

Unit- I:

(a) Nature of Learning- learning as a process and as an outcome, characteristics and factors affecting learning.

Introduction

Man is a learning creature, and learning process begins not only since his birth but also in the womb of his mother. In Mahabharata brave Abhimanyu obtained the knowledge, of breaking the ring shaped formation of troops, in the womb of his mother. This is the direct instance of learning. Learning is a life long process. Man learns throughout his whole life. In the beginning, infant is helpless and dependent on others, but slowly he tries to adjust himself according to the atmosphere. In this adjustment, he tries to take the advantages by the experiences of the process, which is called learning by the Psychologists. Learning is an important subject in the study of Educational Psychology. First the word 'Know' was used for learning.

Nature of Learning

Learning is an extensive word. Learning depends on the inborn responses. Being inspired by the inborn instinct, a man does whatever activities there are for the adjustment of his situation. According to the Psychologists- Learning is a mental process. A mental process is expressed by the behavior. A man is changed and refined on the basis of the experiences in his behavior. Two factors are included in the process of learning—maturity and ability to take the advantage from the earlier experiences. For example, if a burning stove is kept in front of a baby, he touches it because of his curiosity, as soon as he touches it, his hand burns; he draws away his hand rapidly. Then he does not go by the side of it any

time, because he has learnt by his experience that fire will burn him. Thus, Learning is the progressive change in the behavior by the earlier experiences. On the basis of this, we can say that learning is an education. Learning and Education, the both indicate the same process. Both activities go on forever and every where in life. Child, growing towards the maturity, taking the advantage of his experiences, does whatever proper responses, that is called learning. As Blair Jones and Simpson have said- "any change of behavior which is a result of experience and which causes people to face later situation differently may be called learning." It is necessary to study the given definitions by the Psychologists to clear the meaning and nature of learning.

Definition of Learning

- (1) According to Morgan and Gilliland**—"Learning is the behavior of the organism as a result of experience which is retained for at least a certain period of time."
- (2) Gates and Others**—"Learning is the modification of behavior through experience and training."
- (3) Woodbirth**—"the process of acquiring new knowledge and new responses is the process of learning."
- (4) Skinner**—"Learning is process of progressive behavior adaption."
- (5) Crown bank**—"Learning is shown by a change in the behavior as a result of experience."
- (6) Crow & Crow**—"Learning is the acquisition of habits, knowledge and attitudes."
- (7) Thorn dike**—"Learning is selecting the appropriate responses and connecting it with the stimulus."
- (8) Kuppuswami**—"Learning is a process by which an organism, as a result of its interaction in a situation, acquires a new mode of behavior, which tends to persist and affect the general behavior pattern of the organism, to some degree."
- (9) Parik**—"Learning is the process of acquiring assimilating and internalizing cognitive, motor or

behavior inputs for their effective and varied use when required and leading to enhanced capability of further self-mentioned learning.”

(10) Gagne—“Learning is a change in human disposition or capability which can be retained and which is not simply ascribed to the process of growth. The kinds of change called learning exhibits itself as a change in behavior and in the interference of learning is made by comparing what behavior was possible before the individual was placed in a learning situation.”

(11) Browne and Extend—“Learning is intimately related to the basis behavior characteristics of knowledge.”

Psychologists have given many definitions of learning to make clear the conception of learning. For example, some definitions have been presented above. In fact the collection of the above definitions have been done on the basis of this, which could make clear the opinion of learning from the multi angle point of view. In spite of being completely independent, the above definitions are complementary to each other. The following things of learning factor are explained with the combination of many definitions—

1) There is change in the behavior by the process of learning as having been burnt in the fire, an infant **Notes** does not go close to fire.

(2) Whatever changes happen in the behavior, keep on till sometime, as he does not forget it soon that there is a lot of pain, after having a burn from the fire.

(3) The change in the behavior is based on the earlier experiences, if a child has burn from fire, then he works in such a fashion while working with fire that he does not get a burn again.

(4) The change that happens in the behavior could be externally visible, invisible or partially visible.

(5) There are permanent changes in the behavior or doing work in the learning related way. The changes happening in the behavior in the form of doing work, cannot include those changes, which are originated from the main instincts, maturity, addiction, and tiredness.

(6) Learning is the refinement of behavior. Once the changes take place in the behavior, that changed behavior can be improved in a new situation.

(7) The learner obtains growth again and again in cognitive, affective and conative fields by the learning, which helps him with the progressive change in his behavior.

Process of Learning

The process of learning has been cleared with the help of above definitions. The process of learning moves on throughout the life consciously or unconsciously. Developing by individual learning process.

Its basis is maturity. Inspiration is necessary in the process of learning.

According to Guthrie—"Ability to learn is to respond differently to situation because of the past experiences to a situation."

According to the Peel—"Learning is a change, in a person which, happens according to the changes in his environment." Peel has explained the process of learning in brief—

(1) By learning, permanent and temporary, both types of changes come in a person.

(2) Learning is different from the easy, natural activities of person as blinking the eye and to draw the hand etc.

(3) Learning is possible by the social and biological adjustments or conscious purposes.

(4) Learning can originate both types of behaviors as social, unsocial in a person.

(5) Education can be faultless and faulty.

Psychologist Boaz has said—"Learning is the process which the individual acquires various habits, knowledge and attitudes that are necessary to meet the demand of life in general."

According to Woodbirth—"Learning consists in doing something new provide the new activity is reinforced and reappears in latter activities."

This definition is revealed by doing **Skinner's** experiment on the mice.

Features of Learning Process

In the definitions of learning, Psychologists have given a specific type of nature to the process of

learning. If the specific process of learning is analyzed, the following characteristics of learning process

are highlighted:

(1) Learning is universal—Learning is such a process, which happens in the living beings in all the times and all the places. Wherever there is a being, place and time, the process of learning will take place. Human being keeps on engaging in doing something every time.

2) Learning is change—The change that happens in the behavior of child is learning. Learning is that process, by which the change will appear in the child. By the learning, the sequence of changes and rechanges move on, by which child becomes the outcome of the changes.

(3) Learning is development—The development of child is possible by the process of learning. The contribution of learning in the whole development of child is so much important, that learning becomes the synonym of development. The Psychologists have considered that the personality of child is developed in form of progressive changes and refinement, which is possible by the process of learning. Learning is seen in the form of development.

(4) Learning is adjustment—Child establishes adjustment with the society and the environment by the learning process. The process of adjustment is so close to the process of learning that we understand adjustment as learning. In fact Human being has to adjust with the environment to survive. So he has to do the process of learning for his survival. Gates and others have accepted learning as an adjustment.

(5) Learning is Purposive—It is necessary to have some purpose for learning. The goal of learning could be attained by purpose only. Purposiveness decides the aim of learning, and provides the direction to the responses.

(6) Learning is continuous—Learning is neither limited to any age, or any period. Rather, it continues throughout the life.

(7) Learning is creative—It is the tendency of human nature, to do some creative work. Thus, doing

such work is learning, which he manifests in the form of thoughts and actions. Creativity encourages man, by initiative towards learning.

(8) Learning is response to total situation—A person establishes adjustment with different kinds of situations after examining them on the basis of completeness. He continues to learn to do the right responses for the adjustment to the situation. So learning is a delivery of right responses to total situation of a person.

(9) Learning is a relationship between stimuli and responses—To establish the right and desirable responses with any stimuli is learning. On the basis of this fact, Psychologists have delivered the word 'relational' in the study of learning.

(10) Learning is related with cognitive, affective and conative domains—whatever a man learns, its field is cognitive, affective and co-native. And learning is related with cognitive, affective and co-native fields, he collects knowledge, feelings and collects skill to do activities.

(11) Learning is Transferable—A person can use the same skills and solutions of the problem in the other similar problems, which he has learnt in any situation. Means, learning transfers. Thus, learning is transferable.

(12) Learning is a process—From the psychological point of view learning is a process, which moves on in a living environment. This process is seen, in the fulfillment of the need, under the condition of stimuli- responses, in obtaining the goal, in obtaining the success in the adjustment, and in the stabilization of behavior and practical change. It is cleared that there are four important parts in the process of learning. It can be understood by the following diagram:

There are four phases of learning process—

(i) Need or Purpose—In the process of learning, first the need for purpose or motive originates. Need is

that bodily power, which makes power active for its fulfillment.

(ii) Goal—Need is goal aspiring, which makes a person act till acquiring the goal.

The process of

learning is not effective in the absence of goal perception.

(iii) Adjustment—A person establishes adjustment with the situation to get the

goal. He tries many

times to pierce the obstacle. In which the efforts that help in getting the goal after

piercing the obstacle,

is called successful efforts and rest are failures.

(iv) Change—By the process of learning, change comes in the behavior of a

person that differs from

the former behavior or that was not present in the behavior of the person earlier.

Being permanent, this

change becomes a part of a person's acquired behavior. Though, it is possible to

make change in this as

well. This is called the process of reinforcement.

Thus, Learning is an extensive word. Learning depends on the inborn responses.

Being inspired by the

inborn instinct, a man does whatever activities there are, for the adjustment of his

situation. According

to the Psychologists- Learning is a mental process. A mental process is expressed

by the behavior.

A man is changed and refined on the basis of the experiences in his behavior.

□□ In order to explain the meaning of learning, psychologists have given many definitions for it. Like

according to Crow and Crow, "Learning is acquisition of habits, knowledge and attitudes."

□□ Motivation is necessary in the process of learning. Learning can produce social and un-social responses

in a man.

□□ Maturity has great effect on the process of learning. Maturity means the physical development.

Mental ability also develops along with the physical development. There are

changes in the behavior

of the human as a result of this development. The change in the behavior happens

due to maturity

and learning. The process of learning goes on throughout life. In this way the

development of the

human being takes place. Maturity is also a continuous process of development. The physical instrument of learning like spinal chord and nerves help us in learning. As the body of the child grows towards maturity, he begins to use the powers within, and his behavior keeps on changing. For this change, physical, motor and mental maturity is needed. Learning under immaturity harms the child. It affects the physical health of the child as well. Hence it hinders his natural development. Hence it is necessary to focus on the level of maturity the process of learning. They both are dependent on each other.

(b) Transfer of learning- types, theories and educational implications of transfer of training.

Meaning of Transfer of Learning

In education, transfer of learning means 'To make use of learnt application and subject in other situations. In other words, Acquiring knowledge in other subjects and situations is affected by the acquired knowledge in one subject and situation, is called the transfer of learning. It is also called learning transition' and learning transfer. For example- the knowledge which is gained in learning maths helps in the learning of Physics, chemistry and statistics. This application is called the transfer of learning. In this way a child uses his general knowledge of maths in the buying of thing in the market.

