cell is always functional, 40% often, 20% sometimes, whereas 10% never.

12) 40% of the respondents have perceived that interdisciplinary research is always promoted, 20% often, 20% sometimes, whereas 20% rarely.

13) 50% of the respondents have perceived that institution is always has a healthy and conducive teaching learning environment, 30% often, whereas 20% sometimes.

14) 50% of the respondents have perceived that grants are always being utilized optimally, 20% often, 20% sometimes, whereas 10% rarely.

15) 40% of the respondents have perceived that institution sometimes contributes in meeting educational development challenges in society, 40% rarely, whereas 10% never.

4. Professional Development of the Teachers

1) 40% of the respondents have perceived that professional development programmes are always well organized, 30% often, whereas 30% sometimes.

2) 60% of the respondents have perceived that faculty always goes out for professional development, whereas 40% often.

3) 70% of the respondents have perceived that faculty always have access to resources to facilitate professional development, whereas 30% often.

4) All the respondents (100%) have perceived that professional development programmes always address the needs of students in their classrooms.

5) 60% of the respondents have perceived that professional development has always been sustained & coherently focused on institutions' goals, 30% often, whereas 10% sometimes.

5. Infrastructural Facilities in the Department

1) 10% of the respondents have perceived that method labs are always fully functional, 30% often, 20% sometimes, 30% rarely, whereas 10% never.

2) 30% of the respondents have perceived that classrooms & halls are always adequate & in healthy state, 10% often, whereas 60% sometimes.

3) 60% of the respondents have perceived that library is always resourceful & user friendly, whereas 40% often.

4) 10% of the respondents have perceived that toilets are always adequate & hygienic, 40% often, 10% sometimes, 30% rarely, whereas 10% never.

5) 40% of the respondents have perceived that parking facilities are proper always, 40% often, whereas 20% sometimes.

6) 20% of the respondents have perceived that canteen is often adequate & hygienic, 40% sometimes, 10% rarely, whereas 30% never.

7) 30% of the respondents have perceived that technological integration is always well observed, 40% often, whereas 30% sometimes.

8) 50% of the respondents have perceived that there are sometimes adequate facilities for to meet students with special needs, 20% rarely, whereas 30% never.

9) 30% of the respondents have perceived that guidance & counseling cell is always functional, 60% sometimes, whereas 10% never.

6. NETWORKING WITH ALUMNI, EDUCATIONAL ORGANIZATIONS & INDUSTRIES

- 1) 50% of the respondents have perceived that institution always has networking with apex educational agencies & bodies, 40% often, whereas 10% sometimes.
- 2) 50% of the respondents have perceived that alumni are always well attached irrespective of where they are, whereas 50% often.
- 3) 60% of the respondents have perceived that Institution always has networking with Industries, whereas 40% often.

B. TEACHER EDUCATION INSTITUTION-2

1. WORKPLACE CULTURE OF THE INSTITUTION

- 1) 66.7% of the respondents have perceived that the teachers always seek new ideas, whereas 33.3% often.
- 2) 44.4% of the respondents have perceived that there is always a ongoing collaborative work across subject areas, whereas 55.6% often.
- 3) All the respondents (100%) have perceived that teachers' ideas are always listened to in the institution.
- 4) 77.8% of the respondents have perceived that faculty meetings are always conducted to solve educational problems, whereas 22.2% often.
- 5) 88.9% of the respondents have perceived that most of the teachers are always working as hard as they can, in meeting high educational standards, whereas 11.1% often.
- 6) 66.7% of the respondents have perceived that all the teachers are sometimes working as hard as they can, in meeting high educational standards, whereas 33.3% rarely.
- 7) 77.8% of the respondents have perceived that they always feel some personal responsibility when institutions' goals are not met, whereas 22.2% often.
- 8) 55.6% of the respondents have perceived that teachers always coordinate among themselves across subject areas, whereas 44.4% often.

9) All of the respondents(100%) have perceived that classes are always conducted regularly and sincerely by the teachers.

10) 55.6% of the respondents have perceived that the teachers always have excellent content/method mastery, whereas 44.4% often.

11) 55.6% of the respondents have perceived that internal quality assurance cell is always functional, 33.3% often, whereas 11.1% sometimes.

12) 33.3% of the respondents have perceived that interdisciplinary research is always promoted, 44.4% often, 22.2% sometimes.

13) All of the respondents (100%) have perceived that institution is always has a healthy and conducive teaching learning environment.

14) 66.7% of the respondents have perceived that grants are always being utilized optimally, whereas 33.3% often.

15) 55.6% of the respondents have perceived that institution always contributes in meeting educational development challenges in society, whereas 44.4% often.

2. TEACHING LEARNING SCENARIO OF THE INSTITUTION

1) 55.6% of the respondents have perceived that there is always adequate space for method periods, whereas 44.4% often.

2) 55.6% of the respondents have perceived that the seminars, conferences, workshops conducted are always rich in content, whereas 44.4% often.

3) 88.9% of the respondents have perceived that simulation is always done scientifically, whereas 11.1% often.

4) 88.9% of the respondents have perceived that practice teaching is always done scientifically, whereas 11.1% often.

5) 77.8% of the respondents have perceived that innovations are always respected & promoted in Institution, whereas 22.2% often.

6) 22.2% of the respondents have perceived that publications of faculty are always full of essence, whereas 77.8% often.

7) 22.2% of the respondents have perceived that publications of the Institution are always looked for, whereas 77.8% often.

8) 44.4% of the respondents have perceived that research guidance is always marvelous in institution, 33.3% often, whereas 22.2% sometimes.

9) 33.3% of the respondents have perceived that there is always adequate focus on mixed research methodology, 44.4% often, whereas 22.2% sometimes.

10) 66.7% of the respondents have perceived that Institution always provides courses with local & global perspectives, 22.2% often, whereas 11.1% sometimes.

11) 77.8% of the respondents have perceived that there are always adequate inputs for realizing holistic education, whereas 22.2% often.

12) 22.2% of the respondents have perceived that the graduates from this institution are always domain leaders globe over, 55.6% often, whereas 22.2% sometimes.

13) 66.7% of the respondents have perceived that they constantly work towards improving their classes always, whereas 33.3% often.

14) 44.4% of the respondents have perceived that there always correspondence amongst aims, curricula, mode of transaction & evaluation, whereas 55.6% often.

15) 77.8% of the respondents have perceived that there is always access to high quality curriculum material, whereas 22.2% often.

3. ADMINISTRATION OF THE INSTITUTION

1) 77.8% of the respondents have perceived that administration is always trustworthy, whereas 22.2% often.

2) 55.6% of the respondents have perceived that all the heads always accept their responsibility for continuous development, 33.3% often, whereas 11.1% rarely.

3) 66.7% of the respondents have perceived that Institutional board always looks beyond the current year while making decisions, whereas 33.3% often.

4) 55.6% of the respondents have perceived that the staff selection board is always competent & fair, whereas 44.4% often.

5) 55.7% of the respondents have perceived that affiliating body norms, NCTE & UGC norms are always observed, whereas 44.4% often.

6) 88.9% of the respondents have perceived that institution always has regular inspections from UGC experts, whereas 11.1% often.

4. PROFESSIONAL DEVELOPMENT OF THE TEACHERS

1) 66.7% of the respondents have perceived that professional development programmes are always well organized, whereas 33.3% often.

2) 55.6% of the respondents have perceived that faculty always goes out for professional development, whereas 44.4% often.

3) 55.6% of the respondents have perceived that faculty always have access to resources to facilitate professional development, whereas 44.4% often.

4) All the respondents (100%) have perceived that professional development programmes always address the needs of students in their classrooms.

5) 66.7% of the respondents have perceived that professional development has always been sustained & coherently focused on institutions' goals, whereas 33.3% often.

5. INFRASTRUCTURAL FACILITIES IN INSTITUTION

1) 44.4% of the respondents have perceived that method labs are always fully functional, whereas 55.6% often.

2) 88.9% of the respondents have perceived that classrooms & halls are always adequate & in healthy state, whereas 11.1% often.

3) 77.8% of the respondents have perceived that library is always resourceful & user friendly, whereas 22.2% often.

4) All the respondents (100%) have perceived that toilets are always adequate & hygienic.

5) All the respondents (100%) have perceived that parking facilities are proper always.

6) 22.2% of the respondents have perceived that canteen is often adequate & hygienic, 55.6% sometimes, whereas 22.2% never.

7) All the respondents (100%) have perceived that technological integration is always well observed.

8) 55.6% of the respondents have perceived that there are sometimes adequate facilities for to meet students with special needs, whereas 44.4% often.

9) 33.3% of the respondents have perceived that guidance & counseling cell is always functional, 66.7% often.

6. NETWORKING WITH ALUMNI, EDUCATIONAL ORGANIZATIONS & INDUSTRIES

1) 55.5% of the respondents have perceived that institution always has networking with apex educational agencies & bodies, whereas 44.4% often.

2) 33.3% of the respondents have perceived that alumni are always well attached irrespective of where they are, 50% often, whereas 11.1% sometimes.

3) 88.1% of the respondents have perceived that Institution always has networking with Industries, whereas 11.1% often.

C. TEACHER EDUCATION INSTITUTION-3

1. WORKPLACE CULTURE OF THE INSTITUTION

1) 43% of the respondents have perceived that the teachers always seek new ideas, whereas 57% often.

2) 86% of the respondents have perceived that there is always a ongoing collaborative work across subject areas, whereas 14% often.

- 3) 57% of the respondents have perceived that teachers' ideas are always listened to in the institution, whereas 43% often.
- 4) All the respondents (100%) have perceived that faculty meetings are always conducted to solve educational problems.
- 5) 71% of the respondents have perceived that most of the teachers are always working as hard as they can, in meeting high educational standards, whereas 29% often.
- 6) 43% of the respondents have perceived that all the teachers are sometimes working as hard as they can, in meeting high educational standards, whereas 57% rarely.
- 7) 42% of the respondents have perceived that they always feel some personal responsibility when institutions' goals are not met, 29% often, whereas 29% sometimes.
- 8) 29% of the respondents have perceived that teachers always coordinate among themselves across subject areas, 14% often, 43% rarely, whereas 14% never.
- 9) All of the respondents (100%) have perceived that classes are always conducted regularly and sincerely by the teachers.
- 10) All of the respondents (100%) have perceived that the teachers always have excellent content/method mastery.
- 11) 14% of the respondents have perceived that internal quality assurance cell is always functional, 43% often, whereas 43% sometimes.
- 12) 29% of the respondents have perceived that interdisciplinary research is always promoted, 14% often, 43% sometimes, whereas 14% rarely.
- 13) 14% of the respondents have perceived that institution is always has a healthy and conducive teaching learning environment, 29% often & whereas 57% never.
- 14) 14% of the respondents have perceived that grants are always being utilized optimally, whereas 86% often.

15) 29% of the respondents have perceived that institution always contributes in meeting educational development challenges in society, 14% sometimes, whereas rest no response.

2. TEACHING LEARNING SCENERIO OF THE INSTITUTION

1) 14% of the respondents have perceived that there is always adequate space for method periods, 29% often, whereas 57% sometimes.

2) 14% of the respondents have perceived that the seminars, conferences, workshops conducted are often rich in content, whereas 86% sometimes.

3) 29% of the respondents have perceived that simulation is always done scientifically, whereas 71% often.

4) All the respondents (100%) have perceived that practice teaching is always done scientifically,

5) 43% of the respondents have perceived that innovations are always respected & promoted in Institution, 14% often, whereas 43% sometimes.

6) 14% of the respondents have perceived that publications of faculty are always full of essence, whereas 86% often.

7) 29% of the respondents have perceived that publications of the Institution are often looked for, 42% sometimes, whereas 29% rarely.

8) 43% of the respondents have perceived that research guidance is often marvelous in institution, 14% rarely, whereas 43% never.

9) All of the respondents have perceived that there is often adequate focus on mixed research methodology.

10) 43% of the respondents have perceived that Institution always provides courses with local & global perspectives, 43% often, whereas 14% sometimes.

11) 29% of the respondents have perceived that there are always adequate inputs for realizing holistic education, 14% often, whereas 57% sometimes.

12) 14% of the respondents have perceived that the graduates from this institution are always domain leaders globe over, 14% often, whereas 58% never.

13) 29% of the respondents have perceived that they constantly work towards improving their classes always, 57% sometimes, whereas 14% often.

14) 29% of the respondents have perceived that there always correspondence amongst aims, curricula, mode of transaction & evaluation, whereas 71% often.

15) 86% of the respondents have perceived that there is always access to high quality curriculum material, whereas 14% often.

3. ADMINISTRATION IN INSTITUTION

1) 29% of the respondents have perceived that administration is always trustworthy, 14% often, 43% sometimes, whereas 14% rarely

2) 14% of the respondents have perceived that all the heads always accept their responsibility for continuous development, 29% often, 14% sometimes, whereas 43% rarely.

3) 43% of the respondents have perceived that Institutional board always looks beyond the current year while making decisions, 43% often, whereas 14% sometimes.

4) 44% of the respondents have perceived that the staff selection board is always competent & fair, 14% often, 14% sometimes, 14% rarely, whereas 14% never

5) 29% of the respondents have perceived that affiliating body norms, NCTE & UGC norms are often observed, 14% sometimes, whereas 57% never.

6) 29% of the respondents have perceived that institution always has regular inspections from UGC experts, whereas 71% often.

4. PROFESSIONAL DEVELOPMENT OF TEACHERS

1) 43% of the respondents have perceived that professional development programmes are always well organized, 14% often, whereas 43% never.

2) 29% of the respondents have perceived that faculty always goes out for professional development, 29% often, whereas 42% sometimes.

3) 29% of the respondents have perceived that faculty always have access to resources to facilitate professional development, 29% often, whereas 42% sometimes

4) 57% of the respondents have perceived that professional development programmes always address the needs of students in their classrooms, whereas 43% often.

5) 43% of the respondents have perceived that professional development has always been sustained & coherently focused on institutions' goals, 29% often, whereas 29% sometimes.

5. INFRASTRUCTURAL FACILITIES IN THE INSTITUTION

1) 14% of the respondents have perceived that method labs are always fully functional, whereas 14% often, 44% sometimes, 30% rarely, whereas 14% never.

2) 14% of the respondents have perceived that classrooms & halls are always adequate & in healthy state, whereas 86% often.

3) 29% of the respondents have perceived that library is always resourceful & user friendly, whereas 71% often.

4) 57% of the respondents have perceived that toilets are always adequate & hygienic, whereas 43% often.

5) 29% of the respondents have perceived that parking facilities are proper always, 71% often.

6) 43% of the respondents have perceived that canteen is often adequate & hygienic, 43% sometimes, whereas 14% rarely.

7) 43% of the respondents have perceived that technological integration is always well observed, whereas 57% rarely.

8) 29% of the respondents have perceived that there are often adequate facilities for to meet students with special needs, 57% sometimes, whereas 14% rarely.

9) 43% of the respondents have perceived that guidance & counseling cell is often functional, 57% rarely.

6. NETWORKING WITH ALUMNI, EDUCATIONAL INSTITUTIONS & INDUSTRIES

1) 29% of the respondents have perceived that institution often has networking with apex educational agencies & bodies, 14% often, whereas 57% never.

2) 14% of the respondents have perceived that alumni are always well attached irrespective of where they are, whereas 86% often.

3) 43% of the respondents have perceived that Institution always has networking with Industries, whereas 57% often.

D. COMPARITIVE STUDY OF THE TQM OF ALL THE THREE INSTITUTIONS

TABLE 1: WORK CULTURE OF THE INSTITUTIONS

Institutions	Always	Often	Sometimes	Rarely	Never
Institute of Education-1	43.33%	29.33%	12.66%	7.33%	7.33%
Institute of Education-2	65.18%	25.90%	6.60%	2.20%	0
Institute of Education-3	48.57%	23.80%	11.40%	7.61%	4.76%

It is evident from **Table 1** that, of the three Institutions, Institution -2 has got the best (i.e. always 65.18% & often 25.90%), next in the sequence are the Institute-1 (i.e. always 43.33% & often 29.33%) and Institute-3 (i.e. always 48.57% & often 23.80%).

TABLE 2: TEACHING LEARNING SCENERIO OF THE INSTITUTION

Institutions	Always	Often	Sometimes	Rarely	Never
Institute of Education-1	49.33%	38.66%	11.33%	0.66%	0
Institute of Education-2	56.29%	38.51%	5.18%	0	0
Institute of Education-3	28.57%	36.14%	23.18%	2.85%	3.80%

It is evident from **Table 2** that, of the three Institutions, Institute-2 has got the best Teaching Learning Scenario (i.e. always 59.29% & often 38.51%), next in the sequence are the Institute-1 (i.e. always 49.33% & often 38.66%) and Institute-3 (i.e. always 28.57% & often 36.14%).

TABLE 3: ADMINISTRATION OF THE INSTITUTION

Institutions	Always	Often	Sometimes	Rarely	Never
Institute of Education-1	56.66%	31.66%	6.66%	3.33%	1.66%
Institute of Education-2	66.66%	31.48%	0	1.86%	0
Institute of Education-3	26.19%	33.33%	14.28%	14.28%	11.90%

It is evident from **Table 3** that, of the three Institutions, Institute-2 has got the best Administration (i.e. always 66.66% & often 31.48%), next in the sequence are Institute-1 (i.e. always 56.66% & often 31.66%) and Institute-3 (i.e. always 26.19% & often 33.33%).

TABLE 4: PROFESSIONAL DEVELOPMENT OF THE TEACHERS

Institutions	Always	Often	Sometimes	Rarely	Never
Institute of Education-1	66.00%	26.00%	8.00%	0	0
Institute of Education-2	69.00%	31.00%	0	0	0
Institute of Education-3	20.00%	34.28%	20.00%	17.14%	8.57%

It is evident from **Table 4** that, of the three Institutions, Institution-2 has got the best Professional Development of Teachers (i.e. always 69.00% & often 31.00%), next in the sequence are Institution-1 (i.e. always 66.00% & often 26.00%) and Institution-3 (i.e. always 20.00% & often 34.28%).

TABLE 5: INFRASTRUCTURAL FACILITIES IN THE INSTITUTION

Institutions	Always	Often	Sometimes	Rarely	Never
Institute of Education-1	23.33%	24.44%	32.22%	10.00%	10.00%
Institute of Education-2	66.67%	24.69%	6.17%	0	2.47%
Institute of Education-3	15.87%	49.20%	12.69%	20.64%	1.60%

It is evident from **Table 5** that, of the three Institutions, Institute-1 has got the best Infrastructural facilities (i.e. always 66.67% & often 24.69%), next in the sequence are the Institution-2(i.e. always 15.87% & often 49.20%) and Institute-3 (i.e. always 23.33% and 24.44%)

TABLE 6: NETWORKING WITH THE ALUMNI, EDUCATIONAL ORGANIZATIONS AND INDUSTRIES

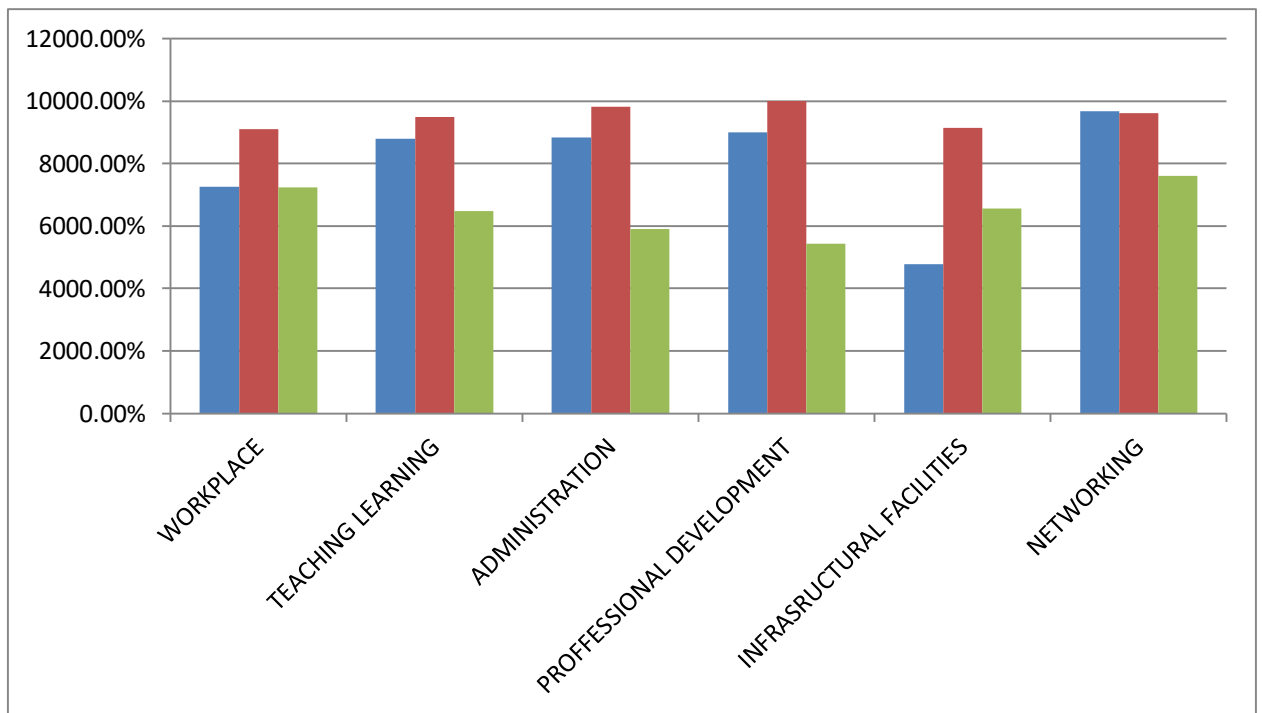
Institutions	Always	Often	Sometimes	Rarely	Never
Institute of Education-1	53.33%	43.33%	3.34%	0	0
Institute of Education-2	59.25%	37.05%	3.70%	0	0
Institute of Education-3	19.05%	57.15%	4.76%	0	19.04%

It is evident from **Table 5** that, of the three Institutions, Institute-1 has got the best Networking with the alumni, educational organizations and industries (i.e. always 53.33% & often 43.33%), next in the sequence are the Institute-2 (i.e. always 59.25% & often 37.05%) and Institute-3 (i.e. always 19.05% & often 57.15%).

EMERGING SCENARIO

- 1) Workplace Culture, Teaching Learning Scenario, Administration, and Professional Development of the Institute-2 have been found to be greatest amongst the three institutions, whereas, next in the sequence are Institute-1, and then Institute-3.

- 2) Infrastructural facilities have been found to be higher in both the Private Teacher Education Institutions as compared to the Public Institution.
- 3) Networking has been found to be greater in the Public Institution than that of both the Private Teacher Education Institutions.



IMPLICATIONS OF THE PRESENT STUDY

- 1) There is a need to improve upon the work culture of both the Public & Private Teacher Education institutions.
- 2) There is a need to develop healthy Teaching –Learning Scenario.
- 3) There should be due focus on the Professional Development of Teachers of both the Public & Private Teacher Education Institutions
- 4) There is an immediate need to enhance the infrastructural facilities in the Teacher Education Institutions, more so in the Public Institutions.
- 5) All the Teacher Education Institutions ought to have complete networking.

6) There should be networking with the other institutions, educational agencies, industries and community as a whole. Teacher Education Institutions must be aware of & develop the skills the schools need.

7) Teacher Education Institutions must be accountable for the quality of education they are providing.

CONCLUSION

Total Quality Management of Indian Teacher Education is a matter of immediate concern. There is a need to enhance the work culture of the Teacher Education Institutions in terms of all the parameters of the Education System- Input, Process & Output. Teacher Education Capacity & Throughput Dichotomy should be resolved. There should be no Public & Private Dichotomy in Teacher Education norms. There is an immediate need to enhance the administration, infrastructure, work culture, teaching learning scenario, and networking of the Teacher Education Institutions. Dedicated strategies should be employed for the development of Quality Teacher Education Institutions.

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Universal Happiness

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The present Paper reflects on Transformation of People into Human Becoming, Beings & De-becoming. The Human Development Index & Gross Happiness Index have been presented. Status of Health , Growth Rate of various States in India & HDI have been reflected. Heart & Brain Entrainment Ratio, Influence of Surrounding & Thought and beauties of laughter have been brought out. Finally the Paper presents Health & Happiness Concerns. Despite the policies & programs on Environment & Health, the Plants, Trees and greenery is disappearing. Children keep munching the junk food, non-stop. Adults keep drinking the tea & coffee, count-less. No research rigor is required to know the health status of India. The street roads full of Pan & Tobacco spits, full of all sorts of roughage, pits & ditches reveal a lot of the Psycho-Somatic State. Junk food, green washed vegetables & fruits, medical malpractices, all sorts of pollution narrate a lot of the health & happiness of India. Could the Education, Society , State & Judiciary converge and reflect on the health issues? No government policies will work, unless each & every Indian is health educated & accountable. Gross Happiness ought to be the priority of Indian Government.

Wonderful are the beauties of nature. Despite diversity, each and every form of creation is manifestation of the one perfect complete evolving eternal whole as *Uni-verse*, that is, *one verse*. The entire Universe is manifestation of one and the abode of one. Universe & Happiness are Synonyms. Any deviation & deformity is self invited.

Here are the reflections on a Doctoral Thesis (Mecwan, 2008). The investigator has formulated a theory of properties to account for the findings. On behalf of Hermann Hesse she pleads that

1. "The ultimate aim of most of the philosophical systems, as revealed through researches carried out in the past , is self realization. Whereas, Hesse's philosophy goes beyond realizing

the self and aims at de-becoming of the self. This is also close to the Indian concept of *Neti Neti*." *The question is the brain has one billion nerve cells which are capable of forming 10⁸⁰⁰ interconnections, tremendous memory & interconnections. I think there is more of the need to reorganize than to de-learn. Our storage capacity is tremendous. Why to de-learn and de-become, Why to tend to nothingness? Is life merely the cycle of be, being, becoming and then de-becoming? Wherefrom the novel characters of Hermann emerge & where are they leading us to? What is the essence?*

2. "Ideals, norms and imposed values come in the way to a person's development. Hesse professes the existential view of a person's freedom and choice which goes against the aim of education as value inculcation..." *Now the question is which philosophy dictates the fundamentalism of ideals, norms and values. Philosophies against fundamentalism, if substantive are highly respected. Every school of thought is for post-conventional, autonomous, creative, indigenous, harmonious living styles. Original production through all degrees of freedom is the character of education. Personalized Education, Child centered education are in tune with the Existentialism of Hesse.*

3. "The learner alone is the source and force for creating his own wisdom. Hesse thus proposes education from the self, by the self and for the self." *What is self? How to realize the self awareness in the context of whole self awareness?*

4. "Purgation of emotion becomes possible in experiences which ultimately lead one to free himself from any emotional bondage. Education as professed by Hesse should free the learner from past memories and future expectations." *Such an expectation of Hesse is highly respectable. But how to liberate the consciousness from the turbidity of memories & springs of expectations?*

5. "Hesse's opinion that when one chooses and decides for himself, his authentic life starts. It becomes his responsibility to bear the consequences of his actions." *The emerging question is how authentic is the life of a man? Is the person only accountable for what his life has in store for him? How do we test the validity of the proposition that "Man is what he chooses."*

6. "One of the emerging theses of the study gives a notion that Relations flush out the psychological imbalances. Emotional upheavals get purgated through experiential encounters with characters of substance." *The emerging question is how a social being can be over and above the society, while not being against the society?*

How according to Hesse education is a series of projects undertaken by a person for learning Life? Which are the characteristics of the ladder of self education? Putting "de" in preposition of systemizing, passioning, & becoming is a very challenging task. Equally challenging are awakening and individuation. How to be over and above the systems even while constituting systems? How to do away with passions, possessions and obsessions? How to integratively reconcile to realize de-becoming- a state of nothingness? How the distorted, fragmented self can recreate and awaken itself? Hesse seems to be traveling through fantasy and fiction. Realities

are perceptually different. However realizing individuation and harmony with the self, people and nature are fully desirable.

The human development has been analytically and comprehensively charted by the investigator through the various characters, in the projected novels, their relationships and organizational principles. The path ways of different characters through various constellations and where they arrive at has been well depicted. Various educational dimensions have also been derived analytically by the investigator, emerging from Hesse's Philosophy. It is one of the rare philosophical studies which refreshes our sensitivities to the realities of life traveling with the characters of the novels created by Hermann Hesse, and educational implications of his philosophy flowing all through. His beliefs about metaphysics, ontology, epistemology and axiology have been very well presented by the investigator through thorough analysis of his selected novels.

Human are those men and women, where, ideas spring, hearts beat, motor creates, spirit reins, and the self resonates with the universe & beyond. We always look for universe, where, flower-essence- fragrance and the entire aura is one, Pipe- Piper- Piped-environ become one, Jyot- Jyoti- Jyotsna are eternal & one, Vytha- Vyathit- Vyath-Sick & Society are one, Learners emulate their Teachers to live & to die day & night, Little birds fly together full height, Magnanimous Elephants Dance together fully synchronized, Lions of the forest roar together to secure everyone at their full might. Happiness is a state of full immersion.

Parameters of Happiness

Is happiness measurable? It is not scalable, but, qualitatively perceivable & feel able. Are physically fully healthy people happy? May or may not be. Are mentally healthy people happy? May or may not be. Are economically well to do happy? May or may not be. Are spiritually deep people happy? May or may not be. Could there be a state in India when the entire State is governed & administered by Rajrishis. It is high time that the Rajrishis only govern & administer India. A film "BHHOT NATH RETURNS" very well depicts the present state & scenario of India.

Status of Health in India

Healthy nations require healthy human beings and healthy environment. Fully healthy human being in the 21st Century is a figment of imagination. There are evident physical & mental disorders. There is degeneration of environment. The ultra modern society has regressed into many imbalances. There is an alarming number of underweight children in India. Fast food is resulting into unimaginable diseases. Sparrows & Honey Bees are disappearing. Forests of Multi-Storey Buildings are in the perceptible range. Rivers are polluted. Water is polluted. Air is polluted. Soil is polluted. The health issues are countless. Starting from pre-natal health, across

the country very few women are healthy during the pregnancy period, physically and mentally. It affects the off-springs adversely. The status of soil in which the seeds are sown, the irrigation water, the fertilizers, the atmospheric air, all have degenerated. The food stuff available in the market is largely contaminated. The green washed vegetables and fruits are readily available in any season, in the markets.

The drastic change in eating habits, especially of the teen agers and youth, is another alarming issue. The most liked food of the present generation is constituted of Pizzas, Pastas, Burgers, Frankie, Hot Dogs, artificial Chinese food & Foreign food. The use of fibers in the preparations of packed fast food causes lot of digestive problems. We have largely forgotten the Indian Cultural Heritage. Our tastes have changed as per the tastes of the producers. A sizable number of Indians are vitamin D and B12 deficient. Most of the cold drinks are highly opaque. We do not know what we are taking in. There is over dose of preservatives.

Many a people have psycho-neurosis, obsessive neurosis, insomnia, depression, hyper-tension, aggression, stress & strain. Artery blockage, Diabetes & Tuberculosis are very frequent. There is alarming fall in the heart & brain entrainment ratio. The life styles have changed. The digital age is suffering from many health hazards. The loss of eye power at an early age is more due the use of electronic gadgets than any other cause.

The modern kitchens seem to be beautiful in face but create many health problems. The use of microwaves, non-sticky cook-wares and electronic appliances rather than necessity has become a fashion & prestige symbol. Over use of microwaves results in removal of nutritive ingredients of the food.

The reversal of the proverb 'Health is Wealth' --- 'Wealth is Health' seems to be the major contributor towards all kinds of health issues. For revival of health, we should go back to our old politeness and ancient culture, namely, simple living & high thinking, with naturalism, naturopathy & full Yoga. The present paper focuses on Human Development Index, Heart and Brain Entrainment Ratio and the benefits of Yoga and Laughter.

Human Development Index

The **Human Development Index (HDI)** is a composite statistic of life expectancy, education, and income indices.

Published on 4 November 2010 (and updated on 10 June 2011), starting with the 2011 Human Development Report the HDI combines three dimensions:

- A long and healthy life: Life expectancy at birth
- Education index: Mean years of schooling and Expected years of schooling

- A decent standard of living: GNI per capita

In its 2010 Human Development Report, the UNDP began using a new method of calculating the HDI. The following three indices are used:

$$1. \text{ Life Expectancy Index (LEI)} = \frac{\text{LE} - 20}{82.3 - 20}$$

$$2. \text{ Education Index (EI)} = \frac{\sqrt{\text{MYSI} \cdot \text{EYSI}}}{0.951}$$

$$2.1 \text{ Mean Years of Schooling Index (MYSI)} = \frac{\text{MYS}}{13.2}$$

$$2.2 \text{ Expected Years of Schooling Index (EYSI)} = \frac{\text{EYS}}{20.6}$$

$$3. \text{ Income Index (II)} = \frac{\ln(\text{GNIpc}) - \ln(100)}{\ln(107,721) - \ln(100)}$$

Finally, the HDI is the geometric mean of the previous three normalized indices:

$$\text{HDI} = \sqrt[3]{\text{LEI} \cdot \text{EI} \cdot \text{II}}$$

LE: Life expectancy at birth

MYS: Mean years of schooling (Years that a 25-year-old person or older has spent in schools)

EYS: Expected years of schooling (Years that a 5-year-old child will spend with his education in his whole life)

GNIpc: Gross national income at purchasing power parity per capita

Growth Rate of various States in India & HDI

Progress has picked up unprecedented pace during the last 8 years. Haryana is a leading State in the country among the big States in per capita income. The per capita income of Haryana was 1,09, 227 in 2011-12, whereas, the per capita income is estimated of Rs. 1,28, 341 during 2012-13. The economic growth of the State is 9.9%, which is the highest of India. Haryana is the first State to provide safe drinking water facilities all over the State. The per capita expenditure in the State on the health services during the year 2011 was Rs. 490.28. (Hindustan Times, Delhi, Sunday, Feb. 3, 2013). Haryana was carved out of Punjab on Nov. 1, 1966. Having emerged as a path-breaker and trend setter, Haryana has traversed a great distance.

But, has the State really made a tremendous growth in totality? What are the Education Index and Life Expectancy Index of Haryana State? What is the level of internal security & external security in Haryana? What is the level of equity & equality in Haryana? What is the Human Development Index in Haryana? What is the over all State Development Index? What is the relative status of agriculture and industry in Haryana? How the GDP and HDI of the State could be enhanced? In which domains Haryana could be emulated by the other States of India and vice-versa?

Kerala State has always been excelling literacy rate. But, has the State realized sustainable development. Karnataka & Andhra Pradesh are the leading States on Information Technology implementation. But what is the Human Development Index in these States? What is the present status of Punjab on HDI which has been a prosperous State? What is the status of North East of India on HDI? It is high time for India to produce State-wise Human Development Index.

Gross Happiness Index

All the entities in this universe are interrelated and interdependent. Gross Happiness presumes wholistic universal development. Wholistic Universal Development demands each & every entity to be in healthy state & configuration having healthy congregation & constellation. Universe health, that is, health of all the constituents of the universe, that is, human beings, planets, stars, atmosphere, plants, animals and all is interrelated & interdependent. Society can be called Society where every individual self resonates with the environment generating a realm of truthfulness, compassion and forbearance emerging into Satyam Shivam Sundram. In this realm there is no space for arrogance which is felt as antithesis of etiquettes & humility. Gross Development demands equity of investment and income. There is immense central tendency irrespective of variability. Every one is respectful & respected. There is decency, discipline and decorum in every domain of universe. There is democracy in Ruth, rather than, mechanistically flowing with the hands count. Every raise of hand & rise of head is truly feeling & expressing. Margins integrate into the full. Where we like to possess only as much as is required to sustain happy, healthy & hilarious life. Where renunciation over powers passions, possessions and obsessions, where return on investment is measured in terms of sphere welfare, where Human Development Index is the prime index of development in the ocean of Gross Domestic Product (GDP), there resides the beauty of universe. There is a need to workout Universe Development Index inclusive of Globe Development Index. Is it within the purview of human beings? Let us search & research. The emerging courses of human ecology & sustainable development tend to realize the vision of Swami Vivekananda.

Gross Happiness Index could be a geometric mean of Full Life of every entity, living & non-living, Gross national income at purchasing power parity per capita , & its judicious on each & every investment. Such mathematical computations are beyond the capabilities of ICORE or

GERA. But, there is an emerging question. How could this universe be a healthy constellation of all?

Bipolarity Intelligibility

The universe is essentially bipolar in nature. Bipolarity is the basis for the sustainable development of the universe. This bipolarity needs to be properly conceived. Bipolarity is essentially the basis for genesis, creation & recreation of life & living, designing & sustainable development. It is not difficult to research the misperceptions of the beauties of nature. Beauties of nature need to be respected & appreciated. But, our obsessions for possession are destroying the beauties & bounties of the nature. Could we realize detached love for the nature through unconditional love for all the entities? Instead we have started treating the nature as a resource rather than adoring Thee as Source. Resource is endowed by the nature. Usage of resource has been presumed to be the prerogative of man. Man likes to be treated as a source than resource. The Apex Administrator of India is the Ministry of Human Resource Development.

Heart brain entrainment

All the following excerpts related to heart & brain functioning have been taken from the write ups on Heart & Brain available on the Internet.

When a person feels content or calm, his brain-wave patterns entrain with his heart-rate variability patterns. A measurable synchronicity between the heart rate and brain waves occurs. The heart, not the brain, sets the pace. When a person becomes fearful, this synchronicity is broken off. The heart rate variability patterns become jagged and disordered, but more significantly, the brain wave patterns become unrelated to the heart rate patterns. When fearful or under stress, brain waves cease to be entrained with the heart-rate variability patterns. When the fear is over, the brain's wave patterns can again become entrained with the heart's wave patterns.

Even when *wave* patterns are not in sync, the *nerves* remain connected

During times of fear or stress, the heart-*nerves*, either via the spine or vagus nerves, remain connected to the brain – unlike the heart-brain *wave* entrainment, which disconnects. Whether scared *or* happy, waking or sleeping, these nerve signals continue to tell the brain how the heart is feeling (resonant or not), and how much.

We have not yet discussed the *quantity*, the size, of the heart signals. Briefly, the *amount* of signal getting to the brain from the heart-nerves appears to determine the *degree* to which neurotransmitters are released. We hypothesize that the size of these heart-nerve signals (the

quantity, the “how much”) that the heart continues to send to the brain indicates the *level* of emotional energy that is available at the moment.

Whether the brain is using dopamine or adrenaline, whether the brain and heart waves are entrained or not, the amount, the size, the “how much” of the electrical signals that travel from the heart-nerves to the brain seems to determine how *much* of a response the brain can muster: how *much* adrenaline or dopamine can be put into play.

The decision to disconnect the wave patterns is made by the brain: a hypothesis

At a certain level of danger, negative thinking, anxiety – or in the situations that are met with a dissociation response – the brain wave patterns disconnect from their entrainment with the heart wave patterns. Based on our own research, this wave pattern disconnect is a brain-based decision, and not a heart-based phenomenon. However, with regard to the heart-nerve’s sympathetic and vagus nervous system signals, the heart is ever sending electrical signals to the brain. In an emotionally healthy person, the heart-nerves’ signals to the brain are never turned off. The heart cheerfully sends information and energy to the brain, whether the brain is bouncing around in a panic or calmly enjoying the situation. If the heart is *not* electromagnetically resonating with inner and outer experiences, it favors the spinal nerves, the ones that stimulate the sympathetic nervous system. If the heart is resonating with ongoing events, it favors the vagus nerve, the parasympathetic connection. Notice that I said the *emotionally healthy* heart continues to send nerve information to the brain even when the brain works itself into a dither and disconnects its wave patterns from those of the heart.

The emotionally healthy heart is like the loving mother who humors her child with unconditional love and support even when the brilliant child indulges in unnecessary panics over upcoming college-entrance board exams. The heart’s love is always sending nerve signals to the brain, humoring the brain, enjoying its little eccentricities. It is the brain, the home of the ego – the source of fear – that disconnects its *wave* properties from the heart *wave* patterns when the going gets tough. The emotionally healthy heart, via *nerve signals*, remains ever true.