It is evident that there is transition of education in some form in related fields. The meaning of learning

transfer is evident with the following definitions given by psychologists—

(1) Velon and Veinstein—“Transfer of learning means that performance on one task is by affected performance on another task”.

(2) Crow & Crow—“The carry over of habits of thinking, feeling or working of knowledge, of skill, from one learning area to another is usually referred to as the transfer of training.”

(3) Callesanik—“transfer is the application to carry over of knowledge, skill, habits, attitude or other

responses from the situation in which they are initially acquired to some other situation.”

(4) Prof. Sorenson—“Transfer is discussed to carry over the knowledge, training and habit acquired in one situation to another situation.”

(5) Pretorson—“Transfer is generalization for it is extension of idea to a new field.”

It is evident from the above definitions, that, to make use of earlier learnt, acquired knowledge, skill, habits or other responses in other situations, is called transfer.

Theories of Transfer of Learning

After understanding the theories of learning it is necessary to know, how does transfer happen? For this, it is necessary to study the different theories of transfer. These theories are following-

(1) Faculty theory of Mind and concept of Formal Discipline—This theory depends on the faculty psychology. According to it mind is made after mixing up many faculties, like- observation, memorization, imagination, discussion, and decision. This strength is different and free from one another. After training them and doing practice they can be made fast. And they can be used skillfully in any situation. For example if faculty is trained of memory, it is necessary to learn those words, which are not useful for person at that time. Therefore it is the opinion of followers of this theory, that logical **Notes** power can be trained by maths and then it helps in the learning of those subjects in which logical power is needed. According to this theory the selection of the learning subjects should be done in this way, by which, the mental faculties could be strengthened. Current psychology does not accept the division of mental faculties, so this theory cannot be accepted.

(2) Theory of Identical Elements—The founder of this theory Thorndike confirmed this, on the basis of his experiments, when there is similarity between the subjects and the contents of two experiences, there is more possibility of transfer. If there is similarity between both, the acquired knowledge of one subject

proves fruitful in the study of other subject. As maths knowledge in Physics and in statistics, history's knowledge in political science, Psychology's knowledge in Educational Psychology, and the knowledge of philosophy helps us in the study of Educational- philosophy and we do not feel complication. The main reason of it, that, the identical parts and elements are found in these subjects. Sir Gates has given his statement in its confirmation- "It is seen that there is a higher ratio of transfer in the identical elements." That's why during the time of selecting subjects students try to select the subjects, which have identical elements in some parts. As- Selecting political science with current history.

(3) Theory of Generalization—The founder of this theory is Mr. Charles Jud. According to this theory when a person finds out a general theory with the support of his experience, study and knowledge, he can transfer it in other situations. Explaining this theory Mr. Jud has said, "according to this theory, development of individual skill, complete possession on individual facts, attainment of individual habits and instincts have less importance in other situations from the transfer point of view- Till then skillfulness, facts and habits are not orderly related those other situations, in which it could be used. It is evident from the above statement that child should be given education not only for discipline in one situation but also should be trained for well conduct and behavior in different times or situations.

(4) Theory of 'G' and 'S' factor—The founder of this theory is Spearman. According to him a child needs a general and individual capability for the learning of each subject. General capability or intellect is used in every sphere of life. But individual intellect is used in the specific situation. General intellect helps a man in every situation, so general capability and element is transferred, not individual elements. History, Geography and Literature are related to general capability, but drawing, music etc are related

to individual capability.

(5) Theory of Gestalt psychologists—Among the Gestalts Psychologists, mainly Kohler's name comes.

Kohler forces on the using of insight after observing the entire situation. These psychologists give importance to insight in learning. The development of insight is learning, which is used in one situation.

According to these psychologists- To carry over the performance of insight, used and developed from

one situation to other is called transfer of learning. A man observes the similarity between first and last

situations and transfers the insight gained from one to another situation. This transfer happens due to

the observed similarity. This type of transfer is seen in the solution of a problem, in which a man uses

the solution gained from one situation into another similar situation. So this transfer is purposeful and

effortful and equal opportunity is needed for this. Kohler has confirmed this theory by doing many

experiments on the chimpanzee. According to Bayles, it is necessary to have three things for transfer of

learning. (1) Arrival of opportunity. (2) To observe the opportunity. (3) The instinct of taking advantage

with the opportunity in a man.

Types of Transfer of Learning

There are six types of transfer of learning—

(1) Positive Transfer—When the learning of one subject proves useful into other subject, it is called

positive learning. We find in the positive transfer that, the affect of previous obtained knowledge, skill,

instinct or other responses is seen in later obtained knowledge, skill, instinct or other responses. For

example the man who has learnt typing on the English type writer, he learns easily typing on Hindi

type writer. Means English typing proves useful for learning. The opinions of psychologists related to

positive transfer are following.

(i) Morgan and King—“Positive transfer occurs when something previously learned benefits performance

or learning in a new situation.”

(ii) Sorenson—“A person learns through transfer to the extent that the abilities required in one situation help in another.”

Positive Transfer is like a horizontal and vertical. Its description has been presented in no.3 and 4.

(2) Negative Transfer—When the learning of one subject and skill hinders in the learning of another

subject and skillfulness or produce complication, which is called negative transfer, as it is difficult for

a science side student to learn Arts side subjects. And other example as- the skill or knowledge of

previous learnt English typing hinders in the learning of Hindi typing on Hindi type writer. This is

negative transfer. In relation of negative transfer in which, we find after completing previous task in the

completeness of later work, Psychologists have following opinions-

(i) Morgan and King—“Negative transfer occurs when something previously learnt hinders performance

or learning in a new situation.”

(ii) Boring and others—“when learning one task makes the learning of second task harder we speak of negative transfer.”

Negative transfer is horizontal and vertical type as well. Its description has been presented in point no.

3 and 4. The nature of negative transfer is of two types—

(a) Retro-active Negative Transfer—When something previously learnt is affected or forgotten by the

learning of new thing, it is called retro active negative transfer. For example it is difficult to remember

previously learnt poem after learning the new poem.

(b) Pro-active Negative Transfer—When previous learnt thing affects or hinders the learning of the

new thing, it is called proactive negative transfer. For example, the previously learnt poem hinders in

the learning of second poem, or the lines of previous poem interfere in the memory.

(3) Horizontal Transfer—There are two types of horizontal transfers. When different types of talents

and knowledge help in the learning of other talents and knowledge, it is called horizontal transfer. This

transfer occurs between two subjects in a class. For example in the tenth class, a student's maths related learning helps in the study of Physics. We call this type of transfer positive horizontal transfer. On the contrary if the learning and talent of one subject hinders in the learning and talent of other subject, it will be called negative horizontal transfer. For example tenth class student obtains knowledge and talent in maths, but this obtained knowledge hinders in the learning of Hindi and English. This type of learning will be called negative horizontal transfer.

(4) Vertical Transfer—There are two types of vertical transfers, negative and positive. When the talent and knowledge obtained in a situation proves helpful in the obtaining knowledge of related subjects moving further, it will be called positive vertical transfer. For example, learnt maths in class eight proves helpful in the learning of maths in tenth class by a student. On the contrary, when obtained knowledge and talent related to one subject hinders in obtaining knowledge and talent related to that situation, this type of transfer is called negative vertical transfer, for example- the literature knowledge of class eight's student hinders in obtaining knowledge in next class, this type of learning will be called negative vertical transfer. Means the first step of learning hinders in the learning of second step.

(5) Lateral transfer—when the efficiency of one organ of body affects the other related talent of the same organ, then, this type of learning will be called lateral transfer. For example- the skill of Hindi writing by the right hand affects the skill of Sanskrit writing.

(6) Bi-lateral Transfer—When the acquired efficiency by one organ of the body affects the efficiency of another organ, then this type of transfer will be called Bi-lateral transfer. For example a man learns to write with right hand but according to the need he can also write with left hand, even while he

has not practiced to write with left hand. We can see in this situation that the talent of right hand was transferred in left hand.

Conditions of Transfer of Learning

The following conditions prove helpful in the transfer of learning—

(1) Generalization—Much as a person is capable in finding the general theory or rule on the basis of his

previous experiences, there is transfer of training.

(2) Understanding—Identical knowledge is acquired after the understanding of any thing very well.

Consequently there is more transfer. So it is better to understand any subject well for the transfer of teaching.

(3) The degree of mastery on the subject-matter—More the skill is gained after the deep studying of

any subject, more transfer of that subject into others subjects is possible.

(4) Deliberation—If a man after keeping his previous experiences tries to understand the new situation

or subject by the effortful and proper education methods, there is the transfer of teaching.

(5) Attitude toward the material of transfer—A person's positive attitude towards the material of

transfer proves helpful in the positive transfer.

(6) Method of Teaching—Above teaching methods provide help in the transfer of teaching.

Educational Importance of Transfer of Learning

For the education—It affects of the process of learning transfer in education.

Following things should

be paid attention to for the transfer of learning in education-

(1) Transfer and syllabus—The most important use of transfer is for the development of syllabus.

For the discipline in the children, the favorable syllabus should be prepared, means it includes such

subjects which are useful and related to the problem of daily life. The nature of syllabus should be

practical. It is the opinion of Thomson- "It is beneficial to have more subjects in the syllabus. The more

subjects will be, more students will learn the abilities of surviving."

(2) Transfer and Teaching method—A teacher should provide the education by the proper method for the positive transfer. They should be given education in such a way that he could make the use of acquired knowledge of one subject, in the learning of other subjects. Child should also be given necessary guidance for the transfer. Children should be told identical element related to subject for the transfer of one subject's knowledge in to other subject. For this it is necessary to pay attention to the rules of association. For the success of transfer, a teacher should try to make his subject more interesting.

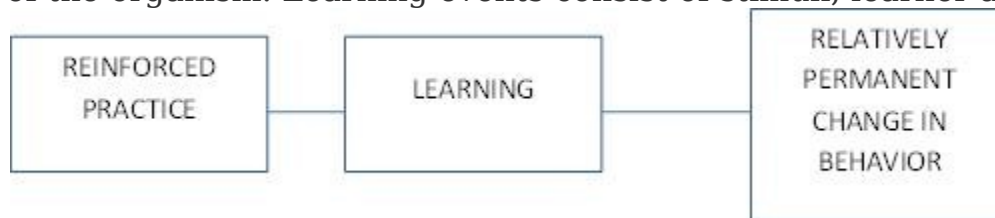
(3) Generalization—A teacher should follow such an educational method during the time of teaching, following which the student could himself find out the general theory related to subject. Student should be provided opportunity and should not be interfered in that. After developing the characteristics of generalization, child uses it soon in the new situation. It is the statement of Handrix related to it “The child who has the knowledge that after multiplying six by eight makes forty eight, he can soon tell that 8 chairs in 6 rows are 48.” So whatever a teacher teaches should be taught on the basis of generalization. There is more possibility of transfer with it.