Decrease in the amount of heart-nerve signal

The *amount* of the heart’s nerve signals to the brain may begin to diminish at some point. This decline may occur when overall health of the body is decreasing or when the heart has begun to lose interest in life. Sometimes, when the sheer joy of living decreases abruptly, as can happen, for example, when a long-term spouse dies, the signals from the heart may abruptly become significantly diminished. The remaining spouse may soon die. Based on Asian medical theory, when the *amount* of heart-nerve signals declines, when the joy of living decreases, the *capacity* for life also declines. When the amount of heart nerve signals decline, the potential levels of release of the two main neurotransmitters, dopamine and adrenaline, diminish. Diminished release of dopamine or adrenaline results in physical and emotional slowness, depression and/or anxiety.

Depression from an insufficient heart-nerve signal

As the *amount* of heart-nerve signals declines, so that the *amount* of dopamine release declines, depression can ensue. In this case, the heart and brain waves *may be* in sync, but because of a diminished amount of heart-nerve signals to the brain, there is not *enough* dopamine release to trigger responses to sensory and thought stimuli. A person in this condition may look at the bright blue sky or the beauty of a rose and have a minimal or not detectable response. When the heart's electromagnetic field is diminished, the amount of heart-nerve signal going to the brain is diminished, and so the amount of dopamine released by the brain is diminished. The emotional capacity for response is diminished.

Anxiety from an insufficient heart-nerve signal

Even if the *amount* of heart-nerve signals declines, fear-inducing situations *can still* cause a loss of entrainment between the heart and brain wave patterns. However, if the size of the heart-nerve signals is diminished, the brain has a correspondingly diminished capacity for mounting its adrenaline response even though the heart and brain waves patterns become disconnected. If the amount of heart nerve signals decline, then when the brain shifts to sympathetic (fear) mode, the mind may only be able to create an impotent anxiety response because of an insufficient *level* of adrenaline to rally the body to action. In anxiety, negativity and fear-based thinking dominate the brain; the heart and brain wave patterns are not in sync: the brain is disconnected from heart feelings. But in some cases of anxiety, the *level* of adrenaline release is diminished. This insufficiency of adrenaline may occur if the amount of heart signal is insufficient.

The lowered level of adrenaline release is not large enough to stir the body to action. The fear whirls pointlessly around in the head, but no actions are taken to battle the source of the fear. Anxiety is the name of this condition, in which fear dominates the mind *but* the body is not able to mount a big enough response to either challenge the threat or rein in the negative thinking. The *amount* of heart-nerve signal determines the *quantity* of mental and chemical response that the body can produce. The mind, while able to produce a fear or a happiness campaign by being either disconnected or connected, respectively, to the heart's wave patterns, does not ultimately control the amount of energy available to that campaign. The *amount* of *heart* involvement, sent via the heart nerves, may be the key determinant for how *much* of a response the body can produce.

Dopamine and the heart

The heart is always fine-tuning its dopamine/adrenaline balance. Both adrenaline and dopamine are always in use in the heart. Every microsecond, in response to thoughts and to internal and external sensory perceptions, the heart is moving slightly more towards one nerve set and its neurotransmitter or towards the other. The degree and manner of heart wave resonance with thoughts and with internal and external sensory perception determines the moment to moment balance between adrenaline and dopamine. If the heart is more resonant, the neurotransmitter balance shifts more towards dopamine. If the heart is less resonant or emotionally shut down, the neurotransmitter blend shifts more towards adrenaline. The ratio

of adrenaline to dopamine at any given second determines *how* the brain will interpret the incoming sensory information at that moment, and the manner in which the brain will respond. Up until now, I've only mentioned dopamine as a paired neurotransmitter with adrenaline. In fact, dopamine is not just the "opposite" of adrenaline. Dopamine is the main driver of the heart. If the brain perceives a reason to be fearful, the heart's dopamine triggers adrenaline and a tilt towards the *sympathetic* nervous system's connection to the brain. If the brain is not fearful, the heart's basic dopamine supply triggers more dopamine and a tilt towards the *parasympathetic* nervous system's connection to the brain. Dopamine is the primary activator of the heart. Dopamine levels in the heart determine the vigor of the neural signals to the brain. Dopamine levels in the heart are determined by the amount of joy and the amount of resonance that the heart is feeling. The sheer joy of being alive is the energy that allows the heart to resonate and initiate the primary dopamine release for the heart.

Dopamine does not cause joy. Joy causes the release of dopamine. The greater the joy, the greater the level of primary dopamine in the heart. Whether a person is happy or sad, he can always resonate with the sheer joy of being alive. Whether a person is in the midst of battle or in solitude, the sheer joy of living can be present behind his fear or his tranquility. Joy and the heart's ability to resonate are very nearly the same. The former is more purely energetic, the other is the more physical manifestation of the joy energy.

Just like light, which has a wave pattern and a photon, human joy has a purely vibratory component and a more tangible component. Just as the astral form of light does not require a photon, the vibratory component of joy exists whether the body exists or not. For example, light has two components: the light "wave" and the photon. The wave and the photon are considered to be equal and simultaneous, in terms of energy, but the photon is the denser, more tangible, more "crude" half of the combo. Like light's relatively more tangible half, the photon, the electromagnetic wave of the resonating heart is the denser, more crude, more tangible component of joy. When the heart is resonating with the joy of being alive, it releases dopamine to itself.

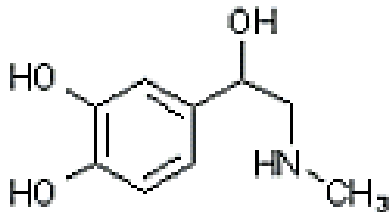
That dopamine then energizes the other heart responses. This underlying source of dopamine is what powers the heart's balancing act between the dopamine and adrenaline that flows to the brain. The core dopamine in the heart drives the dopamine and adrenaline systems in the rest of the body. The dopamine stashes in the head, in the substantial area and other parts of the brain, are merely satellite supplies of dopamine. They are activated and dopamine is released into various parts of the brain, when the heart instructs the brain to respond to sensory events with joy. The core level of dopamine prepares a person, in body and brain, to be a feeling, sentient being.

The heart and the dissociation response

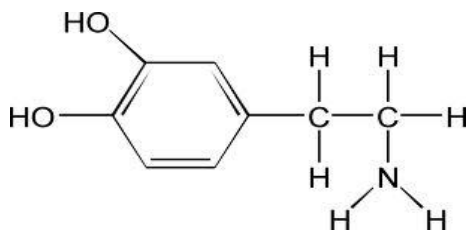
This core level of heart dopamine is only diminished when a person ceases to feel the sheer joy of being alive or while dissociating from his heart. Also, the core level of dopamine diminishes when a person prepares to die. The dissociation response shuts down the ability to *feel*. The dissociation response prepares an animal for death. In PDers, heart SPECT scans show that

dopamine receptor activity is significantly diminished. PDers have trouble feeling. We might say that some PDers have spent their life fending off death or getting ready to die.

Structures of Adrenaline & Dopamine



Adrenaline



Dopamine

Influence of Surroundings & Thought

Experiment on Water Crystals

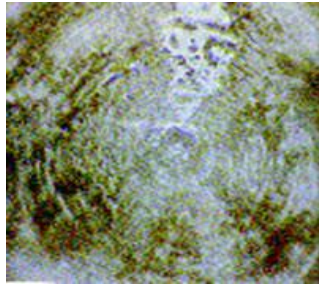
Water crystal experiment conducted by Dr. Masaru Emoto in Japan

It is a direct manifestation of how people's minds influence matter.

a. Water Crystal Exposed to the Song Entitled, "Silent Night"



b. Water Crystal Exposed to Heavy Metal Music



This experiment proves that water is influenced by its surroundings and ambience it is in. Human body is 80% water. Then how much do we affect and are being affected by the environment. Truthfulness, Compassion and Tolerance have been found to have profound effect on all of us, wholistically.

People who practice yoga gain a peaceful and tranquil self reaching healthy & blissful state. It is evident through a review study. Data were collected by review of Falun Dafa books, Journals of Falun Dafa, Scientific Journals, Scientific Conferences, related Dissertations, internet materials, and also from interview by practitioners of Falun Dafa.

Survey researches done on Falun Gong specifically have showed a high level of reported effectiveness in curing Physical and mental illnesses. Health benefits are a commonly expressed reason for being attracted to Falun Gong.

Dr. Lili Feng Professor of immunology and molecular biology at Baylor College of Medicine in Texas examined the life span and function of white blood cells, neutrophils in particular. Her preliminary results showed that the in-vitro life span of neutrophils from Falun Dafa practitioners was 30 times longer than that of control groups and they also functioned better. This indicates enhanced immunity and health benefits for certain diseases. Her paper concludes: "Our studies suggest that Falun Gong practice alters immunity, cell death, and protein metabolic rate in a systemic fashion.

Dr. Guohua Liu, a biophysicist from California reported that the contraction force of cultured cardiac cells was increased to 175% after several minutes' exposure to the energy field generated by Falun Gong practitioners while they were practicing the exercises.

Dr. Jason Liu, the founder and Director of Mind-Body Science Institute and Center of Brainwave-Meridian Therapy (BMT) In "The 65th Annual International Council of Psychologists (ICP)" Conference was held at the Westgate Hotel in San Diego from August 11 to 14, 2007. **Dr. Jason Liu** and **Dr. Gwendalle Cooper** published a study entitled "Study at Cellular Level on the

psychological and Physical Healing Effects of Falun Dafa Meditation". His data shows practicing Falun Dafa helps significantly in reducing practitioners' mental stress, improving their mental and physical health, healing disease, enhancing mental and moral levels, and developing human potential and intelligence. Dr. Liu carefully analyzed his results from different scientific point of views. Bio-energy photography shows that practicing Falun Dafa can intensify people's energy field and improve energy circulation in the human body. Heart-Brain Entrainment Ratio went from 40 percent before the practice to 94 percent after the practice.

After a collection of people began the practice and meditation, the Heart Math Monitor recorded the practitioners' heart- and cardio- waves the first eight times they meditated. Then the computer calculated their average Heart-Brain Entrainment Ratio.

c. Beauty of Laughter

Beauty is not looks alone – it is holistic as it encompasses both physical and mental attributes. Enhancing this wholeness of self is laughter - an elixir for wellness. It helps to outwardly reflect the inner glow of good health, happiness and joy. The well being of people is largely dependent on fitness levels both physiologically and psychologically. The constant struggle to cope with enormous stressors in life takes its toll on one's appearance. Stress is the number one killer and is writ large on one's face making one prone to untimely ageing.

Laughter Yoga benefits both body and mind. It reduces stress levels and stimulates the production of endorphins, natural opiates known for their relaxing effects. It also helps to release muscular tension and reduce the negative physical symptoms of stress, worry and anxiety. It is an exercise that is extremely relaxing and provides a sense of calm. Certain specialists even claim that one minute of laughter equals 45 minutes of relaxation.

Besides relieving tension, laughter exercises are excellent for an overall health. They help to prevent heart disease, insomnia and depression, diminishes constipation and fatigue and reinforces the immune system – all of these if regulated and disciplined are factors that can enhance beauty.

Laughter Yoga is the fastest growing alternative therapy for fitness, an integral part of beauty and health. Laying stress on the importance of breathing and oxygen, Laughter Yoga is well defined as the best way to increase the net supply of oxygen and boost the immune system. It flushes the lungs of stale residual air, promotes circulation in the lymphatic system, increases blood circulation, and massages the entire body mind system, which helps to cleanse the body of toxins and waste products, leaving one glowing with health and beauty.

On the psychological front, Laughter Yoga is an instant stress buster. It has the power to change the mood states by releasing endorphins and generating a feeling of mental and physical soundness, thereby sanitizing the system of negative emotions and recharging the mechanism with a positive outlook. Laughter Yoga Is Anti – Ageing. Laughter contractions tone the facial muscles. They increase blood supply to the face, which is why people look flushed when they laugh. The influx of blood and nutrients nourishes the skin and makes it glow. People look younger and more approachable when they laugh.

Research has proved that chronic stress can undermine the health. Constant stress restricts the cells, which stop dividing and eventually die. This is what sets off the ageing process and the symptoms become physically more apparent.

Laughter Yoga is a natural, fun and easy way to move towards good health and experience feelings of joyfulness. It has the power to unwind the negative symptoms of stress. The secret of Laughter Yoga is that the body is hardwired with powerful natural reactions to extended hearty laughter releasing healthful hormones and chemicals.

Laughter Yoga is fun and a simple form of exercise that makes one feel good. It provides a good workout without breaking a sweat. Twenty minutes of laughter in the morning can leave one fully refreshed and energized throughout the day. It also provides a great cardio workout without having to dress or get sweaty.

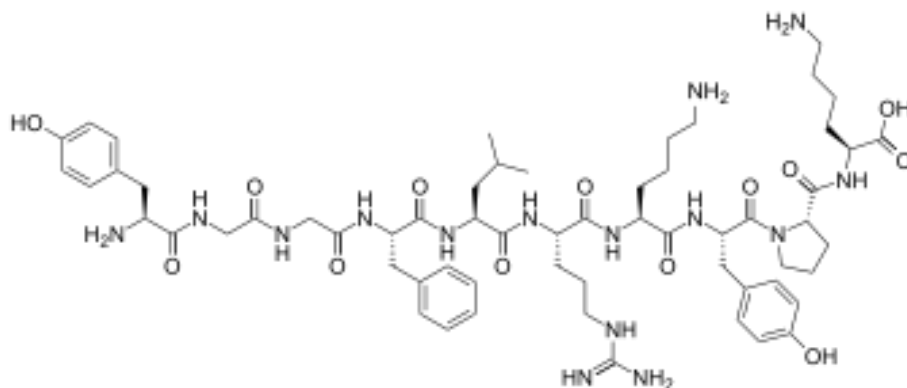
It radically reduces cortisol which is responsible for belly fat that is difficult to shed. The increased oxygen levels are great for skin and brain. Boosted endorphin levels reduce aches, pains and frown. Laughter exercises the muscles and works out the stomach, abs, back and pelvic groups. It also massages the facial muscles and reduces wrinkles making one look much younger.

If being silly can lessen stress and cause one to relax, reduce wrinkle-causing tension on the face and makes one look more beautiful, then why not be silly and laugh off all worries and immortalize age.

Laughter has the ability to enhance and extend BEAUTY FROM WITHIN to BEAUTY OUTSIDE...

Laughter is a wonderful expression! When it comes from deep within it can help to release inner tensions. The ventromedial prefrontal cortex is activated by laughter and produces endorphins in the brain after responding to a rewarding activity according to modern neurophysiology! Laughter can be medicine for the soul!

Endorphins



Chemical structure of alpha-Neoendorphin (α -Neoendorphin)

Endorphins ("endogenous morphine") are endogenous opioid peptides that function as neurotransmitters. They are produced by the pituitary gland and the hypothalamus in vertebrates during exercise, excitement, pain, consumption of spicy food, love and orgasm, and they resemble the opiates in their abilities to produce analgesia and a feeling of well-being.

It consists of two parts: *endo-* and *-orphin*; these are short forms of the words *endogenous* and *morphine*, intended to mean "a morphine-like substance originating from within the body."

The term "endorphin rush" has been adopted in popular speech to refer to feelings of exhilaration brought on by pain, danger, or other forms of stress, supposedly due to the influence of endorphins. When a nerve impulse reaches the spinal cord, endorphins that prevent nerve cells from releasing more pain signals are released. Immediately after injury, endorphins allow animals to feel a sense of power and control over themselves that allows them to persist with activity for an extended time.

Some Concerns

- Our food habits have changed. There is evident transition from home made food to fast food. It has come to the fore that these preserved foods are largely not hygienic . These usually contain excessive fats and spices and are acidic. Though the food is high calorie, but, it does not provide adequate energy, Also, the preservatives used, such as, nitrogen, chlorine, carbonic acid, vinegar and impure sugar (molasses) are harmful. Also, the refined wheat flour (Maida) consumes significantly more time for digestion. The fats overused for frying cause many a health problems. Consumers have changed their tastes as per the tastes of the producers, fair or foul. There is ocean of food stuff, but, non-compatible. What to choose? Where from?
- The entire environ is polluted, There are water pollution, air pollution, soil pollution and noise pollution. Which water to drink, which air to breathe, which vegetables & fruits to eat, and how to find noise free corner? There is environmental awareness but very rare environmental ethics. There is degeneration of environment. With the lust for luxury many a species are disappearing. Fully healthy people are no longer seen. Every one suffers from one or the other disease. What is the resolve?
- The life styles have changed. We have moved from naturalism to existentialism. We have moved from simple living & high thinking to high living & simple thinking, from health is wealth to wealth is health. We are going far away from our heritage and culture. Truthfulness, compassion and forbearance seem to be mere slogans. We are in more of competitive societies than cooperative. The nuclear families have resulted into the alienation of children and dementia patients.

- We are using technology or technology is using us? We have media crowd, but, no media culture. There are many health hazards due to over use of Technology. It is high time that we become techno-savvy, info-savvy, net-savvy and media-savvy.
- Our greatest disease is passions, possessions, obsessions. There are many a medical malpractices. There is a need to realize professional ethics.
- Molls are rising in India at a rapid pace, but, we do not have moll culture. Almost every hand has cell phone, A to Z phones, but, we do not have cell culture. Only God knows what we keep communicating round the clock. We have media crowd, but, no media culture. Health hazards are self evident. Modernization & perfective maintenance ought to be there. Modernization & perfective maintenance demand precise regulatory mechanisms and controls.
- Each one of us should observe Yoga for sound health.
- We need to employ, both, preventive, and ameliorative measures for sustaining sound health.
- Health Education ought to be integrated with Educational Curricula at all levels, from pre-primary, through tertiary & continuing.
- We should observe healthy Heart & Brain entrainment Ratio.
- We should sustain our smiles and laughter under even the most adverse conditions.
- Human Development Index should be of prime importance for any nation.
- Various States in India ought to learn from the development of each other.
- India should formulate National Health Policy at the earliest.

Concluding Remarks

All of us should learn to treat Mother Nature as a Source than Resource. Degenerating health of all of us in India is an alarming issue. There are many health issues in India. Neither we are fully aware of the self nor that of environment. The present article focuses on how there is a need of observing healthy heart and brain entrainment ratio. How yoga can contribute to the heart & brain entrainment ratio and sound health. The present day modern society is busy without business. We rarely find natural, continuous, spontaneous, roaring laughter, and natural graceful soothing smiles. Let us revive our health, resonating laughters, and flowing smiles, because, it is our duty to preserve and sustain the cultural heritage of India. The State ought to define its role and arrive at a Health Policy for India. We need not produce a health issue repertoire, because all these issues are self evident.

Despite the policies & programs on Environment & Health, the Plants, Trees and greenery is disappearing. Children keep munching the junk food, non-stop. Adults keep drinking the tea & coffee, count-less. No research rigor is required to know the health status of India. The street

roads full of Pan & Tobacco spits, full of all sorts of roughage, pits & ditches reveal a lot of the Psycho-Somatic State. Junk food, green washed vegetables & fruits, medical malpractices, all sorts of pollution narrate a lot of the health of India. Could the Education, Society & State converge and reflect on the health issues? No government policies will work, unless each & every Indian is health educated & accountable. Human Development Index ought to be the priority of Indian Government.

Health issues in India are highly alarming. Despite all the preventive maintenance why do we fall sick? It is because the environment is polluted. Who is accountable? We all. Every foreign latest virus first enters in India. It is because we do not have adequate security measures. There are many a indigenous diseases born in India, Some of these have been named, the others are yet to be named. We salute all of us for our survival, because, we employ all the possible Medical Sciences, such as, Naturopathy, Homeopathy, Allopathy, Ayurved..... We need to bring about health sensitivity & consciousness. We recall age old slogan "Prevention is better than Cure." But, how to sustain health in a suffocating environment? Health Education seems to be the best resolve. Health Education should be introduced in Educational Curricula at all levels. Let us observe environmental ethics. Medical Sciences ought to do analysis at the functional level. Medical Sciences & Medical Ethics ought to be perfected. More than the ameliorative, we require preventive measures for the full health of the masses. We should employ Raja Yoga, karma Yoga, Bhakti Yoga & Jnana Yoga as Voiced by Swami Vivekananda, and ancient Cultivation Practice of Truthfulness, Compassion and Tolerance of Falun Dafa for realizing Health & Happiness.

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WHOLISTIC DEVELOPMENT OF SCIENCE TEACHERS

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The paper explores the possible role of Science Education for wholistic development of teachers. It opens up with the intent of Science to have a comprehensive knowledge base, though the approach is atomistic. It presents wholistic approach, wholistic education and wholistic science education. It culminates into Wholistic Development of Teachers through an illustration on Tea preparation concluding that, though atomistic, the ultimate aim of Science is to have a comprehensive knowledge base of the entire universe to facilitate healthy, happy, full and meaningful life in resonance with all. As envisaged through the NEP(2020) it has to be a multidisciplinary exercise drawing from extraction of fuel gas, through construction of gas stove employing mechanical engineering, construction of boiling pan of a suitable alloy, gardening and processing of TEA(Tri-ethyl amine), medium for tea extraction, level of temperature for extraction of the suitable tea chemicals, adding and extracting the other suitable ingredients, such as, milk, basils, ginger, black pepper, cardamom and sugar. Food and medicinal value of each one of the ingredients of the tea needs to be ensured. Which mix for whom? It seeks the services of various disciplines, such as, science, arts and commerce. Our Education has to germinate, incubate, innovate, create, construct and connect. It has to be multidisciplinary and holistic.

1.0. INTRODUCTION

Science explores and art expresses. Science intends to reveal the whole in an interrelated atomistic way. The drive of Science is to move from dot to globe, from elements to compounds, from disciplinary to interdisciplinary, from point to morphology. Occurrence of any phenomenon, however, big or small is wholistic, such as, flying of birds, constellation and movements of the celestial bodies, evaporation of water and rainfall, viscosity and surface tension, electric discharge between clouds and thunder, chemical reactants, products and equation, osmosis and reverse osmosis, conservation of mass and momentum, and heart and brain entrainment. Science tends to have wholistic understanding of the interrelation, correlation & cause and effect relation of perceptible variables. There is an inherent move from constructivism to connectionism and wholism. We need to learn to appreciate the beauties of Science with universal positivism.

NCERT Focus Group (2005) highlights that Science Education should enable the learner to know the facts and principles of science and its applications, to acquire the skills and understand the methods and processes that lead to generation and validation of scientific knowledge, to develop a historical and developmental perspective of science and to enable the learner to view science as a social enterprise, to relate to the environment, local, as well as, global, and appreciate the issues at the interface of science, technology and society, to nurture the natural curiosity, aesthetic sense and creativity in science and technology, to imbibe the values of honesty, integrity, co-operation, concern for life and preservation of environment and to cultivate 'scientific temper'-objectivity, critical thinking and freedom from fear and prejudice. Thus, science education is to develop human beings for peaceful coexistence in the world.

Teachers are the very important stakeholder of the society, because teachers can lead community and nation towards better and fruitful life. Teaching is a profession and teacher education is a process of professional preparation of teachers. Teachers are concerned, in an important way, with the total development of human beings – physical, intellectual, emotional, social, moral and spiritual. Teacher quality is a function of several factors: teachers' status, remuneration, conditions of work and their academic and professional education. The teacher education system through its initial and continuing professional development programmes is expected to ensure an adequate supply of professionally

competent teachers to run the nation's schools. Initial teacher education especially, has a major part to play in the making of a teacher. It marks the initiation of the novice entrant to the calling and as such has tremendous potential to imbue the would-be teacher with the aspirations, knowledge-base, repertoire of pedagogic capacities and humane attitudes. (NCFTE, 2009)

Here the focus is developing humane and professional teacher through wholistic science education.

1.1. Wholistic Education

Huie (2010) outlined the components of Wholistic education, such as, active learning, deep understanding, critical and creative thinking, along with an emphasis on social relationships and realising the fullness of human existence. Wholistic education is a philosophy of education and concerned with the development of every person's intellectual, emotional, social, physical, and spiritual potentials. Report of Kothari commission (1964-66) has recommended cultivating social, moral and spiritual values as one of the important aims of Education. Further, Miller (1999) has been of the view that "Wholistic Education is based on the premise that each person finds identity, meaning and purpose in life through connections to the community, to the natural world, and to spiritual values, such as, compassion and peace." The wholistic education places significance on relationships and primary human values within the learning environment (Martin, 2003).

Martin & Forbes (2004) divided wholistic education into two categories: the idea of Ultimacy and Basil Bernstein's notion of Sagacious Competence.

1.2. Wholistic Approach

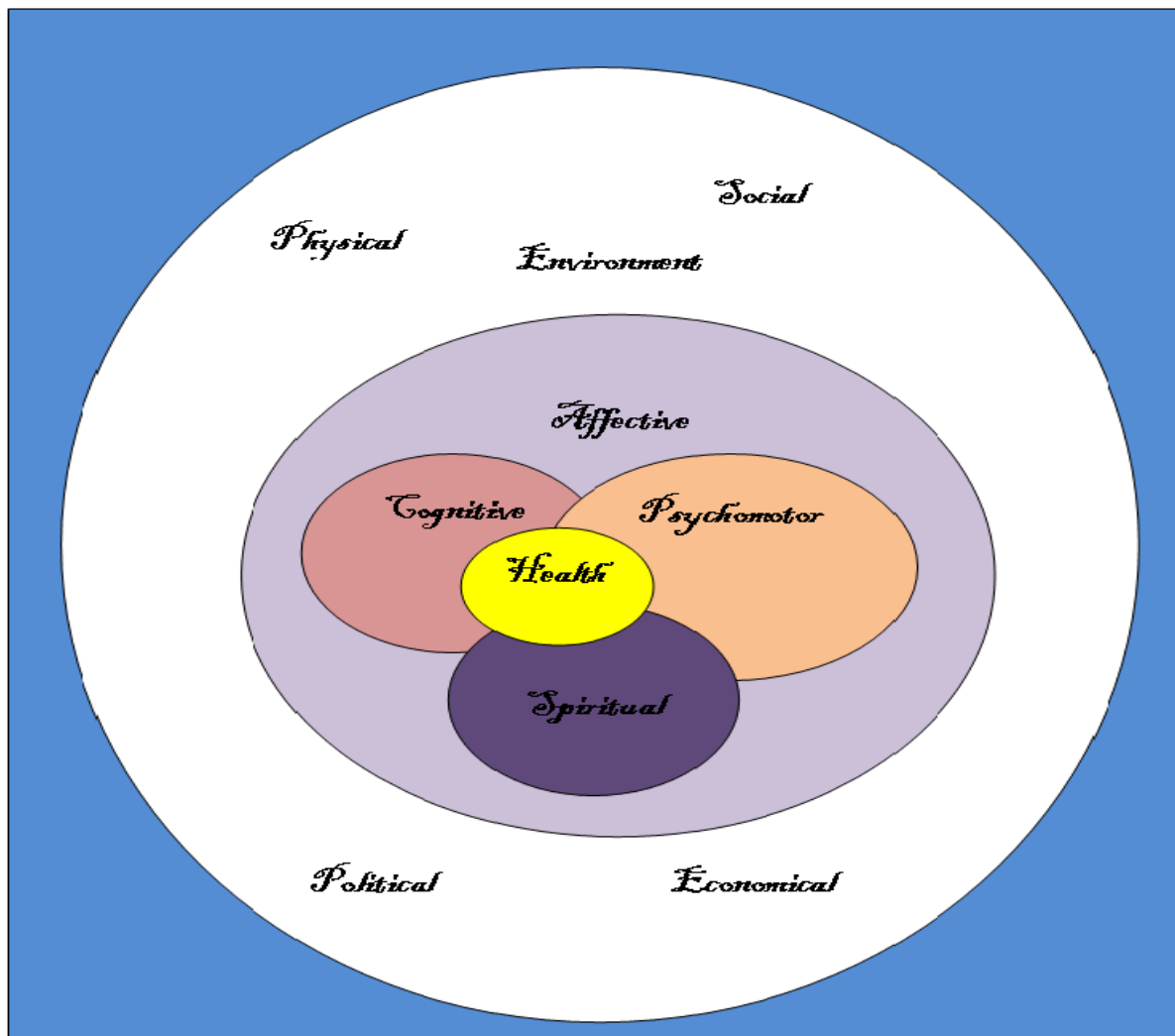
Concept of wholistic approach is that the totality of something is much greater than the sum of its component parts and their functioning i.e. the whole cannot be understood by the isolated analysis of its parts, their nature, structure and function rather the whole is integrated functioning of all the parts with interrelation & interdependence. The wholistic approach is approach, such as, Naturalistic, Constructivist & Connectionist. Wholistic approach is way of teaching a subject as a whole by considering all aspects of the curriculum tending towards wholistic. It is interdisciplinary disciplinary approach dealing in integration of content within & between subjects. The content caters to cognitive, affective, psychomotor and spiritual domains in resonance with the environment. The wholistic approach focuses on the

integrated development of all the domains, that is, all round development. The wholistic approach enables students to explore their own potential and that of surroundings in an integrated way.

Maheshwari (2010) has defined holistic approach as an essential element to educating students which one seeks to open the mind, awaken the heart and nurture the spirit. Key concepts of such an approach include fostering a passion for learning and nourishing the sense of wonder. Holistic Approach is one where the education is going beyond narrow focus on the intellect, transcending space, time, matter and mind.

Wholistic approach can be presented through Venn Diagram:

U



1.3. Wholistic Approach of Science Education

Wholistic approach deals with all the domains, such as, cognitive, affective, psychomotor, health and environment, and spiritual. Science is a discipline where students learn many laws

which are related to the universe. In the study of Science students are doing practical and by that they can experience success and failure. The aim of wholistic education is developing student as a whole. While exploring & gaining knowledge through the wholistic approach, the curriculum is such that it takes care of development of all the domains. Through the Science subject, development of affective domain is done because in curriculum there are so many topics related to self, relationship, health and environment. The students are able to learn and feel the environment. All the domains, such as, Health-Intelligence-Emotional-Spiritual- Environmental-Metaphysical can be developed through Science, both, Natural & Social, wholistically.

1.4. Development of Humane and Professional Teachers through Wholistic Science Education

Professional and Humane qualities are required in teachers, such as, Research& Knowledge, Interest, Value & Attitude, Truthfulness, Compassion & Forbearance, Skill-Scale& Speed, Communication, Innovation-Creation-Construction & Connection, Dedication& Identification, Determination& Action, Empathy& Adjustment, Curiosity-Quest & Immersion, Engagement & Passion, Generosity & Authority, Yoga & Control, Motivation & Inspiration, Sensitivity &Search, Deviation &Resilience, Freedom & Control, Courage & Patience, Leadership, Administration, Organization & Management, Openness & Positivity, be-becoming-being & debecoming, Having & Being, Production & Evolution, Above all a teacher ought to be essentially researcher, innovator, creator, connector, communicator, approachable, open, impartial & judicious intellectual. The Text of a Teacher ought to have its own testimony. Science is our extension -Radio is extension of Voice, Television is extension of Visual, Computer is extension of Brain, Motor Bike is extension of our Feet, whereas, Cloths are extension of our Skin. Science plays tremendous role in human life. Man has been able to transcend time and space with the help of Science. Science facilitates life and living. Science tends to know the universe. Science has the attributes of recency, omnipresence and immediacy. Wholistic science education deals with all the aspects the universe. Ultimate aim of Science Education is development of universal beings.

1.5. Wholistic Development of Teachers -An illustration on Tea Preparation

Introduction

Here is a lesson on Tea preparation employing Wholistic Approach of Science Education.

Inputs

For preparation of tea there is a need to gather all the apparatus and ingredients required for the tea preparation, such as, Pan, Milk, Water, Gas stove/Kerosene stove/ Electric coil/ Induction gas, Lighter, Match box, Pair of tongs/ Cloths used for handling hot pan, Tea leaves container/Tea bags container, Sugar container/Sugar Free Tablets Container, Basil, Eliachi (Cardamom), Ginger, Black Pepper, Sieve, Tea pot, Cup and Saucer/ Tea Mug. Edible materials used in preparation of tea are, such as, Water, Dry Tea Leaves, Ginger, Cardamom, Black Pepper, Basil, Pudina, Green Tea Leaves, Sugar.

Process

After collecting all the ingredients and apparatus for preparation of tea, there is need to exercise choice for pan. After that drinking water is collected. Then the gas is burnt with the help of lighter/match box. There is need to regulate the desired volume of the flame. After boiling water, it's time to add dry tea leaves, basil, grated ginger, black pepper, green tea leaves, Pudina and cardamom. After extraction of these things there is need to add sugar and milk. Boil for some time and pour it in tea pot, serve it in cups and enjoy Tea. This is the simple recipe for Tea.

Emerging Questions

1. What ought to be the characteristics of the Pan used for tea preparation?
2. What is the chemical composition of all the ingredients used in preparation of tea?
3. Why water for extraction of ingredients?
4. What is the chemical composition of the various materials?
5. What are the contents of the prepared tea?
6. What is TEA as a whole & what for?

Properties of materials and ingredients

a) Properties of Metals

1. Metals, in their pure state, have a shining surface. This property is called metallic lustre.
2. Metals are generally hard. The hardness varies from metal to metal. They are solids at room temperature, except mercury which is a liquid.
3. Some metals can be beaten into thin sheets. This property is called malleability. Gold and silver are the most malleable metals

- The ability of metals to be drawn into thin wires is called ductility. Gold is the most ductile metal.
- Because of their malleability and ductility metals can be given different shapes according to our needs.
- Metals are good conductors of heat and have high melting points. The best conductors of heat are silver and copper. Lead and mercury are comparatively poor conductors of heat.
- Metals can form positive ions by losing electrons to non-metals.
- Metals combine with oxygen to form basic oxides. Aluminium oxide and zinc oxide show the properties of both basic as well as acidic oxides. These oxides are known as amphoteric oxides.
- The pan should be optimum in size. Handle of Material of Pan should be made from non-conducting insulating material. Most of the pan handles are made from asbestos.
- Pan metal should be such which cannot easily peel, crack, vaporize, dissolve or harbor bacteria. It should be a good conductor of heat in order to cook food uniformly, and it should be easy to clean thoroughly. Alloy can be used for best result because it has good quality of more than one metal.

b) Water

Water is the most abundant compound on Earth's surface, covering about 70 percent of the planet. In nature, water exists in liquid, solid, and gaseous states.

Density: 1,000.00 kg/m³

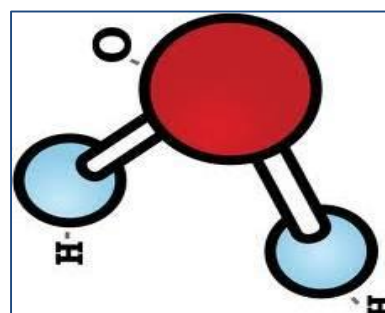
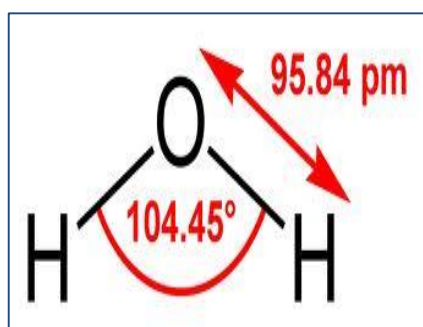
Molar mass: 18.01528 g/mol

Boiling point: 99.98 °C

Formula: H₂O

Melting point: 0.0 °C

IUPAC NAME: Dihydrogen oxide



Water is a tasteless, odorless liquid. At ambient temperature and pressure, it appears colourless in small quantities, although it has its own intrinsic very light blue hue. Water has pH 7.

c) **Milk**

The constituents of milk are water, lipids, carbohydrates, proteins, vitamins and minerals.

- **Water:**

This constitutes about 85-87% of milk. This is the main medium for the suspension of all other components.

- **Lipids:**

Milk is an emulsion and the lipids are found in a globular form. The main lipids present in milk are triglycerides, phospholipids and cholesterol. The triglycerides are formed of a number of fatty acids, such as, palmitic acid, stearic acid, lauric acid, and linolic acid. Lecithin, Cholin and many cerebrosides are other forms of fats present in milk. The percentage of fats in milk varies in different breeds; it may vary from 3.5-5%.

The fatty substances in milk can be separated in a solid form by applying centrifugal force after it is allowed to get curdled. Butter, the concentrated fat of milk is an important food ingredient in human diet. Ghee is another product obtained by melting the butter.

- **Carbohydrates:**

The most important carbohydrate present in milk is lactose. It is commonly called milk sugar. Lactose is a disaccharide formed of two monomeres of monosaccharides-glucose and galactose.

- **Protein:**

Among the proteins, casine commonly called the milk protein is the most important constituent. In milk, casine combines with calcium forming calcium caseinate. For growing children casine is a very essential protein. Other proteins of milk include lactoalbumins and lactoglobulins.

- Vitamins and minerals:

Milk contains a number of essential mineral elements such as sodium, potassium, calcium, magnesium, iron, copper, iodine etc. Among the vitamins, milk has B complex and vitamin C and A. Even vitamin D and E are present in milk.

How milk is wholesome diet

Milk contains calcium, vitamin A, vitamin B12, iodine, riboflavin, potassium, magnesium, zinc, phosphorus, carbohydrate and high quality protein. These components make Milk a wholesome diet.

Properties of Milk (Colloidal Solution)

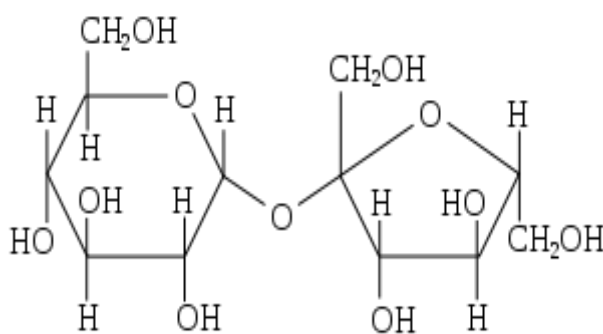
1. Milk is a colloidal solution. A colloid is a heterogeneous mixture.
2. The particles of a colloid are uniformly spread throughout the solution. Due to the relatively smaller size of particles the mixture appears to be homogeneous.
3. But actually, a colloidal solution is a heterogeneous mixture. Because of the small size of colloidal particles, we cannot see them with naked eyes. But, these particles can easily scatter a beam of visible light. This scattering of a beam of light is called the Tyndall effect.
4. They do not settle down when left undisturbed, that is, a colloid is quite stable.

d) Sugar

Sugar is also known as sucrose. Natural source of sucrose are beetroot and sugarcane. Sucrose is a disaccharide constituent of glucose and fructose. During the process of digestion by sucrose enzyme sucrose split into monosaccharide namely, glucose and fructose. Sugar (sucrose) found in two form i.e. powder and crystalline.

Molecular Formula of sucrose: $C_{12}H_{22}O_{11}$

Structural Formula:



Sucrose

Sugar Free Powder/ Tablet

Sugar Free is a substitute of sugar for diet. Sugar free is used as artificial sweetening agents which are stevia, aspartame, sucralose, neotame, acesulfame potassium, and saccharin. Sugar Free found in different forms i.e. tablet, powder and liquid. Sugar Free is very much useful for diabetic patient and calorie conscious people.

e) Tea leaves

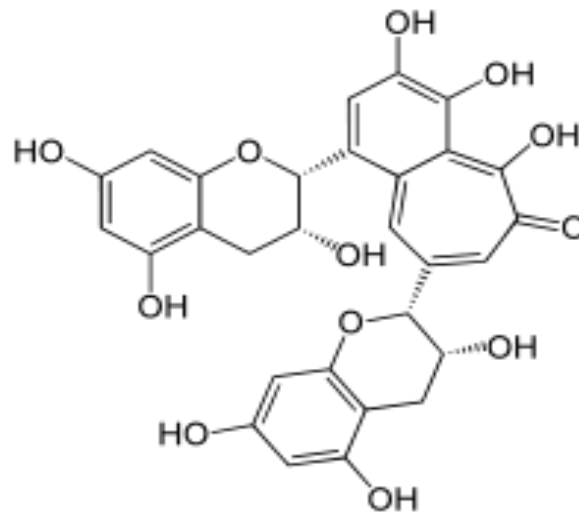
Compounds presents in tea leaves are polyphenols, amino acids, enzymes, pigments, carbohydrates, methylxanthines, minerals and many volatile flavor and aromatic compounds which give aroma, flavor, and taste to tea.