Gagne's Hierarchy of Learning

In 1956, the American educational psychologist Robert M. Gagné proposed a system of classifying different types of learning in terms of the degree of complexity of the mental processes involved. He identified eight basic types, and arranged these in the hierarchy shown in Figure 1. According to Gagné, the higher orders of learning in this hierarchy build upon the lower levels, requiring progressively greater amounts of previous learning for their success. The lowest four orders tend to focus on the more behavioral aspects of learning, while the highest four focus on the more cognitive aspects.



Learning has been defined as a relatively permanent change in a behavioral tendency, the result of reinforced practice. Learning, an inferred state of organism, should be distinguished from performance, an observed state of the organism, should be distinguished from performance, an observed state of the organism. Learning events consist of stimuli, learner and responses.



The most complete description of Gagne's classes of behavior appears in his 'The conditions of learning'. Here he distinguishes eight types of learning, beginning with the simple forms and ending with the complex. Although he refers to these classes as learning types, he is primarily interested in the observable behavior and performance which were the products of each such class.

Signal learning

This is the simplest form of learning, and consists essentially of the classical conditioning first described by the behavioral psychologist Pavlov. In this type of learning the animal or individual acquires a conditioned response to a given signal. Pavlov studied such learning in great detail. In it the responses are diffuse and emotional and the learning is involuntary. Examples are the withdrawal of the hand upon sight of a hot object, the salivation of a dog upon hearing food poured into his metal feeding dish, and the tearing of the eyes upon sight of an onion. The signals are the sight of the hot object, the sound of food being poured in the dish, and the sight of the onion. The conditioned responses are withdrawal of the hand, salivation, and tearing of the eyes.

Stimulus-response learning

This somewhat more sophisticated form of learning, which is also known as operant conditioning, was originally developed by Skinner. In this kind of learning, exemplified by animal training, the animal makes precise

responses to specific stimuli. At first this training usually requires the use of a leash and a choke chain. As the dog learns particular responses for particular jerks of the leash and chain, his master rewards him with pats and praise. Later the master does not have to use the leash and chain; the animal sits, stays, or lies down upon hearing the simple verbal command. Whereas the responses in signal learning are diffuse and emotional, the responses in stimulus-response learning (often called operant conditioning) are fairly precise. Stimulus-response (SàR) learning may be used in acquiring verbal skills as well as physical movements. For example, the child may learn to say "Mama" on request, or an adult may learn the appropriate response to the stimulus of a word in a foreign language.

Chaining

This is a more advanced form of learning in which the subject develops the ability to connect two or more previously-learned stimulus-response bonds into a linked sequence. It is the process whereby most complex psychomotor skills (eg riding a bicycle or playing the piano) are learned. In this type of learning the person links together previously learned S-R's. The links may involve physical reactions such as an animal learning a series of tricks, each of which gives the cue to perform the next trick. This type of learning often seems to occur so naturally that we do not notice the specific series of events which led to it. Gagne uses the example of a child who learns to say "doll" at the sight of a doll, then learns to lie down, hug the doll, and say "doll".

Verbal association

This is a form of chaining in which the links between the items being connected are verbal in nature. Verbal association is one of the key processes in the development of language skills. This learning is a type of chaining, but the links are verbal units. The simplest verbal association is the activity of naming an object, which involves a chain of two links: An observing response enables the child to identify properly the object he sees; and an internal stimulus enables the child to say the proper name. When the child can name an object "ball" and also say "the red ball" he has learned a verbal association of three links. Gagne calls another common verbal association *translation responses*; in these the learner frequently acquires verbal associations by verbal mediation- an internal link which helps him associate.

Discrimination learning

This involves developing the ability to make appropriate (different) responses to a series of similar stimuli that differ in a systematic way. The process is made more complex (and hence more difficult) by the phenomenon of interference, whereby one piece of learning inhibits another. Interference is thought to be one of the main causes of forgetting. In this type of learning the student must learn different responses

for stimuli which might be confused. The student learns to distinguish between motor and verbal chains he has already acquired. Teachers, Gagne suggests, engage in discrimination learning when they devise means for calling each student by his correct name.

Concept learning

This involves developing the ability to make a consistent response to different stimuli that form a common class or category of some sort. It forms the basis of the ability to generalise, classify etc. In learning a concept we respond to stimuli in terms of abstract characteristics like color, shape, position and number as opposed to concrete physical properties like specific wavelengths or particular intensities. In concept learning the student's behavior is not under the control of particular physical stimuli but of the abstract properties of each stimulus. Concepts have concrete references even though they are learned with the use of language.

Rule learning

. This is a very-high-level cognitive process that involves being able to learn relationships between concepts and apply these relationships in different situations, including situations not previously encountered. It forms the basis of the learning of general rules, procedures, etc. In learning a rule we relate two or more concepts. Rules are, in effect, chains of concepts. We may represent knowledge as a hierarchy of rules, in which we must learn two or more rules before learning a higher order rule which embraces them. If the student has learned the component concepts and rules, the teacher can use verbal instruction alone in leading the student to put the rules together.

Problem solving

This is the highest level of cognitive process according to Gagné. It involves developing the ability to invent a complex rule, algorithm or procedure for the purpose of solving one particular problem, and then using the method to solve other problems of a similar nature.

In the set of events called problem solving, individuals use rule to achieve some goal. When the goal is reached, however the student has learned something more and is then capable of new performances using his new knowledge. What is learned, is a higher order rule, the combined product of two or more lower order rules. Thus the problem solving requires those internal events usually called thinking.. Without knowledge of the prerequisite rules, the problem can not be solved.

(c) Motivation: Concept, Types, its relation with learning, Achievement Motivation

What is “Motivation”?



Motivation

Motivation is essential to the operation of organizations and classroom activities. The behavior is caused by the certain causes which relate to person's needs and consequences that results from acts.

Motives are expressions of a person's needs. Incentives on the other hand, are external to the person.

Definitions of Motivation:

According to **B.F. Skinner**, “Motivation in school learning involves arousing, persisting, sustaining and directing desirable behavior.”

According to **Woodworth**, “Motivation is the state of the individual which disposes him to certain behavior for seeking goal.”

Characteristics of Motivation:

- Personal and internal feeling.
- Art of stimulating someone.
- Produces goal.
- Motivation can be either positive or negative.
- It is system oriented.
- It is a sort of bargaining.

Classification of Motivation:



Classification of Motivation

Primary, Basic or Physiological Needs:

It includes food, water, sleep, sex, etc. These needs arise out of the basic physiology of life and these are important for survival and preservation of species.

Secondary Needs:

They represent needs of the mind and spirit. For example, self-esteem, sense of duty, self-assertion, etc.

Conscious action arises from the needs. Needs create tensions that are modified.

The relation of needs of action is shown below:

- Individual needs (Motives) tensions
- Environment
- Wants (Tension positive negative incentives)
- Perception
- Action (Tension release)

Sources of Motivation to Learn:

Curiosity

It is a strong motivator of learning. Since, people adapt rather quickly to surprising events, curiosity must be sustained in order to be a continuing source of motivation. To keep the learners alert, instructors can employ such strategies as varying their tone of voice, using relevant humour occasionally, etc.

Learning Task Relevance

Students are more motivated to learn things that are relevant to their interest.

Goal Setting

It is an important source of motivation. When individuals set goals, they determine an external standard, to which they will internally evaluate their present level of performance. Setting goals improves self-motivation and performance to a greater extent. When learners set goals, they seek to gain favorable judgments of their competence or avoid negative judgments of their competence.

The recommendation to foster a learning goal orientation runs counter to much current educational practice, which attempts to instill

learner confidence within a performance goal orientation.

Motive Matching

It is the degree to which learning tasks meet particular students needs or align with students values. A need can be defined as “any type of deficiency in the human organism or the absence of anything the person requires or thinks he requires for his overall well being.” The instructor should be sensitive to individual’s needs for achievement and for affiliation.

Self-Efficacy

Motivation also comes from learner’s beliefs about themselves. According to **Bandura**, self-efficacy involves a belief that one can produce some behavior, independent of whether one actually can or not. Learners can be sure that certain activities will produce a particular set of outcomes. These expectations are referred as outcome expectations.

Teacher Efficacy

Ashton and Webb (1986) defined **teaching efficacy** as the teacher's judgment about the potential influence of teaching on a child's

learning.

Personal teaching efficacy refers to the teacher's judgment of his or her own ability to motivate students.

In other's word, it is quite possible that teachers might believe that teaching has potentially powerful effects on students motivation. but lack confidence that they themselves can affect their own students motivation.

Teachers with high personal efficacy tend to encourage student autonomy and responsibility, structure challenging, learning task and help learners succeed on those tasks.

Types of Motivation

1. **Intrinsic Motivation**
2. **Extrinsic Motivation**

Intrinsic and Extrinsic Motivation



Drives, needs, incentives, fears, goals, social pressure, self-confidence, interest, curiosity, beliefs, values, expectations are the energisers that direct our behavior.

Some psychologists have explained motivation in terms of personal traits or individual characteristics. Other psychologists see motivation more as a state of temporary situation. Some explanations of motivation rely on internal, personal factors such as needs, interests and curiosity. Other explanations point to external factors such as rewards, punishments, social pressure and so on.

Intrinsic motivation is the natural tendency to seek out and conquer challenges as we pursue personal interests and exercise capabilities. When we are intrinsically motivated, we do not need incentives or punishments because the activity itself is rewarding.

On the other hand, if we do something in order to earn a grade, avoid punishment or for some other reason that has very little to do with the task itself, then it is known as **Extrinsic motivation.**

Recently, the notion of intrinsic-and extrinsic motivation as two ends of a continuum has been challenged. An alternative explanation is that just as motivation can include both trait and state factors, it can also include both intrinsic and extrinsic factors. Intrinsic and extrinsic tendencies are two independent possibilities and at any given time, we can be motivated by some of each.

Four General Approaches to Motivation:

Motivation is a vast and complicated subject encompassing many theories. Some theories were developed through work with animals in laboratories. Others are based on research with humans in situations using games and puzzles.

Behaviorist Approaches to Motivation

According to the behavioral view, the motivation depends on the incentives and rewards present in the environment. A reward is an attractive object or event supplied as a consequence of a particular behavior. An incentive is an object or event that encourages or discourages behavior.