1. Polyphenols

Polyphenols are largely responsible for astringency. There are an estimated 30,000 polyphenolic compounds in tea, flavonoids are arguably the most important group of polyphenols in tea and are the source of the many health claims surrounding tea, and specifically tea antioxidants. A strong cup of tea contains around 180-240 mg of polyphenol compounds.

2. Flavanols

Flavanols are also referred to as tannins, and during oxidation are converted to theaflavins and thearubigins—the compounds responsible for the dark color and robust flavors notably present in black tea. The major flavanols in tea are: catechin (C), epicatechin (EC), epicatechingallate (ECG), galocatechin (GC), epigallocatechin (EGC), and epigallocatechingallate (EGCG). EGCG is the most active of these catechins and is often the subject of studies regarding tea antioxidants. Tea flavanols are sometimes collectively referred to as catechins. Besides flavanols, tea flavonoids also include flavonols, flavones, isoflavones, and anthocyanins; all of which contribute to the color of a tea's infusion and its taste.



Theaflavin

3. Amino Acids

Tea leaves contain many amino acids, the most abundant of which is theanine. Theanine, more specifically L-Theanine is responsible for promoting alpha brain wave activity which promotes relaxation. L-Theanine in concert with caffeine can induce a state of “mindfulness” in the tea drinker.

4. Enzymes

Polyphenol oxidase and peroxidase are the most important enzymes in tea leaves. They are responsible for the enzymatic browning of tea leaves that takes place when the cell walls in the leaves are broken and the polyphenols are exposed to oxygen – otherwise known as oxidation.

5. Methylxanthines

Methylxanthines in tea include the stimulant caffeine and two similar compounds: theobromine and theophylline. Methylxanthines also contribute to a bitter taste.

Composition of a black tea beverage

Substance	% dry weight
Epi-galloctechingallate	4.6
Epi-galloctechin	1.1
Epi-atechingallate	3.9
Epi-atechin	1.2
Flavonolglycoides	trace
Bisflavanols	trace
Theaflavins	2.6
Theaflavic acid	trace
Thearbigins	35.9
Caffeine	7.6
Theobromine	0.7
Theophylline	0.3

Galle acid	1.2
Chlorogenic acid	0.2
Oxalic acid	1.5
Malonic acid	0.02
Succinic acid	0.1
Malic acid	0.3
Acetic acid	0.01
Citric acid	0.8
Lipids	4.8
Monosaccharides	6.9
Pectin	0.2
Polysaccharides	4.2
Peptides	6.0
Theanine	3.6
Other amino acids	3.0
Potassium	4.8
Other minerals	4.7
Volatiles	0.01

Adapted from Graham (1984)

Effect of Milk on Polyphenols present in Tea

The compounds in Tea derived from catechins can have antioxidant effects on the body, these could have beneficial effects on cardiovascular health. Casein proteins in milk could bind to polyphenols and as a result prevent their antioxidant effects.

f) Medicinal uses of different herbs used in preparation of tea

1. Name: Ginger

Scientific Name: *Zingiberofficinale*

It is used in preparation of tea to prevent morning sickness, motion sickness, and nausea that accompanies gastroenteritis.

2. Name: Cardamom

Scientific Name: *Elettariacardamomum*

It is used in preparation of tea to prevent infections in teeth and gums, to prevent and treat throat troubles, congestion of the lungs as well as Flavoring agent.

3. Name: Basil

Scientific Name: *Ocimumtenuiflorum*

It is used in preparation of tea as Healing Power, Fever & Common Cold, Coughs, Sore Throat, Respiratory Disorder, Mouth Infections, and Headaches.

4. Name: Black Pepper

Scientific Name: *Piper Nigrum*

It is used in preparation of tea to improve digestion, stimulate appetite, and treat gastrointestinal problems, including diarrhea, dyspepsia and flatulence. It is also used to treat colds, coughs and sore throats.

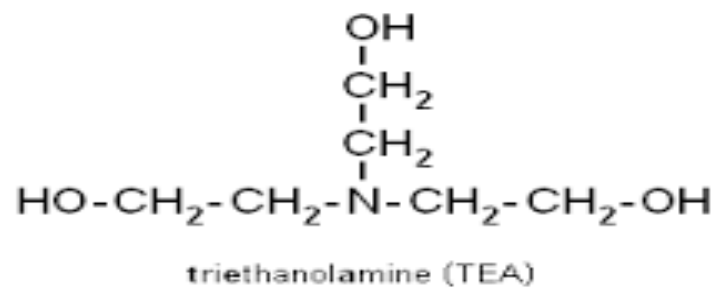
5. Name: Pudina

Scientific Name: *MenthaArvensis*

It is used in preparation of tea for treatment of vomiting and nausea. It is also useful for stomach disorders and as antiseptic.

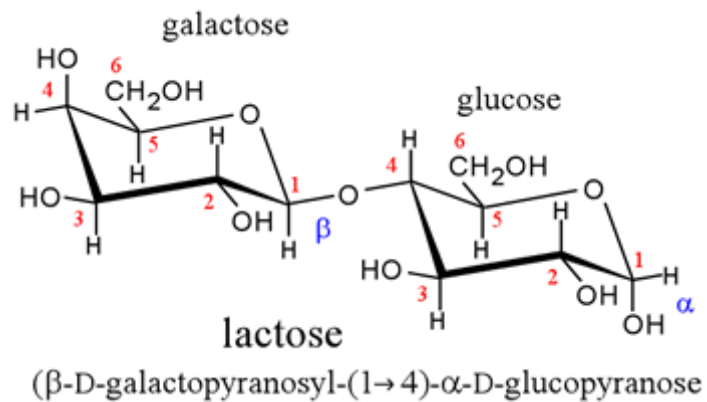
g. Chemical Composition of various ingredients used in TEA preparation

1. TEA (TRIETHANOLAMINE)

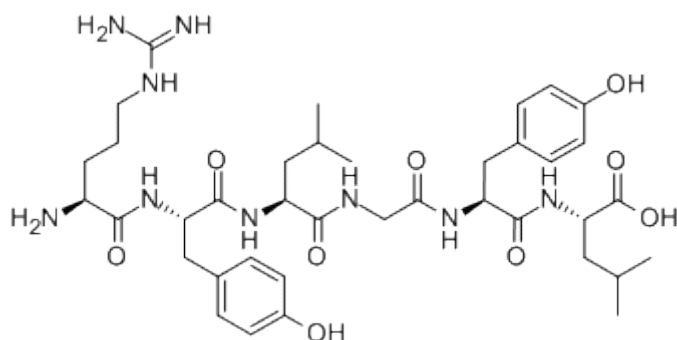


2. MILK

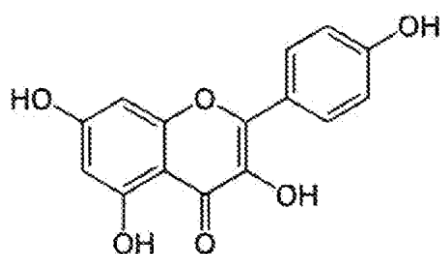
Milk contains mainly Lactose , Casein and Water



CASEIN



3. BASIL



Basil (*Ocimum basilicum*), also known as Saint Joseph's Wort, is a herb belonging to the mint family *Lamiaceae* often used as a seasoning in cooking. Basil is native to India and other tropical areas of Asia.

This MNT Knowledge Center feature is part of a collection of articles about the health benefits of popular foods. It highlights the potential health benefits of consuming basil and provides a nutritional profile for the herb.

The herb is well known for its use in Italian cuisine - it is a major ingredient in pesto sauce. Basil is also commonly used Indonesian, Thai, and Vietnamese cuisine.

According to the *International journal of Agronomy and Plant Production*, the word Basil derives from the Greek word "*basileus*", which means "king". The Oxford English Dictionary says that basil may have been used as "some royal unguent, bath, or medicine".

In fact, there are quite a number of different beliefs associated with the herb. The French often refer to the herb as *l'herbe royale* (the royal herb), and in Jewish folklore basil is thought to give strength while fasting.

Basil is used in traditional Tamil medicine and in ayurvedic medicine, which is a form of alternative traditional medicine in the Indian subcontinent.

There are different types of basil, which differ in taste and smell. Sweet basil (the most commercially available basil used in Italian food) has a strong clove scent because of its high concentration of the chemical agent eugenol. Whereas lime and lemon basil have a strong citrus scent due to their high concentration of limonene.

Health benefits of basil

Research indicates that there are several health benefits associated with basil.

A study by researchers at Purdue University revealed that basil "contains a wide range of essential oils rich in phenolic compounds and a wide array of other natural products including polyphenols such as flavonoids and anthocyanins."

The herb contains high quantities of (E)-beta-caryophyllene (BCP), which may be useful in treating arthritis and inflammatory bowel diseases, according to research conducted at the Swiss Federal Institute of Technology.



Reduce inflammation and swelling - a study presented at the Royal Pharmaceutical Society's annual event, revealed that "extracts of *O. tenuiflora* (Holy basil) were shown to reduce swelling by up to 73%, 24 hours after treatment".

Anti-aging properties - according to research presented at the British Pharmaceutical Conference (BPC) in Manchester, basil has properties that can help prevent the harmful effects of aging. Holy basil extract was effective at killing off harmful molecules and preventing damage caused by some free radicals in the liver, brain and heart.

Rich in antioxidants - results of a study published in the *Journal of Advanced Pharmacy Education & Research* showed that ethanol extract *Ocimum basilicum* had more antioxidant activity than standard antioxidants.

Nutritional profile for basil

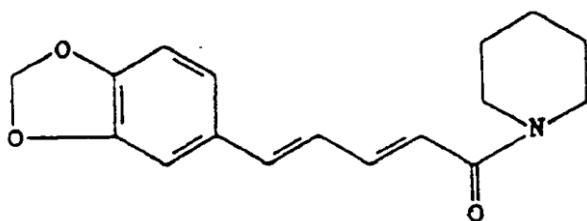
Basil is rich in vitamin A, vitamin K, vitamin C, magnesium, iron, potassium, and calcium.

Nutritional value of basil per 100 g (3.5 oz)

Energy - 94 kJ (22 kcal)	Carbohydrates - 2.65 g
Dietary fiber - 1.6 g	Fat - 0.64 g
Protein - 3.15 g	Water - 92.06 g
Vitamin A - 264 µg	Thiamine - 0.034 µg
Riboflavin - 0.076 mg	Niacin - 0.902 mg
Vitamin B ₆ - 0.155 µg	Folate - 68 µg
Choline - 11.4 mg	Vitamin C - 18.0 mg
Vitamin E - 0.80 mg	Vitamin K - 414.8 µg
Calcium - 177 mg	Iron - 3.17 mg
Magnesium - 64 mg	Manganese - 1.148 mg
Phosphorus - 56 mg	Potassium - 295 mg
Sodium - 4 mg	Zinc - 0.81 mg

Source: USDA Nutrient Database

4. BLACK PEPPER



1-[5-(1,3-Benzodioxol-5-yl)-1-oxo-2,4-pentadienyl]piperidine

The health benefits of black pepper include relief from respiratory disorders, coughs, the common cold, constipation, indigestion, anemia, impotency, muscular strains, dental disease, pyorrhea, diarrhea, and heart disease.

Black Pepper is the fruit of the black pepper plant from the *Piperaceae* family and is used as both a spice and a medicine. The chemical piperine, which is present in black pepper, causes

the spiciness. It is native to Kerala, the southern state of India. Since ancient times, black pepper is one of the most widely traded spices in the world. It is not considered a seasonal plant and is therefore available throughout the year. When dried, this plant-derived spice is referred to as a peppercorn, and is then ground into a powder to be put on food to add flavor and spice.

Because of its antibacterial properties, pepper is also used to preserve food. It is a rich source of manganese, iron, potassium, vitamin-C, vitamin K, and dietary fiber. Black pepper is also a very good anti-inflammatory agent.

Health Benefits of Black Pepper

The health benefits of black pepper include the following:

Good for the Stomach

Pepper increases the hydrochloric acid secretion in the stomach, thereby facilitating digestion. Proper digestion is essential to avoid diarrhea, constipation and colic. Pepper also helps to prevent the formation of intestinal gas, and when added to a person's diet, it can promote sweating and urination, which remove toxins from the body. Sweating removes toxins and cleans out the pores of any foreign bodies that may have lodged there, and it can also remove excess water or accumulation, also known as edema. In terms of urination, you can remove uric acid, urea, excess water, and fat, since 4% of urine is made of fat. For digestion, inducing digestion can help you lose weight and increase the overall functioning of your body and prevent various gastrointestinal conditions and colorectal cancer. Its ability to expel gas is because black pepper is a carminative, which forces gas out of the body in a healthy, downward motion, rather than pressing upwards in a dangerous way and straining the upper chest cavity and vital organs. It also inhibits more gas from forming in the body.

Weight Loss

The outer layer of peppercorn assists in the breakdown of fat cells. Therefore, peppery foods are a good way to help you shed weight naturally. When fat cells are broken down into their component parts, they are easily processed by the body and applied to other, more healthy processes and enzymatic reactions, rather than simply sitting on your body and making you look overweight.

Skin Health

Pepper helps to cure Vitiligo, which is a skin disease that causes some areas of skin to lose its normal pigmentation and turn white. According to researchers in London, the piperine content of pepper can stimulate the skin to produce pigment. Topical treatment of piperine combined with ultra violet light therapy is much better than the other harsher, more chemically-based treatments for vitiligo. It also reduces the chances of skin cancer due to excessive ultraviolet radiation.

Respiratory Relief

In Ayurvedic practices, pepper is added to tonics for colds and coughs. Pepper also provides relief from sinusitis and nasal congestion. It has an expectorant property that helps to break up the mucus and phlegm depositions in the respiratory tract, and its natural irritant quality helps you to expel these loosened material through the act of sneezing or coughing, which eliminates the material from the body and helps you to heal from whatever infection or illness caused the deposition in the first place.

Antibacterial Quality

The antibacterial property of black pepper helps to fight against infections and insect bites. Pepper added to the diet helps to keep your arteries clean by acting in a similar way to fiber and scraping excess cholesterol from the walls, thereby helping to reduce atherosclerosis, the condition highly responsible for heart attacks and strokes.

Antioxidant Potential

An antioxidant like pepper can prevent or repair the damage caused by the free radicals and thus help to prevent cancer, cardiovascular diseases and liver problems. Free radicals are the byproducts of cellular metabolism that attack healthy cells and cause their DNA to mutate into cancerous cells. Antioxidants like black pepper neutralize these harmful compounds and protect your system from many conditions, even premature aging symptoms like wrinkles, age spots, macular degeneration, and memory loss.

Enhances Bioavailability

Black pepper helps in transporting the benefits of other herbs to different parts of body, maximizing the efficiency of the other health foods that we consume. That is why adding it to foods not only makes them taste delicious, but also helps make those nutrients more available and accessible to our system.

Cognitive Impairment and Neurological Health

Piperine, one of the key components of black pepper, has been shown in numerous studies to reduce memory impairment and cognitive malfunction. Chemical pathways in the brain appear to be stimulated by this organic compound, so early research demonstrates the possibility for pepper to benefit Alzheimer's patients and those that are suffering from dementia and other age-related or free radical-related malfunctions in cognition.

Peptic Ulcers

A number of studies have shown that black pepper may have beneficial effects on gastric mucosal damage and peptic ulcers, due to its antioxidant and anti-inflammatory properties. More research is still being done on this aspect of black pepper health effects.

5. Ginger and its uses

Though it is grown in many areas across the globe, ginger is "among the earliest recorded spices to be cultivated and exported from southwest India". India holds the seventh position in ginger export worldwide, however is the "largest producer of ginger in the world". Regions in southwest and Northeast India are most suitable for ginger production due to their warm and humid climate, average rainfall and land space.

Ginger has the ability to grow in a wide variety of land types and areas, however is best produced when grown in a warm, humid environment, at an elevation between 300 and 900m, and in well-drained soils at least 30 cm deep. A period of low rainfall prior to growing and well-distributed rainfall during growing are also essential for the ginger to thrive well in the soil.

Ginger produced in India is most often farmed through homestead farming. Since most ginger crops are produced on homestead farms, the farm employees are mostly family members or other local members of the community. Gendered roles within ginger farming are distributed quite evenly and fairly. From land preparation to seed storage, all works of ginger cultivation in India are generally done by both female and male farmers. Male farmers are widely known as the ones who purchase seeds, do the ploughing, and mulching, while female farmers usually do weeding and both genders share the work of hoeing, digging, planting, manure application, and harvesting. This being said, since these farms are family run the distribution of work is more dependent on the family situation rather than gender. For example, if there are more men in the family then there would be more men working on the farm, but if there are an equal number of men and women, or less men than woman then there would be more women seen working on the farm. Who does the selling of the ginger varies throughout different cities and states in India. In Meghalaya, Mizoram, and Nagaland (all in the Northeast of India) woman are important benefactors in the sale of ginger, but in Sikkim which is also in the Northeast region, men play a larger role than women do in the sale of ginger.

The aromatic constituents include zingiberene and bisabolene, while the pungent constituents are known as gingerols and shogaols . Other gingerol- or shogaol-related compounds (1–10%), which have been reported in ginger rhizome, include 6-paradol, 1-dehydrogingerdione, 6- gingerdione and 10-gingerdione, 4- gingerdiol, 6-gingerdiol, 8-gingerdiol, and 10-gingerdiol, and diarylheptanoids. The characteristic odor and flavor of ginger are due to a mixture of volatile oils like shogaols and gingerols. Ginger has been used as a spice as well as medicine in India and China since ancient times. It was also known in Europe from the 9th century and in England from the 10th century for its medicinal properties . Native Americans have also used wild ginger rhizome to regulate menstruation and heartbeat. Ginger is thought to act directly on the gastrointestinal system to reduce nausea. Therefore, it is used to prevent nausea resulting from chemotherapy, motion sickness, and surgery. Ginger is known as a popular remedy for nausea during pregnancy. Ginger is also used to treat various types of other GI problems like morning sickness, colic, upset stomach, gas, bloating, heartburn,

flatulence, diarrhea, loss of appetite, and dyspepsia (discomfort after eating). According to Indian Ayurvedic medicinal system, ginger is recommended to enhance the digestion of food.

Besides these, ginger has been reported as a pain relief for arthritis, muscle soreness, chest pain, low back pain, stomach pain, and menstrual pain. It can be used for treating upper respiratory tract infections, cough, and bronchitis. As an anti-inflammatory agent, it is recommended for joint problems . Fresh juice of ginger has been shown to treat skin burns. Active component of ginger is used as a laxative and antacid medication. It is also used to warm the body for boosting the circulation and lowering high blood pressure. Because of its warming effect, ginger acts as antiviral for treatment of cold and flu . Ginger is also used as a flavoring agent in foods and beverages and as a fragrance in soaps and cosmetics.

Evidences from *in vitro*, animal, and epidemiological studies suggest that ginger and its active constituents suppress the growth and induce apoptosis of variety of cancer types including skin, ovarian, colon, breast, cervical, oral, renal, prostate, gastric, pancreatic, liver, and brain cancer. These properties of ginger and its constituents could be associated with antioxidant, anti-inflammatory, and antimutagenic properties as well as other biological activities. In this review, focus has been laid solely on GI cancers to describe whether ginger and its active components exhibit chemopreventive and chemotherapeutic potential.

1.6 Wholistic Development

- **Cognitive Domain**

- **Material Science**

- **Lever**

Types of Lever	Fulcrum	Work	Force	Example
First	Middle	One side	Other side	Scissor, Pairs of tong
Second	One side	Middle	Other side	Screw driver,
Third	One side	Other side	Middle	Forceps

- **Lighter:** According to Newton's first law in absence of external force body should maintain its motion with constant velocity. But instead of velocity remaining constant it reduces gradually and after travelling some distance body comes to halt. This force which opposes motion of the body is called as force of friction. When a body moves on a surface, keeping contact with the surface, force exerted by the surface on moving body, which opposes motion of the body is called frictional force. A lighter works on the principle of friction.