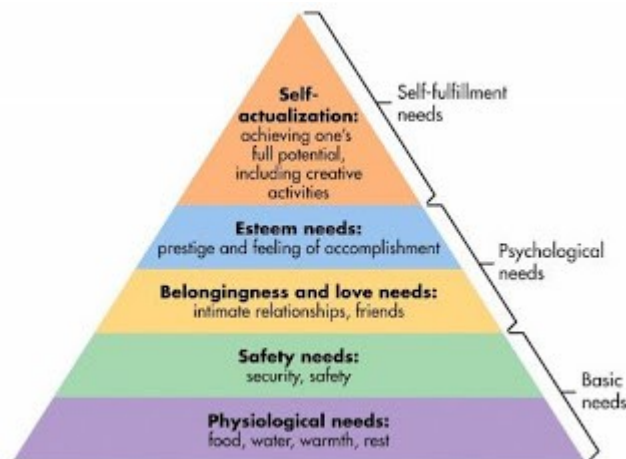
If the person is consistently reinforced for certain behaviors, then he/she may develop habits or tendencies to act in a certain way. Providing grades, stars, stickers and other reinforcements for learning or demerits for misbehavior is an attempt to motivate students by extrinsic means of incentives rewards and punishments.

Humanistic Approaches to Motivation

In the early 1940s, Carl Rogers, one of the proponents of humanistic psychology emphasize that intrinsic sources of motivation as a person's needs. So, from the humanistic perspective to motivate means to encourage people's inner resources, their sense of competence, self-esteem autonomy and self actualization, Maslow's Theory is a very influential humanistic explanation of motivation.

Maslow's Hierarchy (of Needs):

Abraham Maslow (1970) suggested that humans have a hierarchy of needs ranging from lower level needs for survival and safety to higher level needs for intellectual achievement and self-actualization.



Maslow's Hierarchy

Maslow called four lower level needs-for survival, then safer; followed by belonging, then self-esteem. When these needs are satisfied, the motivation for fulfilling them decreases. He labeled the three higher level needs, intellectual achievement, then aesthetic appreciation and finally, self-actualization being needs.

When they are met, a person's motivation does not cease, instead it increases to further fulfillment. Unlike the deficiency needs, there being needs can never be completely filled.

The strive for improvement is always there in the individual. Maslow's theory has been criticized because the people do not always appear to behave as the theory would predict. Sometimes, people get motivated by many different needs; at the same time. All the needs are inter-related.

Cognitive Approaches to Motivation

Cognitive theorists believe that the behavior of an individual is determined by the thinking process and not by rewards and punishment. Behavior is initiated and regulated by plans, goals, schemas, expectations, and attributions. People respond to their interpretations of the external events or physical conditions. Cognitive theorist emphasizes on intrinsic motivation.

Attribution Theory of Motivation

It is the cognitive explanation that describes the individual's explanations, justification and excuses about self and others that influence motivation. Bernard Weiner propounded the Theory of Attribution.

Weiner gave three dimensions of the attributed causes for success and failure. The three dimensions are the following:

1. **Locus:** Location of the cause internal or external to the person.
2. **Stability:** Whether the cause stays the same or can change.
3. **Controllability:** Whether the person can control the cause.

The cause of success or failure can be categorized on these two dimensions. e.g.

1. Bad luck is an external factor i.e., unstable and uncontrollable.

- Reason for failure,
- is Bad luck (external locus)
- i.e., unstable (stability)
- Uncontrollable (controllability)

2. Not studying for a particular test.

- Reason for failure is,
- Not studying (internal locus)
- i.e., unstable (stability)
- controllable (controllability)

Weiner believes that these three dimensions have important implications for motivation because they affect expectancy and value.

The **stability dimension** is related to the expectancy about the future. If the attribute for failure is stable, like low aptitude, then the expectancy of failure in future increases. And if the attribute is unstable like mood, then the expectancy of failure is less.

Locus (internal or external) is closely related to self-esteem of the individual and also to sense of taking responsibility. If success or failure is attributed to internal factors, success will lead to pride and increased motivation, whereas failure will diminish self-esteem.

Controllability factor is related to emotions such as anger, shame, pity, gratitude etc. When failure is attributed to lack of ability and ability is considered uncontrollable, the sequence of motivation is

Failure-> Lack of Ability-> Uncontrollable-> Not Responsible-> Shame-> Withdraw-> Performance declines

When failure is attributed to lack of effort (a controllable cause), the sequence is

Failure-> Lack of Effort-> Controllable-> Responsible-> Guilt-> Engagement-> Performance Improves

Socio-cultural Views on Motivation

The socio-cultural perspective emphasize on participation, identities and inter-personal relations within communities of practice. People engage in activities to maintain their identities and their inter-personal relations within the community.

Four Views of Motivation

	Behavioral	Humanistic	Cognitive	Socio-cultural
Source of Motivation	Extrinsic	Intrinsic	Intrinsic	Intrinsic
Important Influences	Reinforcers, reward, incentives and punishers	Need for self-esteem, self-fulfillment and self-	Beliefs, attributes for success and failure	Engaged participation, maintaining identities

		determinati on	expectatio ns	in commu s
Key Theorist	Skinner	Maslow	Weiner Graham	Lave Wenger

Achievement Motivation

Achievement contexts can be found anywhere—on the playing field, on stage, in an art studio, or even in a kitchen or a garden. To be sure, standards and even the definitions of success vary among contexts. In sports success usually means winning, although it could also be defined in terms of personal improvement. Success for a pianist might be measured in the length of applause or in newspaper reviews, for a hostess in the amount of food the guests consume, and for a surgeon in patient survival rates. This focuses primarily on school contexts, but most of the issues discussed apply to any context that involves some standard against which performance can be measured—any situation that offers the opportunity to succeed or fail.

Theoretical Frameworks

Several psychological theories will be used to organize our analysis of achievement motivation. Theories of motivation are created to help us explain, predict, and influence behavior. If we can explain why individuals behave the way they do in achievement settings we might be able to change their behavior. Why does Defensive Dave pretend to be working when he is not, and how can we get him to exert genuine effort on school tasks? Why does Satisfied Santos put so much more effort into intellectual activities outside of school than those in school? What can be done to interest him in the school curriculum? Why doesn't Alienated Al attend school regularly, and how can we get him interested and engaged in academic work?

Motivation theories are important to discuss because everyone has them. And consciously or unconsciously, people rely on their theories of what causes behavior when deciding how to try to change their own or another's behavior.

The theory a researcher chooses for studying motivation influences how motivation is measured and defined in his or her studies, and what his or her notions are about appropriate interventions to address motivation problems. Some of the theories discussed in this book contradict each other; they cannot both be "right." More often different theories are compatible because they account for different aspects of achievement motivation or focus on different causes of behavior.

Over time, psychological theories are often modified in response to research evidence on their usefulness in predicting and changing behavior. New theories are also developed, and different theories become prominent at different times. In general, psychological theories that have been used to explain behavior in achievement contexts have shifted focus in the last few decades, from observable behavior to psychological variables—such as beliefs, values, and goals—that can be inferred but cannot be directly observed from behavior. Below is a brief overview of the theories discussed in this book.

Reinforcement theory, which dominated the educational literature until the early 1960s, conceptualizes motivation entirely in terms of observable behavior. According to traditional reinforcement theory, individuals exhibit a particular behavior in achievement or other settings because they have been reinforced (rewarded) for that behavior in the past. Accordingly, students who are rewarded (for example, with good grades) for working hard on school tasks and for persisting when they face difficulty will continue to work hard and persist in the future.

Reinforcement theory was originally derived from drive theories, which assumed that reinforcement necessarily involved the reduction of basic biological needs (e.g., hunger and thirst; Hull, 1943, 1951). Applications to achievement contexts, however, assume that other consequences (e.g., teacher praise) take on reinforcing properties by having previously been associated with the reduction of basic drives, and can therefore influence behavior. In contrast to drive reduction theories, the best-known reinforcement theory today, developed primarily by Skinner (1974), does not make any claims about particular qualities of reinforcements. Any consequence of a behavior that increases the likelihood of its future recurrence is, by definition, reinforcing.

Reinforcement theory is considered "mechanistic" because it is not concerned with beliefs, feelings, aspirations, or any other psychological variable that cannot be directly observed. It assumes that there is a direct link between the consequences to a behavior and the likelihood that it will be repeated.

The theory has clear implications for how motivation is conceptualized and measured. Motivation is not considered a quality of the person, but rather a set of behaviors and their contingencies (i.e., whether the behaviors are rewarded or punished). Any attempt to explain, predict, or influence motivation would involve measuring behavior and examining the consequences of the current and the desired behavior. A reinforcement theorist who wanted Defensive Dave to exert more effort, for example, would first closely examine the consequences of Dave's behavior. What happens to him when he spends 20 minutes sharpening his pencil and arranging his desk? What happens on those rare occasions that he completes tasks efficiently? The next step would be to adjust the environmental consequences so that the undesirable behaviors (wasting time) were punished, or at least not rewarded, and the desired behaviors (getting to work and completing tasks) were rewarded.

By the 1960s, most motivation researchers found such mechanistic assumptions about behavior unsatisfactory, and began to explore psychological variables that are not directly observable. Cognitive motivation theorists do not rule out external reinforcement as a cause of achievement behavior. They claim, however, that cognitions (beliefs),

such as expectations, "mediate" the effect of rewards. Thus, for example, they claim that students work hard because their past experience leads them to expect hard work to be rewarded in the future, not simply because they have been rewarded for working hard in the past. In fact, a student might be convinced to expect a reward for doing something (e.g., by telling her that you will give her one), even though she has never actually been rewarded for that behavior in the past. According to cognitive motivation theorists, it is her belief, not her past history, that influences her behavior.

A motivated person, therefore, is conceptualized as someone with cognitions or beliefs that lead to constructive achievement behavior, such as exerting effort or persisting in the face of difficulty. Although expectations have been especially prominent in achievement motivation research, cognitive theorists are also interested in the effects of other beliefs-such as perceptions of ability ("I'm good at math"), control over achievement outcomes ("I determine whether I succeed or fail"), and the causes of achievement outcomes ("How well I do is determined by how hard I try").

Cognitive theorists are not satisfied with merely observing behavior and its consequences. They may want to assess students' beliefs about the consequences of behavior or the causes of performance outcomes. They may also want to measure how competent the students believe themselves to be in a particular domain, whether they expect to succeed, or whether they believe grading is fair.

The intervention cognitive theorist would design a program aimed at changing maladaptive beliefs. To get Helpless Hannah to exert effort on school tasks, therefore, the teacher might begin by interviewing her to ascertain her perceptions of her competencies (i.e., does she think she is incapable of completing school tasks? which ones?). Then she might try to increase her perceptions of her competencies on tasks she doesn't believe she can do. (This may also require changing tasks so that they are appropriate for her skill level.) A teacher might ask Dave what he thinks would happen if he tried hard to complete a task but wasn't able to do it. If he expected negative consequences (e.g., teacher disapproval, ridicule from his classmates), the teacher might try to change his expectations by reassuring him that his fears are not well founded, or by making sure that his fears are not, in fact, fulfilled in the classroom.

Cognitive theorists do not assume that beliefs are based entirely on previous experiences with contingencies (e.g., reward and punishment) to one's own behavior. People's expectations are based on many factors, such as observations of what happens to others when they behave a particular way, or even simply what they are told about what they can expect. When teachers call attention to the consequences of students' behavior ("Table 3 can go to recess because everyone is sitting quietly"), and when they promise rewards ("if you finish all your work before recess I'll let you play on the big kids' yard"), they are using cognitive motivation theory. They are attempting to influence behavior by influencing expectations about the consequences of desired behaviors.

Atkinson (1964) also emphasized expectations as an explanation of achievement behavior, but he added values as another explanatory variable. According to his expectancy x value theory, exerting effort and persisting on a task requires more than expecting to be able to complete it; the task must also have some value attached to it.

Atkinson conceptualized value narrowly, in terms of pride in success and the avoidance of shame in failure. Other theorists have considered values more broadly, such as in terms of how important academic achievement is to self-concept and how useful particular kinds of achievement are in people's lives outside of school (Eccles, Adler, Futterman, Goff, Kaczala, Meece, & Midgley, 1983).

Researchers and teachers working from an "expectancy x value" theoretical framework, therefore, would need to measure students' perceptions of the value of rewards in any effort to predict or change behavior. Dave's teacher might try to find out whether Dave expects his effort on school tasks to lead to pride or shame, and then try to make sure that pride is more likely (e.g., by giving him tasks that he is sure to succeed in or by making sure that put-downs by classmates are not allowed). Satisfied Santos' teacher might try to increase the value Santos places on doing well in school by giving him examples of the long-term accomplishments or privileges of people who do well in school.

Intrinsic motivation theorists are also concerned with emotional as well as cognitive aspects of motivation, although they stress different emotions than the "expectancy x value" theorists. Intrinsic motivation theory is based on the assumption that humans are inherently motivated to develop their intellectual and other competencies, and that they take pleasure in their accomplishments (White, 1959). Part of the value of achievement striving is the intrinsic pleasure one feels from achieving higher levels of mastery or understanding. Intrinsic motivation researchers have examined factors that foster or inhibit human beings' intrinsic desire to engage in intellectual tasks.

They usually measure motivation by observing people's voluntary activities. Thus, to assess students' intrinsic motivation to read, researchers might find out how much they read on their own, when there is no external reward (e.g., a good grade) nor any punishment (e.g., a bad grade) involved. Or they might give them several activities to choose from and observe whether they do one involving reading.

For children who are not intrinsically motivated to engage in intellectual activities, intrinsic motivation theorists would determine first whether factors that research has shown to support intrinsic interest (e.g., feelings of control and competence) are present, and then manipulate those factors to increase interest (e.g., by providing students more autonomy or making sure they can succeed on tasks and feel competent).

While intrinsic motivation theorists emphasize feelings of enjoyment, self-worth theorists are concerned with feelings of being valued. Covington (1992, 1998) and others propose that students are naturally motivated to preserve a sense of personal worth. If a student believes his value in an educational context is based on academic competence, he will seek opportunities to demonstrate his competencies and, like Defensive Dave, avoid situations that may lead to a judgment of incompetence. Self-worth theorists, therefore, might assess students' beliefs about what others' regard is based on. Interventions might be aimed at making sure that students feel supported and admired for trying, regardless of the outcome of their efforts.

Related to self-worth theory, which emphasizes students' feelings of being valued, self-system theory claims that feeling socially connected is a basic human need and that people do not function well in environments where this need is not met. They study the quality of children's relationships with the teacher and classmates. They might suggest that a teacher make a greater effort to develop an emotionally close relationship with a child who is not exerting much effort. For example, a teacher or a counselor might reach out to Alienated AI to let him know that he or she cared about AI's academic success and is interested in understanding his feelings about school.

Recently goal theorists have pointed out that people engage in the same behavior for different reasons, and that the reason for engaging in a task is just as important as the level of effort, degree of persistence, or any other observable behavior. Most goal theorists promote the goals of learning, mastering, or understanding as the most conducive to learning. Unfortunately these goals are not usually the most prominent in school. Sally's goal is to get good grades. As a consequence, she does only what is likely to contribute directly to grades. Some students work to meet the school's minimum requirement for being on the football team (and stop working when this minimum requirement is achieved). Santos doesn't work hard at all on academic tasks because his goal is to enjoy himself. Dave engages in behaviors that achieve his goal of avoiding looking stupid. According to goal theorists, interventions designed to change maladaptive behaviors and increase student learning would require changing students' goals.

That children often have goals that are different from the teacher's is illustrated by Wentzel's (1989, 1991) research in which she asked high school students how often they tried to achieve each of 12 goals while they were in class. "Making or keeping friends" ranked the highest among students with average GPA's and second highest (after "having fun") among the lowest achieving students. Only the highest achieving students ranked "learning" above friends as an important goal in school.

Unit –II

(a) Personality- concept, determinants of personality and Assessment.

Introduction

Generally personality means the external aspects, color and physical built. Often, we hear in the daily life that the personality of that man is very good, effective or bad. The meaning of good personality is that the physical appearance of that person is beautiful, he is healthy and soft spoken, he is good natured and his conduct is good and he easily attracts others. Undoubtedly these virtues are the characteristics of good personality, but this is only one aspect of personality. From the psychological point of view, the meaning of personality is something else. Personality is the mirror of whole behavior. Personality is expressed by thinking, behavioral activities and one's movements. The conduct and behavior of a man is the mixture of physical, mental, emotional and social virtues, in which oneness and consolidation is found. Thus personality is the entire virtue of the behavior of a man. All behavior of a man is for the adjusting with the society. In the social circle of each man, due to his special personality, some differences are found in his behaving pattern. Whatever type of behavior he does for adjusting himself with the social surroundings that makes his personality. The behavior of

a man is affected by his internal feelings and external environment. According to some people, there is no special difference between conduct and personality. According to Woodworth—"the indication of character is towards that character, which can be called good or bad, which is success or failure in adopting the accepted ideals by the society. The indication of the personality is towards that behavior, which is neither good nor bad, but other persons feel it interesting or uninteresting and which makes the conditions favorable or unfavorable among his companions. The difference between character and personality is not explained by this statement. So according to scientists this difference can be neglected.

What is conduct? What are the characteristics of conduct? These things have been mentioned in the previous chapter. Higher characteristics have important place in the personality development, so in the daily life it will not be practical to consider conduct different from personality. It is necessary to study the opinions of different psychologists for understanding the nature of personality clearly. In the present chapter the meaning and definition of personality, the characteristics of personality, factors influencing the personality along with organized personality, the light will be thrown on the personality tests as well.

Meaning and Nature of Personality

Many opinions are famous related to word 'personality'. In the common language the meaning of personality is understood by external aspects, but psychologists have given its meaning under a new light—

(1) Verbal meaning—'Vyaktitva' is the Hindi translation of the word 'personality'. This word has been taken from the Latin word 'Persona' which means outfits, wearing which, the character of the drama, during the time of play, used to change into indifferent roles. In the beginning, the meaning of this word

was used as a cover, thus word personality indicates towards the external virtues.

(2) Meaning from general point of view—The meaning of common people's personality is, the external aspects and those virtues by which he attracts others toward himself and after influencing others, wins over them.

(3) Meaning from the practical point of view—"A man's personality is the total picture of his organized behavior." —Deshiell

(4) Meaning from the philosophical point of view—personality is the other name of spiritual knowledge; it is the ideal of completeness.

(5) Meaning from the social point of view—On the basis of sociology, the definition of personality has been given in this way—

"Personality is the organization of those all factors by which a man gains some place in the society; so we can call personality a social flow."

(6) Meaning from the psychological point of view—from this point of view, in the explanation of personality, importance has been given to the environment and heredity. It seems after explaining personality in the psychological way, whatever internal and external qualities, abilities and characteristics are in a man, personality is the integrated form of all of them. Whichever virtues, capabilities and strengths are conceived by a man from birth, they continue to develop by and by. A man, in his developing period, on the basis of his innate strength, does activity and reaction for the adjustment with the society, consequently he gains some special abilities, habits, interests, and attitudes.

In the effort of establishing adjustment with the environment, his innate gained virtues are purified and

increased, so personality is also called '**Dynamic Organization**'.

The aim of education is the all round development of personality. Psychological and educational intimate relationship. Therefore, it is necessary to know the definitions of personality provided by psychologists—

(a) Biesanj & Biesanj—"Personality is the organization of person's habits, attitudes and traits and arises from the inter-play of Biological, social and cultural factors."

(b) Munn—"Personality maybe defined as the most of the behavior, interests, attitudes, capacities, abilities and aptitudes."

(c) Allport—"Personality is the dynamic organization within the individual of those psychophysical systems that determine his unique adjustment to his environment."

(d) Drever—"The word personality is used for the dynamic organization of well organized form of those physical, mental, moral and social virtues of individual, by which he deals with others in his social life."

Types of Personality

It is important to know the types of personalities for knowing the diversities related to personality. Different Psychologists have classified the personality on the basis of different attitudes. Generally from

the following points of view the kinds of personality have been divided-

1. Constitution Viewpoint
2. Sociological Viewpoint
3. Psychological Viewpoint

(1) Constitution Viewpoint—German psychologist Kreshmer has made the following types on the basis of constitution.

(a) Asthenic—This type of man is thin and lean. His head is long, arms are slim, chest is small and limbs

are long and slim. This type of man does not like to hear his criticism, but likes to criticize others.

(b) Athletic—This type's individual is strong and healthy. His chest is wide, swelling and strong arms and strong muscles. They can adjust with other according to wish.

(c) Pyknic—This type man is short height, circular, and fatty. He is fond of comfort and is practical.

(d) Dysplastic—The mixture of above three types is found in it. The body of this type's man is simple. The famous psychologist of America '**Sheldon**' has divided the personality on the basis of physical shape—

(a) Endomorphic—This type of man is more fat, spherical, soft and has concrete body. His digestive parts are more developed. He is fond of food. He is fond of comfort, fast in sleeping, fond of love, fond of entertainment, gentle, wise, tolerant and soon gets worried.

(b) Mesomorphic—These type of men have healthy and well organized body. They have more strength

and energy. They are adventurous, active and hard working.

(c) Ectomorphic—Such men have lean, soft and weak body. They are hesitant, less talkative, isolated, patient and full of emotions.

Psychologist **Warner** have told many types of men from the physical health and development point of view—(a) Health (b) Incomplete (c) Undeveloped (d) Handicapped (e) nerve patient (f) backward and dull minded (g) lazy (h) epilepsy (i) powerful.