- Structure of Tea Mug: Upper portion of tea mug is broader than lower portion. Broader portion helps to make tea cold faster because more of surface area is in contact with environment and lower narrow portion keeps the tea hot due to small surface area in contact with environment.
- Structure of double layer Tea Mug : Outer layer of mug is not in contact with hot tea so its temperature is normal as environmental temperature, inner layer is not directly in contact with environment so it keeps the tea hot.
- Stove: Combustion converts fluid energy into heat which helps to prepare food.
- Shape & Size of Pan: Has utility for utilizing thermal energy and capacity for holding material used for tea preparation. Metal & structure of the Pan matter a lot.
- Reaction time also depends upon the surface area of sugar crystals.
- **Psychomotor Domain**
 - ➞ Handling of different materials and apparatus used tea preparation.
 - ➞ Handling of Gas stove, lighter, and match sticks.
 - ➞ Pouring tea from pan to pot.
 - ➞ Cleanliness of platform before, during and after preparation of tea.
 - ➞ Handling of hot pan with cloth or pan having Insulated handle, wooden handle.
- **Health and Environment**
 - ➞ Utility of tea for human beings.
 - ➞ Utility of used tea leaves for plants.
 - ➞ Milk is a wholesome meal.
 - ➞ Over extraction of tea is harmful for health.
- **Affective Domain**
 - ➞ Tea preparation as a whole requires the wholistic faculty of a person and results into the wholistic development of persons.
 - ➞ A sip of tea relieves the persons of fatigue & tension, howsoever, momentary.
 - ➞ Tea symbolises togetherness of the unique characteristics of various ingredients.
 - ➞ Tea symbolizes interrelation & cooperation of various agents, namely, tea gardener & workers, tea factory labourers, fuel sources & resources, and various Tea ingredients.

▪ **Spiritual Domain**

- Prepared tea is an integrated whole of many ingredients, contributing their substance, flavour and essence with full immersion, where ingredients, their substance, essence, flavour, and fragrance all together become one.

Concluding Remark

Science as discipline can significantly contribute towards the development of universal beings. Though atomistic, the ultimate aim of science education is to have a comprehensive knowledge base of the entire universe so as to facilitate healthy, happy, full and meaningful life in resonance with all. We need to explore the genesis and constitution of every phenomenon scientifically. Teaching of Science rather than fragmented ought to be wholistic for the casting of balanced personalities. The New Education Policy (2020) envisages to have Universities as the true representative of the Universes , multidisciplinary, wherein there would be provision for sharing of credits across disciplines in various permutations and combinations. The intent is to realize wholistic development. This elementary exercise is to bring forth the entire phenomena of TEA cultivation, processing and serving through a multidisciplinary perspective and systemic approach to have comprehensive understanding of the reality and healthy coexistence right from cooking gas cylinder, gas stove structure and functioning, TEA preparation constituents- boiling pan constituents and structure, water as a suitable neutral medium, extraction temperature, milk , basil, ginger, cardamom their chemical composition and relative utility for the friendly serve and wholistic development. The modern universities need to revive the culture of ancient Indian Universities.

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Woman Empowerment in India: Stereotyping & Modernity

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There are various categories of women with role combination. Some are playing only stereotype, some modern, whereas, some are playing both. Mere stereotyping and ultra modernization are both extremes. Working women need to modernize their stereotype roles. Positional Administration but Functional Stereotyping can be disastrous. Socio-Economic-Political-Educational Empowerment can liberate women of Stereotype Roles. Women Empowerment ought to be Empowerment – Empowerment (+ +) rather than Depowerment – Empowerment (- +). Women can be liberated from the stereotype roles through self empowerment, socio-economic-educational-political empowerment, professional training, increasing avenues for women, liberalizing tuition fee, reservation for studies and jobs and social reorganization. Manifestation of the originality of the stereotype is more a matter of the environ they get. The role of each entity needs to be suitably defined. Can the society give expression to the suppressed silent? Can the society provide medium to the enchanting voice? Can the society provide protection to the women against brutal animal like social attitude? The society needs to treat women as normal human beings. Mere stereotyping is compromising, whereas, mere modernizing is mechanizing. The functional empowerment is the equilibration of both the roles. The paper presents some realities of Indian Women & reflections on their empowerment.

A. Bipolarity: The Open Secret of Universe

The universe is essentially bipolar in nature. Bipolarity is the basis for the sustainable development of the universe. This bipolarity needs to be properly conceived, such as:

1. How does the electric discharge take place in the clouds?
2. How do the lightening & thunder co-occur?
3. How some land forms are hills, whereas, some, valleys?
4. How a ball is most unstable?

5. How does electric current flow from high pressure to low pressure?
6. Why are the flowers so colourful and fragrant?
7. Why are the males and females similar as well as different?
8. How to sustain healthy heart & brain entrainment ratio, any where, any moment, any condition?
9. What are the secrets of the creator, creation & created?

Bipolarity is essentially the basis for genesis, creation & recreation of life & living, designing & sustainable development. It is not difficult to research the misperceptions of the beauties of nature. Beauties of nature need to be respected & appreciated. But, our obsessions for possession are destroying the beauties & bounties of the nature. Could we realize detached love for the nature through unconditional love for all the entities? Instead we have started treating the nature as a resource rather than adoring Thee as Source. Resource is endowed by the nature. Usage of resource has been presumed to be the prerogative of human becoming. We like to be treated as a source than resource.

B. Family: The Abode of Woman

Prakarti is inclusive of the Purush. Woman is inclusive of Man. Such is the embodiment of Woman. Family is a wonderful congregation, constellation, regeneration of organisms and co-entities, sharing motions & emotions. There is no parallel to the interrelation, interdependence and integration into a unit whole- the family, where we share our states without any inhibition & hesitation. Family is a dedicated spring of relations.

C. Marriage: Union & Unison

Marriage is a pious union and unison of the souls, independent of valleys, hills, rocks or plains. Marriage is a reality to sustain the universe. Marriage amongst all-plants, animals, humans is governed by natural universal protocols.

D. Media & Women

Media are our extension. Radio is extension of our voice, TV is extension of our views. Computer is extension of our brains. Footwear are extension of our feet. Clothes are extension of our skin. Motorbikes are extension of our legs. Airplanes are extension of our wings. We all are extension of the divine. Media connect us, media network us, media extend us. How can media mender us? Media should be civilized while projecting women. Women should also be very sensitive and educated not to be false and over projected by any medium.

E. Religion & Women

Religion by virtue of its ethos is never reducible to mechanical rituals. Real Rituals have their own grace. Religion is a volume of principles we live with and we live by. We never compromise with our principles. Such are the offspring of Mother India. Religion finds expression every moment, in every breath, in every situation, in every action.

F. Society & Women

This biosphere with the emergence of societies, has its own bonds, very strong, unbreakable, even stronger than the coordinate bonds. Society is an ocean of massive energy. No storms, no forces, however strange or wild can torn it asunder. Society has its own shield stronger than the strongest firewall.

G. Globalization & Women

The globalization of the east is essentially family, community, society, service oriented, not market or profit oriented. Sustaining its sensitivity towards the eastern values, our society is facing the global market. Our culture, our literature, our traditions will help Indian Education to sustain Indian ethos as follows:

“ MATRIVAT PER DARASHU, PER DERVASHU LOSTHVAT, ATAM VAT SRVA BHUTASHU, YA PASYATI SA PANDITH.”

Global Peace rather than a distant dream is a close reality. Here we recall Swami Vivekananda, through, one of the stanzas of a Poem on *PEACE* by him, as follows:

***“It is not joy nor sorrow,
But that is which is between,
It is not noight nor morrow,
But that which joins them in.”***

H. Women: Decency , Decorum & Discipline

No behavior or being is absolutely good or absolutely bad. In every good behavior bad resides & vise-versa. Why do we go corrupt? For whom? What for? Let us revive our true identity to liberate ourselves of corruption. The man that has practiced control over his self cannot be acted upon by anything outside. Let us go back to our old politeness and basic values. We need, both, Strong & Positive Education.

I. Emerging Problems of Dementia in India

With the changed scenario of Giant families to Nuclear families in India the problem of dementia has emerged very wildly. The elderly people of India are very commonly becoming victims of memory loss, that is, dementia. What is the resolve? Which disciplines this problem belongs to – Family & Community Studies, Social Work, Medicine, Education, Psychology, Sociology, Economics, Political Science, Architecture? It belongs to all these and many more. Below is presented the case of an Indian Woman.

A Woman of 86 Year with Dementia

Here is a person, mother of 8 Sons & Daughters, all grown up well settled Adults & Aged. None is ready to live with her, except, one. She is suffering from a severe memory loss. For example, after washing, she very often forgets to close the jet. As, a result the over head water tanks become empty. She has not been in a position to attend to it despite daily reminders. As a result the family members have started shouting at her at the pitch of their voice expecting her to close the jet post-usage. But, no results. Now the question is-Is shouting the solution. Answer is no. Instead, it is significantly damaging , both, the shouters and the shouted at. What is the diagnosis? What is the prognosis for its disposition?

1. Amelioration of dementia
2. Disconnection of Jet
3. Support Staff
4. Empathy of the Family Members
5. Dementia specific Social Architect
6. Separate Abode for the Dependent (“ANASHRIT ASHRAM”)
7. Dementia Patient Policy

J. Girls Selling Indian Flags on Independence Day & Republic Day



Here is daughter-The Pride of India selling Indian Flags. Where is Her Home? Who are Her Parents? Which School She Studies? Where from She has brought these Flags of India? What for She brought these Flags? Why is She holding these Flags? What flows through these Flags? How is she holding these Flags? How do we read the configuration of Her Face-Her Eyes, Her Hair, Her Ear Rings, Her Smile, Her Vision?

How about the UNO Convention on the Rights of Children? How about the Indian Constitutional Right to Education (RTE)? How about the KANYA KELVANI of Gujarat? How about the Maharaja Sayajirao Vision of the Girl Education? How about the Perceptions of Parents of their Girl Child? How about the Corporate Social Responsibility? How about the role of the Entire Universe?

Have the Legislative, Executive, Judiciary, Society, Polity, Education sincerely thought that why the State of many a girls is so miserable in India? Why the girls are perceived as objects, rather than, embodiments of all the values & virtues and the Soul for the genesis of human life? For realizing civilization & humanization, we ought to understand the bipolarity- Positive & Negative, High & Low, Hills & Valleys, PURUSH & PRAKRTI. How to make the masses understand the bipolarity of Nature? Bipolarity is essentially the basis for genesis of life & living in this Universe & Sustainable Development. It is not difficult to research the misperceptions of the beauties of nature. Beauties of nature need to be respected & appreciated. But, our obsessions for possession are destroying the beauties & bliss of the nature. Could we realize detached love for the nature through unconditional love for all the entities? Instead we have started treating the nature as a resource rather than adoring Thee as Source. Resource is endowed by the nature. Usage of resource has been presumed to be the prerogative of man. Man likes to be treated as a Source than Resource. The Apex Administrator of India is the Ministry of Human Resource Development.

Let, each one of us, determine to own a Girl Child. Here are some of the Proposed Actions by Young Indians, through Massive Action Research.

- ✚ I will adapt her as my daughter.
- ✚ I will purchase all the flags she is holding.
- ✚ I will make her realize the vision of human life.
- ✚ I will find some suitable Children Home for her.
- ✚ I will support her economically, as much, as I can.
- ✚ I will seek help from the NGOs for her.
- ✚ I will open Educational Classes for such children, free of cost.
- ✚ I will seek admission for her in a School & Support her Education.
- ✚ I will make her energetic, full of momentum, with vision & action.
- ✚ I will make her self-supportive.
- ✚ I will make her realize her childhood.
- ✚ I will Educate the State to Revisit Policies for Children.

Let us understand Bipolarity. Let us own our children Daughter or Son, Son or Daughter. Let us adore the Mother Nature as Source and abstain from exploiting Her, abusing Her, as Resource. A Hindi Poem well tries to produce the scenario:

बेटी: गर्व भारत का

छितरे फैले बाल, आँखें जग मग
ओठों में मुस्कान अनूठी, मन में है मनुहार
हाथों में राष्ट्र ध्वज, लक्ष्य केन्द्रित, भुजबल प्रबल
फराक दिल, जोशे जिगर, खुशी-गम से भरा भोला चेहरा
यह भारत देश है मेरा
हाँ! यह भारत देश है मेरा !

हर धर हर आँगन हर पल
हर तन उन्मुक्त लहराये तिरंगा
किसी भी बेटी के हाथों में
कभी ना बिकने आए तिरंगा
गली गली लहराए तिरंगा
हर तन मन फहराए तिरंगा !

इस मासूम से झंडा खरीद
क्यूँ न हम कृतार्थ करे
और कुछ करें या ना करें
बस इतना तो उपकार करें

इसको भी लिखना पढ़ना है

इस जग में आगे बढ़ना है !

माँ जो हमें जन्म दे सकती है

हमें क्या नहीं वह दे सकती है

नभ जल थल लहरायें हम

हर पल तिरंगा फहराएँ हम

नित नयी फसल उगायें हम

माँ की झोली भर जाएँ हम !

छम छम छब्बीस जनवरी कब आएगी

वह पंद्रह अगस्त कब मनाएगी

राष्ट्र ध्वज बेचने की बजाय

झंडे वाली जब झंडा फहराएगी

या ये मेरी भारत माँ

यों ही बूढ़ी हो जायेगी?

K. Roles Played by Women

The voice of a Tribal Girl cutting wood on a hill still reechoes in the valley transmitting a message to ultra modern maids as follows:

A Wild Girl

Once on a Tree on Naini Peak

Sweetest Innocent

Frank & Fluorescent

A Girl Ever Seen

My heart to talk that Sweet Heart

Fizzled

The Plight Poured

Which Sometimes Drizzles

Clicked the Camera Which I had
The Snap all over Branches & Leaves Spread
Relays her Absence
Makes me Sad!

Her Braveness & Frankness
Still Shines the Paths in Dense Forests
Her Gentle, Wild , Cultured Looks
Still Touch the Souls, Grace the Hearts!

The Scientific Strokes of the Wild up Hill
The Echoing Re-Echoing Sound Thrill
Dry Scattered Sticks, piled with Zest & Zeal
Promise her Family Life, Promise the Meals

Her Enchanting Voice Still Re-echoes the Valley
Transmits a message to ultra modern maids
Through out the day like crowing hen
Neither fit for self nor Environ!

If the Home culture is not sustained along with new roles and women become insensitive to the native culture then it seems that stereotype roles observing culture are much better. It does not mean that the present woman should conform to the primitive traditions. There is subtle difference between the past and present which is likely to increase progressively because of mobility from agrarian to industrial and industrial to technotronic & information society. But, in India the unique feature is the co-existence of all such societies. In the evolving Indian Society which is a constellation of Agrarian-Industrial-Technotronic-Informational..... There are innumerable challenges. How long a woman can limit herself to stereotype roles, such as, rearing children of the just preceding generation, child bearing, looking after her own kids by playing a variety of roles, such as, home management, through cleaning, cooking, washing, serving children, husband and other relations. Progressively the new roles are emerging, in different fields, such as, business, education, industry, They are working as HRMs, Governors, Administrators VCs, Chairpersons, and Managers. Most of the working women are working dual roles, Domestic & Work Place.

L. Illiterate Women & Stereotype Roles

A large majority of these women have compromised with their lives by limiting it to stereotype roles. Their objectives are reproducing, child rearing, house keeping, with little physical, mental and social mobility. They do aspire for additional modern roles more befitting their lives.

M. Highly Literate & Modern Roles

The working women are facing lot of problems in developing countries like India, wherein, the society expects them to play both the stereotype and job specific new roles. It is more of a problem of capacity. These women very often burnout before they bloom. They are not in a position to lead normal natural life. There is a need to civilize the society by analytical study of the relative roles of women and development of a support system. Sometimes these women are so tired through their day long jobs that they are not in a position to translate the stereotype roles called for, which results into imbalanced families. But some women neglect their stereotype roles because of their jobs. The roles of women need to be redefined, particularly, in the present fast evolving society.

N. Relative Empowerment of Women Playing Stereotype & Modern Roles

In families which have a mix of women some playing stereotype roles, whereas, the other playing transformational roles, there is sometimes power clash. There are quarrels amongst employed and unemployed women due to powerfulness & powerlessness. What should be the empowerment mechanism in such a setting? The domestic women may perceive working women as visitors, whereas, the working women may perceive the domestic women as economic burden.

O. Stereotype Roles and Modern Roles

Playing only stereotype roles may be compromising. Stereotyping may be lacking or not lacking originality. They may be highly creative. Playing only mod roles may be at times mechanizing. What if an office keeping woman is not home keeping? Can both the players play peacefully? If yes, then how? A poem in Punjabi tries to depict it as follows:

੐

ਓਹ ਸਾਡੇ ਵਰਗੀ ਨਹੀਂ ਹੈਗੀ



ਓਹ ਸਾਡੇ ਵਰਗੀ ਨਹੀਂ ਹੈਗੀ
ਅਸੀਂ ਉਨ੍ਹਾਂ ਵਰਗਾ ਹੋ ਜਾਣਾ
ਓਹ ਸੈਂਡਲ ਪਾ ਘਰ ਵਿਚ ਫਿਰਦੀ ਹੈ
ਅਸੀਂ ਝਾਡੂ ਪੋਚੂ ਕਰ ਲੈਣਾ |

ਬਰੂਰ ਪਿਜ਼ਾ ਖਾਵਣਾ ਉਨ੍ਹਾਂ
ਅਸੀਂ ਰੁਕਾ ਸੁਕਾ ਖਾ ਲੈਣਾ
ਉਨ੍ਹਾਂ ਵਾਸਤੇ ਸੇਫਾ ਲੈ ਆਉਣਾ
ਅਸੀਂ ਥੱਲੇ ਪੁਲੇਥੀ ਪਾ ਲੈਣਾ |

ਉਨ੍ਹਾਂ ਨੂੰ ਗੁੱਸਾ ਆਉਂਦਾ ਹੈ
ਅਸੀਂ ਹੰਸ ਹੰਸ ਕੇ ਸ਼ਹ ਜਾਣਾ
ਉਨ੍ਹਾਂ ਦਾ ਬੀ ਪੀ ਵਧਦਾ ਹੈ
ਅਸੀਂ ਚੁਪ ਹੋ ਕੇ ਬਹ ਜਾਣਾ |

ਉਹਨਾਂ ਨੂੰ ਠਾਕੇ ਪਸੰਦ ਨਹੀਂ
ਅਸੀਂ ਹੋਲੇ ਹੋਲੇ ਹੰਸ ਲੈਣਾ
ਮੁਬਾਰਕ ਉਚਾਨੁ ਕੈਪਰੀ ਟੋਪ
ਅਸੀਂ ਸਲਵਾਰ ਕੂਰਤਾ ਪਾ ਲੈਣਾ |

ਓਹ ਨਕਲੀ ਡਾਂਸ ਕਰਦੀ ਜੁੱ
ਅਸੀਂ ਰਲ ਮਿਲ ਗਿਦੂ ਪਾ ਲੈਣਾ
ਓਹ ਮਨਾਉਂਦੀ ਰੋਜ ਵਿਦੇਸ਼ੀ ਡੇਜ
ਅਸੀਂ ਲੋਹੜੀ ਬੈਸਾਖੀ ਮਨਾ ਲੈਣਾ |

ਓਹ ਸਾਡੇ ਵਰਗੀ ਨਹੀਂ ਹੈਗੀ
ਅਸੀਂ ਉਨ੍ਹਾਂ ਵਰਗਾ ਹੋ ਜਾਣਾ
ਉਠ ਨਾ ਜੱਟਾ ਆਈ ਬੈਸਾਖੀ
ਰਲ ਮਿਲ ਭੰਗੜਾ ਪਾ ਲੈਣਾ |

ਓਹ ਵਿਦੇਸ਼ ਜਾ ਕੇ ਪਰਦੇਸ਼ੀ ਹੋ ਆਈ
ਅਸੀਂ ਵੀ ਮਲਟੀ ਨੇਸ਼ਨਲ ਹੋ ਜਾਣਾ
ਓਹ ਅੰਗ੍ਰੇਜ਼ੀ ਵਿਚ ਗਿਟ ਪਿਟ ਕਰਦੀ ਹੈ
ਅਸੀਂ ਵੀ ਹੋਲੇ ਹੋਲੇ ਸਿਖ ਲੈਣਾ |

ਓਹ ਕਾਂਟੇ ਫੋਰਕ ਨਾਲ ਖਾਂਉਂਦੀ ਹੈ
ਅਸੀਂ ਖਾਲੀ ਹਾਥ ਨਾਲ ਖਾ ਲੈਣਾ
ਓਹ ਸਜ ਧਜ ਕੇ ਆਉਂਦੀ ਹੈ
ਅਸੀਂ ਐਵੇਂ ਹੀ ਮੁਸਕਾ ਲੈਣਾ |

ਉਨ੍ਹਾ ਫੁੱਲ ਬੈਟ ਹੋਣ ਯੂ ਐਸ ਜਾਣਾ
ਅਸੀਂ ਐਥੇ ਹੀ ਫੁੱਲ ਬੈਟ ਹੋ ਜਾਣਾ
ਜਦੋਂ ਓਹ ਫਾਇਵ ਸਟਾਰ ਜਾਣਾ
ਅਸੀਂ ਆਕਾਸ਼ ਗੰਗਾ ਵੇਖ ਆਣਾ।

ਜਦੋਂ ਓਹ ਲੰਬੀ ਕਾਰ ਵਿਚ ਘੁਮਦੀ ਹੈ
ਅਸੀਂ ਵੀ ਟ੍ਰੇਕਰ ਲੈ ਆਨਾ
ਜਦੋਂ ਓਹ ਪਾਰਟੀ ਪਲੇਟ ਜਾਉਂਦੀ ਹੈ
ਅਸੀਂ ਸਰਸੋਂ ਦੀ ਫਸਲ ਲੇਹਰਾ ਦੇਣਾ |

ਉਨ੍ਹਾਨੁ ਏ ਸੀ ਵਿਚ ਸੇ ਲੈਣ ਦੇ
ਅਸੀਂ ਬਾਹਰ ਖੁਲੇ ਵਿਚ ਸੇ ਜਾਣਾ
ਓਹ ਸਾਡੇ ਵਰਗੀ ਨਹੀਂ ਹੈਗੀ
ਅਸੀਂ ਉਨ੍ਹਾ ਵਰਗਾ ਹੋ ਜਾਣਾ |

ਓਹ ਸਾਡੇ ਵਰਗੀ ਨਹੀਂ ਹੈਗੀ
ਅਸੀਂ ਉਨ੍ਹਾ ਵਰਗਾ ਹੋ ਜਾਣਾ
ਬਰੂਰ ਪਿਜ਼ਜ਼ਾ ਚੜ ਇਕ ਦਿਨ
ਉਨ੍ਹਾਨੁ ਸਰਸੋਂ ਮਕਕੇ ਤੇ ਆ ਜਾਣਾ |

P. Need of Transforming Stereotypes

Women need to have Physical, Social, Economical and Cognitive mobility, at the same time, they need to sustain the basic values & culture. To liberate the women of 24 hours stereotyping it is required to have self empowerment, political empowerment, economic empowerment, and technological empowerment. An illiterate stereotype woman learns 3R & ICT Skills from her kids and becomes techno-savvy or truck driver. More than Social Slogans social rearrangement and acceptance are required to support women to realize their self. Women need empowerment in all spheres.

Q. Rate of Transformation of Stereotype Women

What should be the rate of transformation of Stereotype Women?

Women Empowerment Expression

Empowering a woman as an AAYA is the evolving support system in India. It is mainly to empower the economically poor. It is more for seeking support. There should be no tendencies to overload and depower the poor. It seems that a large number of so called top functionaries draw their power amorally and unethically from others. Rather than depowerment empowerment (- +) could it be empowerment empowerment (++) phenomenon?

R. Positional Administrators but Functional Stereotype

If the governor of a country is governed merely by the philosophy of others and has little originality it can be very disastrous. Having laws does not mean to be slave to polity & systems. The actual functional moments are those when we need to be above systems moderating, modernizing and perfecting laws.

S. Modernization of Stereotype Roles

All women need to modernize their stereotype roles. Particularly, it is rather difficult to play both the stereotype and field roles without modernizing the stereotype roles.

T. Women in a Multivariate Setting

For women empowerment, the social system needs to be more civilized and Educational System needs to be more flexible. It seems non-formal Education is more suitable for domestic women. Here we would focus on limited variables. To brief a few case:

- a. In Education a woman student qualifies the admission criteria for Teacher Education, but, she is likely to deliver a baby within two days of the academic session begins. She wants leave for one month.
- b. A Girl is expected to work at the Call Centre 10 Hours a day with no provision of holidays in private sector. Why?
- c. A woman student does domestic jobs enrolling herself in Professional Education. She is very often late coming to her academic class.

Why should there be same Time Space Personnel Material Management System for all when their conditions are different? In this age of democratization & humanization when will we learn to have compatible systems?

U. Liberating Women of Mere Stereotype Roles

There are many ways of liberating women of mere stereotype roles as follows:

- Self Employment
- Vocationalisation
- Liberalizing Tuition Fee
- Reservation for Studies
- Reservation for Jobs
- Social Security
- Legal Protection
- Social, Political, Educational, Economic Empowerment
- Professional Training

Concluding Remarks

A large majority of women playing stereotype roles are silent, saving and dependable, whereas, most of the women playing modern are noisy, spend thrifts, and temperamental. Stereotyping women may not be lacking originality. It is more a matter of the environ they get. Most of the Rural, Tribal and Primitive women can well compete with the women playing modern roles. Reservations can be usefully harmful. Can we think of reservation beyond SC, ST, SEBC, PH, and EXS? Now the move is that there should be reservation for women in Government jobs. It is high time that India needs to think for reservation for all. The role of each entity needs to be properly defined.

Salute to the Doctors who have relieved Widows of the cruelty Society, training and turning them into nurses at the same time absorbing the abuses and revolting against reducing them to SATIS. Can the society give voice to the suppressed silent? Can the society give microphones and medium to their enchanting voice? Can the society protect the women against brutal animal like social attitude? How can the women transcend from over-dependence to

independence, from over protection to protecting others? To begin with the society needs to treat women as normal beings.

Man and Woman stereotypes should no more prevail in the universe. They have their own identity, which needs to be fully respected. No verdict of any court is required in this context. The identity of both ought to be recognized & respected.

Organizations were conceived for the emancipation of women and justice for all. Women have been protecting their interests through active participation in the Socio, Economic, Cultural and Political Affairs. The first ever witness of such consciousness was a Memorandum in which Indian Women demanded the right to vote, which reveals their political consciousness. They made it clear to the Governor General and the Secretary of State of India that Indian Women have their own independent views on the reforms which are necessary for uplift. They also demanded the right of Self-Government.

Mere stereotyping is compromising, whereas, mere modernizing is mechanizing. The functional requirement is the equilibration of both the roles of human beings.

World Class Universities of India

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We have Central Universities. We have State Universities. We do have deemed to be universities. Identity of a university is “Universal Outlook & Universal Inlook”. Our Universities should give a feel of universities in terms of their act, vision, mission, structure, functionaries & functions. Validity of a University be assessed on the basis of Competency Base, Pioneer Competencies, Tendencies to be Universal & Universal Becoming & Being.

World Class Ancient Universities of India

1. Takshshila

The mention of Takshshila Nagri is there in Ramayana and Mahabhart. The Greek Travellers, namely, Arian and Stravo have narrated the prosperity of Takshshila. Havensang, a Chinese Traveller has described Takshshila as a Center of Higher Education. Marshal and Kanhingam through Archelological Excavation of Takshshila found 55 Satoop, 28 Vihar and 9 temples. In 1924 A.D. a Mudra-Kosh & Aabhooshan-Kosh were found from Takshshila. These are some of the evidences of the historicity of Takshshila. Students from Varanasi, Patliputra, Rajgrah, Mithila and Ujjani came to study in Takshshila University. A famous student of Takshshila from Patliputra, who was contemporary of Buddha studied Medical Sciences here, and emerged as super most Medical Scientist then. Kaushal Raja Persenjit, Maurya King Chandra Gupta, Experts of Grammar Panini, great economist Kautilaya & Patanjali were the products of Takshshila University. Various Courses, namely, Vedtra, Ashtadadh Shilp, Grammar and Philosophy were offered at Takshshila University. The Higher Education of Allopathic, Surgery, War Education, Astrology, Agriculture, Chariot Driving and Trade was offered here. Takshshila was well known for Art Education in Eighteen areas, such as, Art, Trade, Music, Dance, Chitrkala, Takshan Kala, Astadash Shilp, Indrajal, Nag Vashikaran, Guptnidhi Anveshan Vidya. Takshshila University was managed by Teachers and Students. There was an extremely large number of Naisthik

Berhamcharis during the Jatak Yug here. Each Acharya was taking care of the Education of five Students. There was no discrimination among students on the basis of caste, creed. Brahman, Kshatriya and Vaishya all were treated at par. There was a tradition of Guru Dakshina. Gifted Students, but with economically poor background were taken care of by the State & Society.

2. Nalanda

Nalanda University was a center of learning for knowledge seekers. They not only studied here, but transcended the knowledge. Situated at 55 miles south of Patna (Patliputra) and 7 miles north of Rajgriha, the ancient Nalanda has its remains (Khandhar). The foundation stone of the Nalanda University was laid by Gupta Samrat Kumar Gupta-I. Students from Middle Asia, China, Tibbat, Korea used to come to seek admissions here. The Entrance Examination was very tough. The candidates had to dialogue with the Dwarpal (Dwarpandit) first. On the basis of successful dialogue, this Gate Keeper would permit only 1 to 2 candidates out of 10 to enter. It was a honour to get admitted and being the Student of Nalanda. These students were respected throughout the country. Only gifted students could get admission in Nalanda University. Even then the strength of students in Nalanda was greater than that of any other university in the world. During the visit of Itsingh (675 A.D.) the student strength of Nalanda was 3000, whereas, during the visit of Shavan– Chang it went up to 10,000. There were students from Tibbat, Korea, Tushar and Central Asia also in this University. Yuvan-Chang, Itsingh, Thanmi, Havenchiu, Tau-Hi-Havi-Niah, Aryavaman have been some of the well known students of this university. Kulpati Sheelbhadra (635 A.D.), during the visit of Yuvan-Chang was found to have assimilated the Sutras and Shastras available at that time. Yuvan-Chang has made a mention of the Intelligentsia of that time, Dharpal earlier VC; expert on the Teachings of Buddha, Chandrapal; highly gifted and popular Gunmati & Sathirmati; Logician on his subject Prabhamitra; Communication expert Jinmitra and Ideal character Gyanchandra. The Teaching methods used were Oral, Explanation of books, Lecture, Shashtrarth and Dialogue. In addition to these many other approaches, namely, Bhikshatan, Shram, Parishad, Gosthi Charan and Agar- Shisha approaches were used. There was a grand library to take care of the studies of 1500 teachers and 10,000 students. The three buildings, namely, Ratansagar, Rastnodhi and Ratanranjak constituted the Library. Vidya Parishad was taking care of the academics of the university, whereas, finance and administration were taken care of by another Committee. The university was mainly meant for Bhikshu students. There was no fees. Even the boarding and lodging were also borne by the University.

3. Vikramshila

Vikramshila University was located in 10 miles south of the present Bihar Tehsil of Bihar State. Ancient Vikramshila was a Bodh Vihar located on the Southern banks of Ganga . Very learned people were appointed for examination on the main gates of the University. Vikramshila can be identified through the Khnandhars on the Southern banks of Ganga of the present Sultangunj, District Bhagalpur. The foundation stone of Vikramshila was laid by king Dhrampal of Pal Density. Big Halls were built for lectures. Up to 1300 A.D. the University was under the care of the successors of Dhrampal. A Guest House was built for Learned people from Tibbat. Up to 1200 A.,D. the student strength was 3000. Up to 400 years students kept coming here for studies from Tibbat and other States. Specially there was provision for Physical Sciences in this university. There was teaching-learning of Kramkand, Grammar, Logic, Tatvagyan and Tantra here, specially. The certification was done and degrees conferred by the Kings of Bengal here. There were valuable books in the library. Different functions were distributed against different committees. The academic administration was done by a committee of six Dwar Padits, whereas, the general administration of the university was done by another Committee.

4. Vallabhi University

The worshiper of Sun Maitrya Kings established their capital in the eastern Gujarat of Bay of Cambay. These kings were believer of Brahaman-Shaiv dharma. The Vallabhi University developed during the period of Maitrya Kings (490 A.D. to 775 A.D.). It is learnt through the Chinese sources that during 640 A.D. there were Vihars here, where about 6000 students were staying. In addition to Bauddh Shiksha Kendra it was Brahmin Shiksha Kendra also. Courses on Law, Economics, Political Science, Medicine, Accountancy and Literature were offered here. Experts of the international repute, namely, Sthirmati and Gunmati were here. During Ancient period Vallabhi was known for Medical Sciences. The expenditure of the Vallabhi was met by Matraik kings and hundreds of capitalists. Up to 1200 A.D. Vallabhi University was the Center of attraction for students continuously up to Bengal.

5. Odantpuri University

Gopal, a brave Nayak established a new kingdom in Eastern India by the name " Palvansh of Bengal. Odantpuri was made the capital by Gopal (750 A.D to 770 A.D.). Odantpuri Matth was established here, which was later known as Shikshapeeth. Palvanshi king Dhrampal established a library here having valuable books on Baudh and Brahmin literature. 1000 Bhikshu used to study here. Odantpuri University was a Center of Tantrik Adhyyan and Research. In addition to these, subjects, namely, Mimansa, Philosophy, Logic were also offered. Odantpuri University is known for the Intellectuals Deepankar Sri Gyan and Prabhakar. The Indian culture was deployed through the Odantpuri University.

6. Jagdalpur University

King Rampal established Ramavati Nagar as his capital. A grand Vihar was built here called Jagdal Vihar, which was a famous Center for Bengal then. The Jagdalpur University was a Center for Tantrik and Tarkik studies. Many students from India and Tibbat studied here. Jagdalpur University is known for the learned, namely, Vibhutichandra, Dansheel, Shubankar Gupta, Mokshkar Gupt and Dhramkar.

7. Kashi

Kashi developed as a Center of Education during Upanishad period. The king of Kashi Ajatshatru was known for his wisdom. Varanasi was a Center of Education in Eastern India during Buddh period. Lord Buddha started his preaching from Sarnath of Varanasi. 1500 Baudh Bhikshu used to study at Sarnath. It is evident through medieval reports that studies of Vedas was done at Varanasi. Shankracharya laid the foundation stone of Advaitya-Vedant at Varanasi. Women used to study Sanskrit here.

8. Kashmir University

Kashmir was a Center of Education during Pre-Mediveal period. Many volumes on Sanskrit and literature were published here. The author of Naishadcharit, namely, Shri Harsh was from Kashmir. A History book Rajatarangini is well known which is a rich learning resource on Indian History.

9. Mithila

The Upanishdik name of Mithila was Videh. It was a center of learning for Brahmins. It was having importance during Baudhkal also. Vidyapati Maithil Kokil was born here. Jagdhar of Videh made critical comments on Meghdoot, Devi Mahatamya, Geet Govind and Malatimadhav. New Law has been the unique contribution of Mithila. Gangesh Upadhyaya gave a new direction to law. Verdhman Upadhyaya, the son of Gangesh Upadhyaya authored Tatva Chintamani Prakash, Nayayanibandh Prakash, Nayayaprishisht Prakash, Kirnavali Prakash, Nayayakusumanjali Prakash, Nayayaleelavati Prakash and Khandakhadya Prakash. Mithila was known for Shalaka-Pareeksha. Mithila was very popular for its wisdom for about 300 years.

10.Nadia

Nadia or Navdaveep was created by Sen kings of Bengal on the Sangam of Ganga and Jalangi in 1100 A.D. It was the capital of Raja Laxman Sen. It was famous for Trade and Nayaya Shastra. There were many Achrayas in the Law Section, namely, Gangadhar Bhattacharya, Rambhadra, Mathuranath. There was provision for Smriti Shiksha also. Jyotish Vibhag was created by

Acharya Rambhadra. The appointment of Teaching staff was done on the bases of Knowledge base and expertise in dialogue.

11. Dhara

Dhara was the capital of Permars in Malva. It was known for Vidya, Gyan, Shiksha and Kla. Dhara Naresh Munj was known for his wisdom. Raja Bhoj served for the cause of Education. He used to distribute lakhs of Mudras amongst the learned. Rameshwar Kavi was given one lakh mudras on each word of his Poem. Raja Bhoj was called "Kavirai" in Udaipur Prashashti. He was expert in Kavya, Dharma, Jyotish, Medical Sciences, Kla, Grammar and Polity.

12. Kanyakubj

Kanyakubj (Kannauj) was ruled by Harshverdhan during 700 A.D. Chinese Yavan Chvang visited during that period. It was not only the capital, but also a Center of Education. Kannauj people were very curious knowledge seekers. Hershverdhan was a Poet and Dramatist. King Hershverdhan used to encourage and exhilarate the meritorious. Brahmins used to learn all the four Vedas. Kannauj continued to be the Center of learning even during the periods of Pratihars. Rajshekhar one of the well known writers of that period authored Kavya Meemansa, and Karpoor Munjari.

It is an eye opener to find how the present Higher Education System globe over has failed to sustain and integrate the values the Ancient Indian Universities lived by. The modern higher education system should learn a lot from the profiles of the Ancient Indian Universities.

Ranks of the Indian Higher Education Institutions in Asia (BRICS 2019)

Top universities in India 2019

India Rank 2019	WUR Rank 2019	University
1	251–300	<u>Indian Institute of Science, Bangalore</u>
2	351–400	<u>Indian Institute of Technology Indore</u>
=3	401–500	<u>Indian Institute of Technology Bombay</u>
=3	401–500	<u>Indian Institute of Technology Roorkee</u>
=3	401–500	<u>JSS Academy of Higher Education and Research, Mysore</u>
=6	501–600	<u>Indian Institute of Technology Delhi</u>
=6	501–600	<u>Indian Institute of Technology Kanpur</u>
=6	501–600	<u>Indian Institute of Technology Kharagpur</u>
=6	501–600	<u>Savitribai Phule Pune University, Pune</u>
=10	601–800	<u>Amrita Vishwa Vidyapeetham, Coimbatore</u>
=10	601–800	<u>Banaras Hindu University, Varanasi</u>
=10	601–800	<u>University of Delhi</u>
=10	601–800	<u>Indian Institute of Science Education and Research, Pune</u>
=10	601–800	<u>Indian Institute of Technology Guwahati</u>
=10	601–800	<u>Indian Institute of Technology Madras</u>
=10	601–800	<u>Indian Institute of Technology Bhubaneswar</u>
=10	601–800	<u>Indian Institute of Technology Hyderabad</u>
=10	601–800	<u>Jadavpur University, Kolkata</u>
=10	601–800	<u>National Institute of Technology Rourkela</u>

=10	601–800	<u>Panjab University, Chandigarh</u>
=10	601–800	<u>Tezpur University, Tezpur</u>
=22	801–1000	<u>Acharya Nagarjuna University, Guntur</u>
=22	801–1000	<u>Aligarh Muslim University</u>
=22	801–1000	<u>Birla Institute of Technology and Science, Pilani</u>
=22	801–1000	<u>Indian Institute of Science Education and Research Kolkata</u>
=22	801–1000	<u>Indian Institute of Technology (Indian School of Mines) Dhanbad</u>
=22	801–1000	<u>Jamia Millia Islamia, New Delhi</u>
=22	801–1000	<u>National Institute of Technology, Tiruchirappalli</u>
=22	801–1000	<u>Osmania University, Hydeabad</u>
=22	801–1000	<u>Pondicherry University, Puducherry</u>
=22	801–1000	<u>Sri Venkateswara University, Andhra Pradesh</u>
=22	801–1000	<u>Thapar University, Patiala</u>
=22	801–1000	<u>VIT University, Vellore</u>
=33	1001+	<u>Amity University, Noida</u>
=33	1001+	<u>Andhra University, Vishakhapatnam</u>
=33	1001+	<u>Annamalai University, Chidamangalore</u>
=33	1001+	<u>Cochin University of Science and Technology</u>
=33	1001+	<u>G.B. Pant University of Agriculture & Technology, Pantnagar</u>
=33	1001+	<u>GITAM University, Visakhapatnam</u>
=33	1001+	<u>University of Kerala, Trivandrum</u>
=33	1001+	<u>KIIT University, Bhubaneswar</u>

=33	1001+	<u>Maharaja Sayajirao University of Baroda, Vadodara</u>
=33	1001+	<u>Manipal Academy of Higher Education, Manipal</u>
=33	1001+	<u>University of Mysore, Mysuru</u>
=33	1001+	<u>PSG College of Technology, Coimbatore</u>
=33	1001+	<u>SASTRA University</u>
=33	1001+	<u>Sathyabama Institute of Science and Technology</u>
=33	1001+	<u>SRM Institute of Science and Technology, Tamilnadu</u>
=33	1001+	<u>Tamil Nadu Agricultural University, Coimbatore</u>

Ranks of the Higher Education institutions/Universities at all India level, as well as, World level are evident through the above presentation.