Psychologist **Canon** has said the types of personality on the basis of inner excretion gland. The development of man is affected much by glands, by which personality differences are found—

(a) Thyroid Gland—The excretion through this gland is called Thyroxin. Physical and mental development is effected by it. If this gland is not developed properly among the men, they are dull minded, tiny and lean. They are lazy, worried, depressed and disappointed. When this gland works

Notes

properly, man is always cheerful and his health is proper.

(b) Pituitary Gland—Because of the more excretion of this gland, body becomes long, if there is less excretion, the body becomes tiny or body is not developed properly. If this gland works properly, man is cheerful, peaceful, patient and physically and mentally tolerant.

(c) Adrenal Gland—When this gland developed more, the nature of man is quarrelsome and industrious.

They are developed before time.

Thus the more and less excretion of gland makes the personality of man uncommon. Human nature depends upon the activities of these glands. So we can say that these glands also decide the personality.

According to Indian Ayurvedic there are three kinds of men—

(a) Phlegmatic—These people are fatty, peaceful and hardworking.

(b) Painstaking—These are lean, working and fickle minded people.

(c) Rheumatics—These people are neither fatty nor lean, they have medium body but they are irritated.

It is the belief of Athenians that there are four kinds of men on the basis of four gland found in the body

of the men—

(a) Phlegmatic—these people are peaceful, lean and peaceful.

(b) Melancholic—These people are pessimistic.

(c) **Choleric**—these people are soon aggressive.

(d) **Sanguine**—These people are optimistic, highly ambitious, happy and of hard working nature.

(2) **From the Sociological point of view—Psychologist Sprangar** has given the following kinds of personality on the basis of social feelings and work—

(a) **Theoretical**—This kinds of man forces more on the theory of man. Philosophical, scientific, social reformers come in this category.

(b) **Economic**—This kinds of man evaluates everything from the economical point of view. Traders are come in this category.

(c) **Religious**—These people have faith in god and spirituality, as, saint, sage, yogi, kind-hearted and religious men.

(d) **Political**—These people have faith in the politics and power, this type of men have a desire of dominating others. They take interest in political works, as, leaders

(e) **Social**—These types people have more social virtues. They are interested in social-welfare.

(f) **Aesthetic**—These types of people are devotees of art and beauty and watch every thing from the aesthetic point of view, as-artists, painters, etc.

(3) **Psychological point view**—Psychologists have told the two basis of personality on the basis of human nature—

Psychological Age: on the basis of human nature are described by two major personality—

(i) **Introvert Personality**—Those people have this types of personality, whose nature, habits and virtues

are not expressed externally. These people are self centered and lost in themselves, they have no worry

of outer world. Their other qualities are following—

(a) These people are less talkative.

(b) They are soon confused.

(c) They feel complication in expressing their thought because of hesitative nature.

(d) They are worried, keep themselves limited in their thought.

(e) They are full of anxiety, doubt and carefulness.

(f) They have true sense of duty.

(g) They do every work carefully.

(h) They are good author, but not good orator.

(i) They are studious and thoughtful, often such men are the book licker and they become scientist, philosopher and researcher after some time.

(j) They do not like useless laughing, criticism and useless talking.

(ii) **Extrovert Personality**—This type of people take interest in the outer world, their qualities are followings:

(a) These people take interest in social life, always aware for adjustment in the society. They are optimistic and according to situation they manage themselves.

(b) They are expert in the practical life, they have opportunistic nature, and soon they become popular. This type of man becomes mostly social, political or trader, leader, actor and player etc.

(c) They influence others to do their work.

(d) They are free from worries; their purpose is to pass a joyful life. They remain cheerful in the present and do not worry about future.

(e) They have more sense of self exposure. They always try to influence others by their movement, outfits and abilities.

Ambivert Personality—This type man can bring introvert virtues in his thinking and he can give place

to extrovert virtues as a work. For example- a man can be a good writer and speaker, a man exposes social behavior, but he does not want to do any work alone. The man of Ambivert personality sees the benefit of self and society.

(B) **Freud**, who was a famous psychoanalysis, has said the following three types of personality—

(1) **Oral Erotic**—According to Freud, an infant wants to get sexual pleasure in his mouth means sex dwells in the mouth in the infancy, he sucks, bites, licks for getting the pleasure of sex. And he brings things towards his mouth. Moving ahead in the activities of getting this pleasure, personality is seen dividing between two parts.

(a) **Oral Passive**—The children, in which oral passive types of personality is developed. They are optimist, immature, depended, always involved in their thoughts.

(b) **Oral Sadistic**—The children in which Oral sadistic types of personality is developed, they are pessimistic, aggressive, doing uncouth behavior toward others and have doubtful nature.

(2) **Anal related**—Child's anal is the second basis or stage of getting sexual pleasure. Children are

engrossed with the anal related activities at this level; in this stage he gets sexual pleasure by doing stool.

Obsessions, misery, lover of rules and management, etc virtues are developed by this type of activity.

(3) Phallic—This is the third level of the personality development, which is called the level of phallic development. Children touch their phallic at this level, these types of activities work in the adolescent. The especial characteristics of personality are developed inspiring by the tendency of these activities, by

which adolescent behave to attract others and by exposing self love.

(c) Allport has classified the personality on the basis of the virtues of man. According to him virtues have realistic and strong existence. Allport has defined the virtues in the following way—

“A trait is a generalized and focalized neurophysic system with the capacity to render many stimuli functionally equivalent and to innitiet guide consistent forms of adaptive and expressive behavior.”

According to Allport, the nature of virtues is general and stable. He has divided all the human virtues into three parts—

(i) Cordinal trait—the traits which are in men in more quantity, those are cordinal traits, as, devout virtues towards the achievement. If this trait is presented in the man as a cordinal trait, it will be presented

in him throughout life.

(ii) Central trait—central traits are less cordinal in comparison of cordinal traits. Yet they are generalized

suffi ciently, means their central tendency is often stable.

(iii) Secondary dispositions—the secondary dispositions of men are especially limited traits and are presented as attitudes. Attitudes quantitatively are inclined towards the positive and negative pole and it can be related to the learning.

ASSESSMENT OF PERSONALITY

Methods of Assessment of Personality

The methods and tests, that are used for assessment of personality, are following—

1. Subjective Method—In this method, the investigation of personality is done either by self examination or with the help of a familiar. Some following methods are used in it—

- (a) Case History Method
- (b) Questionnaire Method
- (c) Interview Method
- (d) Autobiography or Self History Method

2. Objective Method—The external conduct of man is studied under this kind of methods. These are following—

- (a) Controlled Observation Method
- (b) Rating Scale Method
- (c) Sociometric Method
- (d) Physiological Test

3. Projective Method—Projective Method means the method, in which a stimulating situation is presented before student, in which he sees his concepts, feelings, tendency and emotions in others and

expresses his thoughts which are collected in his unconscious mind.

As the irritation of the unconscious mind, is expressed by the scolding of others. In the projective method, student is asked to project his inner arising thoughts by the medium of external things. By the projective method, the personality related aspects are known, which are unknown to man. The popular projective methods are following—

- (a) Thematic Apperception Test or T.A.T
- (b) Children Apperception Test or C.A.T
- (c) Rorchach Ink Blot Test
- (d) Sentence and Story completion Test

4. Psycho-Analytic Method—Two methods come under this—

- (a) Free word Association Test
- (b) Dream Analysis

Above subjective and objective methods are introduced in short—

1. Case History Method—In this method, information related to man’s physical health, physical characteristics, personality differences, social relations and family history etc are collected. This information is related to man’s past, present and further coming possibilities. In this method, learner gets the information with the help of the different sources such as, parents, relatives,

friends, neighbors and doctor. This method is used often for the prevention of psychological disease.

2. Questionnaire Method—A list of questions is prepared related to the different virtues of personality in this method, in which man has to reply in writing 'yes' or 'no'. This method is also called 'Paper Pencil Test'. With the help of this questionnaire, the characteristics and virtues of men as- interest, disinterest, confidence, social awareness, introvert tendency, tendency of dependence etc are tested.

The four main types of these questionnaires are following

(i) Closed Questionnaire—'Yes' or 'No' is written against of each question in it. Student has to reply the questions by ticking one of them, as—

(a) Do you get puzzled on a trivial matter? Yes/No

(b) Do you like to meet others? Yes/No

(c) Do you want to remain behind on the social occasions? Yes/No

(ii) Open Questionnaire—The complete answer of the question has to be written in this questionnaire.

as, What should be the motives of Indian democracy?

(iii) Pictorial Questionnaire—Some questions are presented in this questionnaire. Student has to reply

the questions by putting a tick on different pictures.

(iv) Mixed Questionnaire—There is a mixture of above questionnaires in this questionnaire.

3. Interview Method—In this method, interviewer gets some important information from the student, which is helpful in understanding the characteristics related to his personality. This method is mostly used for the selection of government jobs.

4. Autobiography or Self History Method—In this method, examiner gives a topic to the student related to personality and tells him to write his personal history, reading it examiner expresses his thoughts that correspond to that man.

5. Controlled Observation Method—This method is used in the controlled situation of the psychological

laboratory. Examiner studies the different activities and conduct and behavior of the students in it. On the basis of this, the characteristics of a student are known.

6. Rating Scale Method—In this method, the evaluation of the virtues related to personality is done by the man himself or the persons connected to him, that they express their opinion to him. Whichever virtue has to be tested, for the group division of that virtue, a line is equally divided among, 3, 5, 7 parts,

7. Sociological Method—the social virtues of student are tested by this method, this type of questions

are asked in it—

(a) Do you want to make your social circle limited to some special people? Yes/No

(b) Do you like to become leader or beginner in the community work? Yes/No

8. Physical Test—In this method with the help of different instrument, the physical traits of special student are studied.

1. Plethysmograph—Blood pressure can be known through this instrument.

2. Electro Cardiograph—Heartbeats can be measured with the help of this instrument.

3. Sphygmograph—The movement of nerves system can be found with the help of this instrument.

4. Pneumograph—The movement of breathing can be measured with the help of this. The process of breathing is studied by it.

5. Psycho-Galvanometer—The changes that happens in the variation of skin are tested with the help of this

instrument. In the emotional state, the electronic factors which found on the skin are increased or decreased,

as, due to fear, feeling the thrill, feeling the trouble etc. in this way with the help of this instrument, the

emotional changes that happen in man are understood. With the help of above instruments, the psychical

traits of man his courage, bravery, devotion, timidity and Culprit tendency can be found out.

9. Thematic Apperception Test—(T.A.T) -Psychologist Murrey and Morgan had created this test. This **Notes**

is also called T.A.T. The traits of man are tested by this. 30 pictures are used in this test. In it 10 pictures

are for women, 10 pictures for men, 10 pictures are for children. Generally last 10 pictures are used. In the first few pictures, which things are seen, are following—

1. A child playing on violin.
 2. A girl who has some books in her hand, another woman staring toward her and a farmer doing work in the field at a distance.
 3. On the right elbow, holding the forehead, a boy lying on the floor who has a gun.
 4. Bowing down the head, putting the right hand on the head and holding the door with left hand.
- In this way, in the other picture some events are sketched, in the beginning of the exam, examiner gives

the following indications to the student—

1. Who are these people?
 2. What happened in the beginning, on the basis of which his event is shown in the picture?
 3. What is happening now?
 4. What are these people thinking? What kind of feelings is arising in their mind? What will be its end?
- Five minutes are given to complete the story. A man expresses his natural desires, emotions, thoughts, feelings and thoughts in these stories. This can be his real story. Examiner analyzes these stories and finds out the traits of man on the basis of it.

10. Children Apperception Test—This test is used for testing personality arrangement of the children. 10 pictures are used in it. These pictures are related to some animals, which are seen behaving like man. The information on different interests, activities, problems of children can be obtained by this test.

11. Rorschach Ink blot test—**Herman Rorschach**, The famous Psychologist of Switzerland invented

this test. In this test 10 proofed ink blotted cards are used, five are quite black among them. Two are black and red; more colors are mixed in three cards.

Test Method—Examiner needs special training for using this test, before using the test; student is given

some indications—

Different things are seen to different people in it, these blots are shown to you one by one. Watch carefully to each of the cards and tell me, what you see in it? You may see it as long as you want to see it, but say everything

12. Sentence Completion or Story Completion Test—In this test, some incomplete story and sentences are

presented in front of the student. He expresses his desires and emotions in these sentences and stories by

the words and thoughts which have arisen in his mind and his personality can be studied on the basis of it.

13. Free Words Association Test—The internal condition of man can be known by this test. In this test 50 to 100 selected words are stimulating words. Examiner says one word in front of each student, as, house, water and sweet etc. He is encouraged for expressing all the words and thoughts whatever comes in his mind related to that word. Examiner continues to write the spoken words, each word, and the 'reaction period' on each word of student. And at last, on the basis of given responses, personality assessment is done.

14. Dream-Analysis—This method is used for doing psychiatry. In this method, a man is asked to write

or express his dream after remembering it. In these dreams the knowledge of desires and feelings of unconscious mind of a man can be obtained. There are some complications in this method because a man cannot remember his dream properly. On the basis of the responses given by the man, it is tried to

resolve his problem.

in psychology, **adjustment** refers to the behavioral process of balancing conflicting needs, or needs challenged by obstacles in the environment. Humans and animals regularly adjust to their environment. For example, when they are stimulated by their physiological state to seek food, they eat (if possible) to reduce their hunger and thus adjust to the hunger stimulus. [Adjustment disorder](#) occurs when there is an inability to make a normal adjustment to some need or stress in the environment.

In ivity or behavior

1. Response that removes (or reduces) the stimulus

Successful adjustment is crucial to having a high quality of life. Those who are unable to adjust well are more likely to have clinical anxiety or depression, as well as experience feelings of hopelessness, [Anhedonia](#), difficulty concentrating, sleeping problems and reckless behavior.

Adjustment as an achievement

In this model, we look at adjustment as a specific moment in time. We are considering an individual's adjustment to one challenge, not to all challenges they have faced. Successfully adjusting to one scenario can be independent of struggling to adjust to another, unrelated scenario. An example of this type of approach is observing a poor student beginning to study during recess because they don't have a home environment where they can effectively study. Beginning to study at another time would be considered adequately adjusting to this scenario, but does not consider the other ways it may impact their life (ie: inhibiting social interactions with peers.)

Adjustment as a process

This approach says that since the moment we are born, humans are in a constant state of adjustment. Since we are changing so rapidly and so constantly, we cannot break these down into separate unrelated challenges. Additionally there is no way to have successfully adjusted because something will always be about to change and prompt further adjustment. This approach views all life events as intertwined and unable to be teased apart.

Successful Adjustment

Successful Adjustment is also called being 'well adjusted' and is critical to mental health. Colloquially, being well-adjusted is defined as a person who "is reasonable and has good judgement...their behaviour is not difficult or strange." It is important to remember that adjustment is a continuum, not a simple dichotomy; people can fluctuate and be adept at adjusting in different circumstances. In general, a person that is well-adjusted will have the following characteristics:

- An understanding of personal strengths and weaknesses and a tendency to play up strengths while limiting the appearance of weaknesses
- Personal respect and appreciation, a well-adjusted individual finds themselves to be inherently valuable
- Appropriate aspirations that require hard work and capitalizing on strengths without being too far out of reach and setting them up for failure
- Basic needs such as food, water, shelter and sleep are consistently met, as well as a general feeling of security and positive self-esteem

- Positive attitude and a tendency to find the goodness in other people, objects and activities. A well adjusted person will acknowledge others' weaknesses but not actively search for faults.
- Flexibility to respond to accommodate for changes in the environment
- Ability to handle adverse circumstances: well adjusted people are able to take negative life events in stride, they will be motivated to take action to remedy the problem rather than passively accept it
- A realistic perception of the world that allows for a healthy amount of distrust of others and encourages pragmatic thinking
- A feeling of ease within surrounding environments. A well-adjusted person feels comfortable in different aspects of their community such as home, school, work, neighborhood, religious organization, etc.
- A balanced life philosophy that accounts acknowledges the impact that the world has on an individual as well as the impact an individual can have on the world

These more detailed characteristics listed above can be synthesized into these main criteria:

- ability to adequately function
- ability to perform adaptive tasks
- high positive affect and low negative affect
- general satisfaction in various life domains
- absence of debilitating psychological disorders

An individual that doesn't have these characteristics or is not consistently meeting the listed criteria could be diagnosed with an [Adjustment disorder](#). If diagnosed, they would likely be treated with psychotherapy to help them develop these skills and abilities. Ways to encourage these healthy adjustment mechanisms may include:

- encouraging talking about and processing emotions
- understanding and offering support, especially during periods of transition
- reassuring them that they are normal and worthy of inclusion
- monitoring progress in different environments (ie: home and school)

- emphasizing decision making, especially starting out with simple, relatively inconsequential decisions (ie: what to eat for breakfast, what toy to play with)
- promoting participation in hobbies and activities that are enjoyable and play to their individual strength ^[11]

Examples of Adjustment Methods

Many methods used for adjustment are also [defense mechanisms](#). Defense mechanisms can be either adaptive or maladaptive depending on the context and the use. In a 2003 study, researchers found that elementary school children that utilized appropriate defense mechanisms had higher performance in academic, social, conduct, and athletic domains.

Day Dreaming

- [Daydreams](#) are brief detachments from reality while awake. Episodes generally include fantasizing about hopes for the future and other pleasant thoughts.
- Adaptive example: daydreaming about positive social interactions could reduce social anxiety
- In a 2016 study, researchers studied 103 students as they transitioned to university. They found that those who day dreamed more frequently and whose day dreams had higher rates of positive characteristics and positive emotional outcomes were less likely to feel lonely by the end of the study. Participants' day dreams fostered feelings of connection and social inclusion during a anxiety ridden period. Findings from this study suggest that day dreaming can help individuals with socio-emotional adjustment.

Additional Examples

- [Compensation](#): emphasizing a strength to diminish the appearance of a real or imagined weakness
 - Adaptive example: developing strong interpersonal skills to compensate for difficulty with academics
- [Intellectualization](#): focusing on the abstract side of something as opposed to the practical or emotional sides
 - Adaptive example: researching a disease after being diagnosed rather than contemplating the life changing impact
- [Rationalization](#): understanding the reasoning behind actions; often touted as "making excuses" but can be adaptive

- o Adaptive example: knowing that you need to be stern and harsh to a friend in order to tell them the truth and help them improve
- **Identification**: associating oneself with another individual (often a friend or relative) that is extremely accomplished
 - o Adaptive example: associating with the success of sibling when you have helped them achieve a goal
- **Projection**: displacing personal feelings/opinions as those of another person (consciously or unconsciously)
 - o Adaptive example: mitigating personal guilt by saying a friend has anger issues rather than acknowledging your internal anger

Unit III

Introduction

Intelligence is a common word in daily life, which is used in many meanings. During the time of studying personality differences in detail, we will see that two persons are not similar, some are more intelligent and some are dull minded, some are slow and some resolve the problems within few minutes. There are many reasons for personality differences, among which Intelligence is important. Mental ability of a child is affected by his intelligence. This is a universal truth that, an intelligent man gets success in all the spheres of life, on the other hand a proper environment is also needed for his development. Intelligence is not one quality in itself but a collection of many qualities. A man cannot be called intelligent or dull minded, until the intellectual characteristics in his behavior are tested. Intellect cannot be seen directly, so we can say that intellect is an imagined power. A man mostly uses intellect in understanding the

Nature and Theories of Intelligence

Nature and Definition of Intelligence

“What is intellect?” Psychologists have different opinions in regard of this question. Different

Psychologists have described the nature of intelligent according to their opinion. So we can understand

the nature of intelligence after studying the definitions given by them. The definitions given by

psychologists are following—

1. According to W. Stern—“Intelligence is a general capacity of an individual consciously to adjust his thinking to new situation.”

2. According to C. Burt—“Intelligence is the innate capacity to adapt relatively to new situations.”

Intellect can not be seen directly, it’s an imagined power.

3. According to A. Binet—“To judge well, to comprehend well, to reason well, these are the essential activities of intelligence.”

4. According to F. Galton—“Intelligence is the power of recognition and learning.”

5. According to L. Terman—“Intelligence is the capacity to carry on abstract thinking.”

6. According to Thorndike—“Intelligence is the power of good response from the point of view of truth or fact.”

7. According to Buckingham—“Intelligence is the ability to learn.”

8. According to W. C. Dougall—“Intelligence is the capacity to improve upon innate tendency in the light of previous experience.”

9. According to Wells—“Intelligence is the ability of adjusting to new situations.”

10. Spearman—“Intelligence is the power of attention.”

11. Stout—“Intelligence is the general ability of the individual.”

12. Woodrow—“Intelligence is an acquiring capacity.”

13. Ebbinghaus—“Intelligence is the power of combining parts.”

14. Wechsler—“Intelligence is the aggregate or global capacity of the individual to act purposefully, to think rationally and to deal effectively with his environment.”

15. Garret—“The ability demanded in the solution of problems which require the comprehension and use of symbols, i.e words, numbers, diagrams, equations, formulas.”