Vision of a World Class University

1. Any University should be constructed, developed & established considering the global profile, that is, needs of various people, conditions of various people aiming at development of Universal Beings.
2. The University should offer Choice Based Credit System, not for name sake, out of the given, but, out of the desired.
3. The Universities globe over should have Complete Networking.
4. The University should be a miniature of the Universe, different cultures, ideas, ideologies & philosophies. All these should find a place on a single campus and all should be fully valued, accepted and inculcated.
5. Ideas ought not to have labels. There are no limits and boundaries for knowledge generation & sharing. Universities should provide congenial environment for all these.
6. Innovative Research & Development should be the essential features of all the Universities.
7. There should be utilization of all innovations irrespective of their origin. Every innovation should become universal through the universities.
8. A sense of equality among all students from various countries should be acculturated in the campus. The ultimate goal of Higher Education ought to be universal citizenship.

9. The Universities should own their own products. There should be adequate focus on Process Norms, along with, Input Norms & Output Norms. If the process norms are perfected & observed honestly, then, the output quality & yield are almost ascertained.
10. The Universities should have a vision of the unseen, and skills & competencies to regulate to lead the universe.
11. Universities should produce the capital for the Nation, Globe & Universe.
12. A university should be a blend of the Orient, Modern & Vision.
13. Universities should be Centers of Construction, Connection & Learning.
14. Universities should abstain from becoming Political Hubs. Universities ought to be autonomous.
15. Universities in India should do away with Anti Plagiarism Software (APS), API (Academic Performance Indicators), SLETs and NETs. Universities ought to be Quality Centers. We should learn to own our own products.
16. Assessment & Accreditation by NAAC ought to be perfected if at all it is to be sustained. The grading rather than merely the function of the Peer Team, ought, to be the function of the Educational Institution Reality.
17. Infrastructure should be of High Quality.
18. University campus should be peaceful with healthy ambience.
19. Every Individual & Institution of India should observe the Pre-Ambles of Indian Constitution, that, India is a Sovereign, Socialist, Secular, Democratic, Republic, in thought & action.
20. Developing Caring, Sensible, Responsible, Honest & Humble Citizens ought to be the major objective of the Universities.
21. Universities ought to be fair in their dealings.
22. Universities should be centers of Higher Learning Every Moment to sustain their identity.
23. Internal Quality Assurance Cells (IQAC) of the universities should assure and ensure quality.
24. The Curricula and modes of Transaction need to be perfected.
25. Convocations without invocation are useless. Let us really mean Graduation & Degrees.

Foreign Universities to set up campuses in India

“The NITI Aayog has submitted a report to the Prime Minister’s Office (PMO) and Ministry of Human Resource Development (HRD) in favour of inviting foreign universities to set up campuses in India.

NITI Aayog has suggested three routes to permit entry of foreign education providers: a new law to regulate the operation of such universities in the country; an amendment to the UGC Act of 1956 and deemed university regulations to let them in as deemed universities; and, facilitating their entry by tweaking UGC and AICTE regulations on twinning arrangements between Indian and foreign institutions to permit joint ventures.

The report has justified NITI Aayog’s support for the proposal on the ground that foreign universities will help meet the demand for higher education in the country, increase competition and subsequently improve standards of higher education.

“India stands to gain from setting up of foreign universities in terms of availability of resources both human and financial, state-of-the-art teaching methodology, research and innovation... Capital expenditure in the cost of setting up an institution is high and land and buildings are also a major issue. Entry of foreign universities and leveraging FDI will offset some of these costs,” the report states.

Last year, Prime Minister Narendra Modi asked NITI Aayog to study all reports regarding setting up of foreign universities and the reasons on why it could not move forward. He had even called a meeting of senior bureaucrats in June 2015 to discuss the feasibility of encouraging top foreign education providers.

This issue is also one of the discussion points for the new education policy which will be unveiled this year. The proposal, incidentally, was backed by ten state governments including Haryana, Maharashtra, Punjab and Jammu & Kashmir where the BJP is in power.

Governments in the past have made several attempts to enact legislation for entry, operation and regulation of foreign universities in the country. The first was in 1995 when a Bill was introduced but could not go forward. In 2005-06 too, the draft law could not go beyond the Cabinet stage. The last attempt was by UPA-II in 2010 in the shape of the Foreign Educational Institutions Bill, which failed to pass muster in Parliament and lapsed in 2014 since it was opposed by the BJP, Left and Samajwadi Party.

One of the reservations on foreign universities operating in India was that they would raise the cost of education, rendering it out of reach for a large part of the population. On this, the NITI Aayog has said “financial assistance in the form of loans and scholarships should be made available to deserving students irrespective of their ability to pay based on merit-cum-means”.

There are currently 651 foreign education providers in India which have either entered into collaborative twinning programmes, share faculty with partnering institutions and offering distance education.” (<http://indianexpress.com/article/india/india-news-india/allow-foreign-university-campuses-niti-aayog-2755773>)

There is a need to have reflective dialogue, countrywide, on the stand of NITI AAYOG for inviting foreign universities to set up campuses in India. It seems that many a directional hunches & hypotheses which have been formulated by this learned body need to be re-formulated in the null form. If foreign universities are setting up campuses in India, then, how many Indian Universities are setting up campuses abroad? What is that state-of-the-art teaching methodology, research and innovation & capital which we expect to be benefitted with?

Ph.D. holders from top 500 world universities eligible for direct recruitment as Assistant Professor, announces UGC

“The new provision for international Ph.D. holders cuts down the minimum requirements related to Masters’ programme. Doctoral degree holders from the world top 500 universities can now apply for direct recruitment as an Assistant Professor in Indian varsities, a University Grants Commission notification said. The top 500 ranking universities shall be referred from four famous world university ranking systems- i. Quacquarelli Symonds (QS) ii. The Times Higher Education (THE) or iii. The Academic Ranking of World Universities (ARWU) of the Shanghai Jiao Tong University (Shanghai).

Under the new provision, the UGC has allowed the Ph.D. degree holders from a foreign university/institution ranked among top 500 in the world universities to apply for direct recruitment as an assistant professor in Indian Universities and colleges, a tweet by HRD Ministry said. Usually, the candidates eligible for the post are required to have minimum 55% marks in the Master’s degree in the concerned/relevant/ allied subject from an Indian University, or an equivalent degree from an accredited foreign university. The candidate must also have cleared the National Eligibility Test (NET) conducted by the UGC or the CSIR, or a similar test accredited by the UGC, like, SLET/SET. Ph.D. degree holders from Indian Universities, with required percentage in Masters’ are also eligible for direct recruitment.

The new provision for international Ph.D. holders cuts down the minimum requirements related to Masters’ degree.

It is important to note that the provisions are only meant for short listing of the candidates for interview. The selections shall be based on the performance in the interview, the notification

issued on July 18 said.” (<http://www.indiatvnews.com/education/career-phd-holders-from-top-500-world-universities-eligible-for-direct-recruitment-as-assistant-professor-ugc-486950>)

It is a fully fertile proposition to have Scholarship from the top 500 Universities of the world as Assistant Professors in Indian Universities through direct recruitment. But, the truth or falsehood of this proposition to have access to the merit depends upon the facts this belief relates to. Such a proposition needs to be tested very scientifically.

Causes of Degeneration of Higher Education in India

1. Our Policies are reasonably good. But, the faults come up at implementation level. Our Educational Objectives are Excellent. But, first dilution takes place at the Transaction level, next at the Evaluation Level.
2. We have a tendency to disregard the indigenous, even that of High Quality, and have developed a Craze for the Foreign. It is evident through our APIs.
3. We have gone recursive after enforcing a Common University Act, State or Central. The Question is why should we have a Common University Act. The Root cause is we are neither powerful enough to appreciate autonomy, nor diversity. Let us learn to respect the uncommon & unique in us.
4. We should not have a tendency to disrespect the Educational Administrators who very often operate in a multi-parametric setting. Many of we Educational Administrators serve as Honourary Honourable Servants.
5. We need to develop a very strong Service Cadre in India of the Profile of Shri Shankran, Andhra Pradesh, 1957 batch and Shri S.C. Behar, Madhya Pradesh, 1961 batch.
6. The UPSC should have due place for Education in Service Cadre.
7. Establishment of Universities demands thorough preparation. We should assure & ensure that the Universities are properly established. India cannot afford to erect Universities arbitrarily.
8. Some of the Universities have become abode of some criminal tendencies. The Universities should employ Strong Security with High Level Intelligence to control and counter all such devastating forces.

9. The products of a large number of Scientists are not utilised, because of lack of facilities for Clinical Trials & Patenting.
10. Indian Scientists should be provided due facilities in India. Why do we need to abroad?
11. Indian Faculties are not properly utilized.

Reviving & Reconstructing the Universal Character of the Universities & other institutions of Higher Education

The moment we utter World Class Universities, we recall Takshila, & Nalanda, the Ancient Universities of India which have been found to have eternal universal expression. At present why India is very far from the World Top Institutions and Universities? We have entered into a vicious net of Anti Plagiarism Software, Academic Performance Indicators, State Level Eligibility Tests and National Eligibility Tests, and at the top of all Assessment and Accreditation by NAAC.

When we are down with Academic Plague Epidemic

Why do we require Anti plagiarism Software?

We do not have even a single Nobel Laureate during eight decades

Why there is a need to run TURNITIN, PLAGUETRACK, DUPLICHECK & ITHENTICATE?

When we have polluted, both, our GANGA & SHODH GANGA

Why do we need CROSS CHECK, PUBLICATION, & CUSTOM REPOSITORIES?

When we have lost our HERITAGE, INNOVATIVENESS & RESEARCH QUEST

Why there is a need to be painful detecting Theft & Piracy?

Anti plagiarism Software & Academic Performance Indicators

Disregard Identity of our Higher Education

Mechanized Research, Gone Innovations, Empty Publications

Are these the Ocean of our round the clock Production?

Shedding off APS & API we need to identify with us & our problems

In every breath, at every step, in every experiment, on every path

We need to kindle fresh thinking, spring innovation & Invention

We need to accept ourselves & Awaken HIND & HIND SWARAJ!

We need to treat our Higher Education humanistically. Let the services of Top Scientists be respected in India. Let us develop Software to identify Innovations in India. Let us have Quality Control in our Academic Institutions, so as to have Knowledgeable, Humanistic, Competent Graduates, not merely wearing Scarf & Holding Degree, but resonating with the universe with complete invocation & immersion. More than external controls let us learn to observe inner quality. There are Pioneers & Pioneers in India. Let us revive our heritage of Takshila & Nalanda. Let us revive our respect for Education. Let us revive Identity of Education. Let us respect Education.

World Class Universities ought to be universal in character. What use are colourful citations, unless there is scaled expression at the field & functional levels? What use is the International Outlook unless there is emancipation & liberation of the universal constituents and entities of the miserable painful states? World class universities are where ideas germinate & spring, feelings flow, motor creates, the soul spirit reins, and the self resonates within and with the universe, where the Human Beings Transcend from Human Development Index (HDI) to Universal Development Index (UDI) and Human Beings tend to be Universal Beings, where we have unconditional love for the nature with super inner control. Let us cleanse ourselves with all compatible rinsing agents & submit fully, with complete immersion for understanding the manifestations of the universe. With this prayer India has the potency to establish Universities, which are true Universities, universal in character & expression. The World Class Universities should aspire to be Universal Universities as depicted through the following expression:

Where anxiety stress tension & aggression
Trigger in classrooms blind fire
Kill the innocent including self
Is this what the World Class Acquires!

What use are the Saints & Shrines;
With indoor & outdoor daily crimes?
Is this the Chaos which Peace Aspires
Is this what the World Class Acquires!

What use are Knowledge Societies & Conventions
What us are Science Technology & Inventions
When the immediate neighbour border fires
Is this what the World Class Acquires!

What use is the Blue LED
What use is the Cognitive GPS
If it is the darkness which light desires
Is this what the World Class Acquires!

What use is the International Outlook
What use is the Global Citizenship
If we are bent on War & Fires
Is this what the World Class Acquires!

Criminals find abode in the Grand Hostels
Failing the High Intelligence Vigilant Bureaus
Is it the intelligence we design & desire
Is this what the World Class Acquires!

Let the University Uni-Verse Aspire
Shedding off the World Class Desire
Universal Being - the Ultimate State
This is What the World Class Requires.

The emerging agenda is what should be the feel of the presence of a World Class University? How to realize Universal Universities? The ultimate aim of Education is development of Universal beings through healthy interrelation, interdependence & integration for full, meaningful, happy, healthy & resonating life of all. There is a need to transcend above the Human Development Index to Universe Development Index.

Higher Education: Policy Perspective

1. Many a State Universities are in very miserable state. If , these are not ready to reform then why not Education be placed only in the central list.
2. There is Adhocism both in Higher Education Administration & Teaching. Many a University administrators are Adhoc Officers on Special Duties. Many a University Teachers are Temporary Teaching Assistants. Adhocism has become a regular practice. We need to do away with Adhocism. Otherwise, there would be void & vacuum in the Higher Education of the States of India.
3. There should be norms for appointing the Vice Chancellors, Executive Members and Senate Members. These norms ought to be observed.

4. There should be uniform curricula of Science, Mathematics, Engineering ,Technology, and Medicine throughout India, to control any further dilution.
5. The Liberal Arts should be fully strengthened. The power of India can be revived through the Cultural Heritage & Religious Heritage of India. We do not have any right to treat the Liberal Arts casually, arbitrarily.
6. Teacher Education Policy, Health Education Policy, ICT Education Policy should have the same status as that of Economic Policy and Fiscal Policy.
7. Minimum 5% GDP should be spent on Education.
8. Minimum 2 % of the GDP should be spent on Research.
9. The Ph.D. Course Work made mandatory has mechanized Research in all the disciplines, all over India. The nation should attempt, aggressively, to de-mechanize research.
10. The Academic Performance Indicators of the Indian Higher Education, need to have fool proof Scientific Bases. The prevailing scenario calls for a Countrywide Reflective Dialogue.
11. Grants & Endowments are respectable in the Realm of Education, but, to sustain the status as "**Higher Education**", the Higher Education should construct its own Patents to be independent & self-supportive.
12. Higher Education should realize autonomy in its True Sense and Spirit. It should no more be governed by Bureaucratic, Conservative, Hierarchical systematically Self-Killing System. No body will bestow autonomy. We Higher Education Teachers, only, have to initiate a **Higher Education Freedom Movement**.
13. No State should ever commit the mistake of superseding Education, because if Education is dead the Nation is dead. The bureaucrats, however learned, be advised to abstain from even thinking of superseding Education. To revolt against any bureaucratic threat the **Education has to sustain and demonstrate its true identity**.
14. Who is the most Supreme Governor of India? Is it Education? Is it Society? Is it State? Is it Legislative? Is it Executive? Is it Judiciary? The immediate history is a witness to Judicial over-activism. Why? No in-depth evidence is required to infer that all the rest have more or less lost their identities. It is bitter to relish the hard reality. The fact is that we all have over loaded the Judiciary to be over-active. Due to over-load on any system, either it goes mad or burns out. **It is Education and Education only, and more so, the Higher Education, which can bewitch the minds and control the crimes.**
15. Let us introspect, whether, we are performing our duties and roles properly. Convention on the Rights of Children assures Children of their Rights, but, who will ensure. Universal Declaration on the Human Rights declares Human Rights, but who will observe Human Rights. Does the Constitutional Right to Education Ensure Education? Unless wholistic systemic reforms are done systematically, scientifically, no single agency can help the universe. Shall we recall the Philosopher Honorable Servapalli Radha Krishnan ? Shall we recall the Educationist Maulana Abul Klam Azad? Where from to reproduce them wholistically? Even, the parts of the old machines are not available. Let us innovate. Who stops us? **There are wide gaps between idealism & realism. Unless each one of us is fair, sincere and dedicated, not even God would like to help us.**
16. The entire Higher Education is sick right from Higher Education Policy to Practice, from Gross Enrolment Ratio to the % of the Pass-outs Employed. Over and above, the norms at all phases of the system parameters are highly wanting. **The input norms, process norms, output norms, pick-place & promotion norms have to be worked out very scientifically.**
17. *There is no Parallel amongst the Higher Education Institutions across India. Why? There is no comparability amongst the products of the various institutions, though towards the same PG Degrees or PG Diploma. The services rendered in one State largely do not count towards the*

service benefits in the other States. The superannuation age varies from State to State, State University to Central University. It ranges from 58 to 70. It is because neither we owe an explanation to the self nor to others. The Higher Education Institutions have become merely political hubs.

18. *NITI has been asked to advise how to recreate Higher Education. It does not take much of time to destroy, but, it takes many a life time to create, construct and connect. Along with fault finding tendency we should learn how to appreciate the devotion, dedication and patriotism of Indians. There is no end to perfection. Irrespective of who we are, we owe an explanation to the self and nation for every deed of ours.*
19. *Problem is not with the intelligentsia nor idealism. Problem is with the heart-set, mind-set, hand-set and soul-set. Could the Higher Education respect and inculcate all the essential values, such as, Truthfulness, Reliability, Responsibility, Honesty, Discipline, Patriotism, Citizenship and above all Humanism. We should respect the non-native, but, first of all, let us learn to love the self and indigenous. The foreign Colonies have gone, but still we have, suo motto imperialism even in democracy. **When will we learn to love and adore the Hind Swaraj?***
20. *Is there no Press and Publisher in Our Village, Town, City, District, State, Neighbour State, Nation, Continent, that we like to fly to Oxford, Cambridge, VDM, to get our publications done? It is good that through this plight we are trying to realize the Universe- ideas ought to be distributed and disseminated globally. But, the problem lies else where- **We value more where it is published rather than what is published.** We are seeking high- fidelity media. Cannot we develop these in India?*
21. *Let us abstain from directing & dictating Higher Education, simply, because by virtue of its core & soul it is Higher Education.*

Concluding Remarks

With all ifs and buts, the Indian Higher Education has its own strength. The struggle of the average middle class families for higher education of their young ones is remarkable. Higher Education is the highest priority for them. In fact, these are the people who are helping higher education to sustain and develop its identity. Neither the international institutes of higher education, nor the virtual foreign universities can nurture the Indian youth, but it is the indigenous education which can evolve and actualize the self. A thorough analysis of the product of higher education can reveal a lot. We feel proud that we, the innocent public of India have constituted a sovereign, socialistic, secular, democratic, republic India. No economy howsoever developed, no state howsoever advanced, no judiciary howsoever learned should commit the mistake of superimposing, directing & dictating education, and more so higher education.

Higher Education by virtue of its nomenclature has to germinate, incubate, create, construct and connect round the clock. It has to be eternally innovative to sustain its status as higher. It has to be universal, that is, a comprehensive representative of the universe. Let us revive the

ethos of ancient Indian Universities, such as, TARK of TARKSHILA & Essence & Fragrance of Nalanda, within Digital India to sustain & promote the pioneers of India as JAGATGURU!