16. Woodworth—“Intelligence is a way of acting.”

Characteristics of Intelligence

On the basis of the definitions given by psychologists, intelligence has following characteristics—

1. Intelligence is an innate power. It is gained from heredity.
2. Intelligence is the power, by which, a man organizes his behavior according to the situation after removing its complication.
3. Intelligence is the capacity of learning.
4. Intelligent is the ability of taking advantage from previous experiences.
5. Intelligence is the ability of abstract thinking, means with the help of intelligence we can think of something which is not evident.
6. Intelligence is the set of different abilities.
7. Intelligence is the essence of all special abilities.
8. Knowledge obtained by intelligence can be used in new situations.
9. There is difference between intelligence and knowledge.
10. Due to the sexual differences, difference is not seen in intelligence.
11. Intelligence is the power of introspection. Intelligence itself criticizes the actions and thoughts done by a man.
12. Intelligence tries to understand any problem, and then inspires the mind to take decision.

Factors influencing the intelligence—There are many factors influencing the intelligence—

Heredity

Race Sex

Mind

Health

Environment Age

1. Heredity—Many psychologists did various experiments in this context and found out the conclusion

that heredity effects intelligence. As Freeman considered that intelligence is closely related to heredity.

Gesell and Galton found out the conclusion that intelligence is more effected by heredity not by

environment. **Pearson** proved this on the basis of his study that the children of intelligent parents

are also intelligent to a large extent. Besides it, Psychologists like Schvesinger, Dason, Newman also considered that intelligence is more effected by heredity. So it is an important factor.

Environment—Many psychologists also did many experiments in the relation of environment. They believe that intelligence is more effected by environment than heredity. Kodak studied such eighty mothers who had brought up their children in good environment to know the effect of environment on intelligence. **Wellman** Leahy and Skeel also proved on the basis of his experiment, if a child is provided good environment, big changes can be brought in his intelligence. The psychologist of this belief also accept that intelligence is more affected by environment.

Age—The relationship between intelligence and age is also accepted as an important factor. Many experiments and study have been done in this context. As by- Terman, Miles & Miles, Johns, Thorndike, Spearman etc.

On the basis of all these experiments it has been concluded that, generally intelligence grows from the age of 16 to 20 years, but in India it is considered that the development of intelligence happens till the age of 25.

Race—Psychologists also accepted the effect of race on intelligence in their study and reached on the conclusion that race difference has no effect on intelligence. There are three groups of people are found

in all the races - intelligent, common and dull minded. Their percentage can be more or less, however

some psychologists considered that intelligence is also affected by the race.

Sex—Intelligence is affected by sex, or not, many experiments also have been done in this connection.

Psychologist Witty considered that there is no especial difference between sex difference and intelligence,

but if girls are not provided proper environment , their rumination side go backward, and the girls, who

do not get liberal environment, are less intelligent than the boys. **MacMeeken** (1939) evaluated the

intelligence of 875 children in his study, who were from Scotland. The evaluation of the intelligence

of these children was done by Stanford Binet Test. After the study it was found that boys' IQ was on average was 100.5 and girls' IQ average was 99.7. Both the mean of I.Q and S.D was 15.9 and 15.2 respectively. Some psychologists' concept was that girls I.Q were more than that of boys from six to fourteen. After this at the age of sixteen both, girls' and boys' IQ is equal and after this age boys' IQ is more.

Health—As it is said that 'Healthy mind grows in healthy body'. It has been felt that from daily life's experiences that better is the health, better is the development of the intelligence in the child. So health also affects the intelligence of a person.

It has been concluded on the basis of many psychological experiments that the development of intelligence happens between the age of 16 to 20, however it is believed that it grows till the age of 25 in India.

Difference between Intelligence and Knowledge

According to the psychologists there are following differences between intelligence and knowledge—

1. Intelligence is an innate power obtained by heredity, while knowledge is obtained power. Knowledge is attained in environment.
2. Intelligence is stable, knowledge is increased by gaining. Intelligence is not more or less, but knowledge can increase.
3. More intelligence can develop more knowledge, but more knowledge cannot develop more intelligence.
4. A man can be a scholar, but it is not necessary that he will be intelligent. In this way it is not necessary that whoever is intelligent, will also be a scholar.
5. To know many things is knowledge, but to use them is intelligence.
6. Psychologist Ross said that "Intelligence is the goal and knowledge is only a way to reach it."
7. Psychologist Ballard said that "Intelligence is a mental ability which is evaluated by the means like knowledge, interest and habit."
8. "In the worldly life intelligence the usable knowledge and thinking is intelligence." These thoughts

have been expressed by Sir Adams.

9. If a man's intelligence is destroyed, his knowledge is finished.

10. Intelligent men can face difficulties easily, while scholars are unable in doing so.

Explain the meaning of obtained and innate in the context of intelligence and knowledge.

Kinds of Intelligence

Psychologist Thorndike has considered intelligence, as the collection of many abilities. He has given the following three types on the basis of it—

1. Abstract Intelligence
2. Social Intelligence
3. Motor or Mechanical Intelligence

1. Abstract Intelligence—Minor feelings are known by this intelligence. Poets, Author, Painter etc

express their feeling by this intelligence. Words, digits and symbols are used in this type of learning.

This is a process of learning the academics. And the processes of solving of those problem in which

words and symbols are used. So it is the giving of abstract and oral intelligence to express the opinion

by the medium of words and symbols. It is necessary to develop Abstracts intelligence in such

subjects as- reading, Mathematics, Geography, History in school. New planning, new invention,

new rumination is possible by this intelligence.

Abstract intelligence can be tested by three types—

a. Level of ambition—by the evaluation of the level of the ambition of a man, that man's abstract

intelligence is known. Highly ambitious man will have high intelligence.

b. Doing different types of job—The man who are involved in different type of working, their capacity

of working can be known under abstract intelligence.

c. Speed of doing work—the man who does abstract actions with high speed. His abstract intelligence

will be less or more according to that.

Self Assessment

Put right or wrong sign in front of given statements:

1. Psychologist ‘Galton has said about the intelligence—“Intelligence is the power of learning and recognition.”

2. Intelligence can be gain by effort.

3. In India intelligence is developed till forty years.

4. Intelligence is an innate and obtained power.

2. Social Intelligence—This intelligence is related to the social conditioning, which helps a man in adapting according to the society. Due to the social intelligence, a man affects another man with his behavior. This type of man is happy, practical and takes interest in social activities. Due to the social intelligence a man leads a successful life in society. These types of men are occupational, politician and social worker.

3. Mechanical Intelligence—Mechanical intelligence means the power or ability, by which, a man can adjust himself with the situation related to mechanical or material things. The children, who have this intelligence, are seen in the starting period. They try to repair by opening their watch, toy and bicycle. Such children, after growing up, become expert mechanic, engineer. Mechanically intelligent children are expert in games and physical activities.

14.5 Summary

□□ Intelligence is a common word in daily life, which is used in many meanings. During the time of studying personality differences in detail, we will see that two persons are not similar, some are

more intelligent and some are dull minded, some are slow and some resolve the problems within few minutes. There are many reasons for personality differences, among which Intelligence is important.

Mental ability of a child is affected by his intelligence. This is a universal truth that, an intelligent man gets success in all the spheres of life, on the other hand a proper environment is also needed for his development. Intelligence is not one quality in itself but a collection of many qualities.

□□ Various Psychologists have described the nature of intelligence on the basis of their thinking.

□□ Intelligence has some characteristics. Intelligence is the capacity of learning.

Intelligent is the ability

of taking advantage from previous experiences. Intelligence is the ability of abstract thinking, means

with the help of intelligence we can think of something which is not evident.

□□ There are many factors influencing the intelligence: heredity, environment, race, age, sex and health.

□□ Psychologist Thorndike has considered intelligence, as the collection of many abilities. He has given

the following three types on the basis of it, i.e. Abstract intelligence, Social Intelligence and Motor

or Mechanical Intelligence.

1. Abstract Intelligence

2. Social Intelligence

3. Motor or Mechanical Intelligence

Intelligence Tests

Introduction

As two men look different in their color, physique, height, and weight, so they are different in mental

abilities. It is important in the field of education to study the differences in mental abilities. Keeping

in mind the differences of the mental abilities of students, teachers have to arrange the educational

work and divide the classes in different groups. The differences between the mental abilities and

capabilities are decided by intelligence.

Intelligence Tests

In education it is necessary to study the personality differences. Many methods are used for obtaining

the knowledge of personality differences. Psychologists have made different tests for the measurement

of personality differences. Intelligence tests have been prepared for the measurement of intelligence.

Intelligence tests help in the solution of many problems related to education, so it is necessary to obtain knowledge about them.

History of Intelligence Tests

It is evident after describing the meaning, nature, kinds and theories of intelligence that psychologists define the intelligence as the ability of learning, ability of rumination and the ability of adjustment.

The credibility of intelligence and its connection goes to personality differences. In 1796 in Greenwich

astrolological laboratory, a man named Kinnerbrooke was appointed as an assistant supervisor. He

studied the movement of stars, planets with the help of telescope and calculated the time. His speed

was slow, so he was fired from the job. After some time astrologers pondered on this event and found

out that every man has different ability and capability. So they developed the thought of personality equation.

In the modern times, scientific studies related to intelligence tests were started in Europe. The famous

German Psychologist, Wundt established first laboratory of psychology in 1879.

In this laboratory

intelligence test was done on the scientific basis. Here the measurement of intelligence was done by

the instrument. Being encouraged by the work of **Wundt**, the psychologists of other countries also

started doing work related to intelligence tests. In this relation **Alfred Binet** of France, **Thorndike** and

Terman of America have done works that worth mentioning. Other psychologists as **Galton**, **Cattell**

and **Pearson** have also invented many intelligence tests, but these tests measured common mental

activities, so these cannot be called intelligence tests. In this field the first and prominent was **Alfred**

Binet. In 1900 Binet prepared exercise for the intelligence test of different ages' children with the help

of psychologist Simon, which was called '**Binet-Simon Scale**'. Binet Simon Tests were considered in

different countries. Then after 1908 Binet Simon Scale was improved in America and Europe. Terman

in America corrected the name of Binet Simon Scale between 1913 and 1916 and kept its name Stanford

Binet Scale. In 1937 **Terman**, in India, made some improvement in it with the help of **Merril** and kept

its name **Terman-Merril Scale**. These tests are used for the measurement of intelligence for the children

in America and India. Even in Indian psychologists' laboratory, Allahabad corrected Binet Simon tests

for the Indian children. In India **Dr. Sohanlal, Dr. Jalota, P. Lajjashanker Jha** and **Dr. Bhatia** etc have

prepared different tests.

Kinds of Intelligence Tests

Different psychologists have prepared different tests for the measurement of intelligence. It is evident

from the study of intelligence tests' History that many intelligence tests had been prepared even before

Binet in which Cattell's intelligence test was also present, but Binet, with the help of Simon in 1905

prepared an intelligence test, which has a scientific basis and which was used in different countries

as a first famous intelligence test. Although after improving many things it has been given a new look

yet many intelligence tests have been prepared in comparison of it. Today many intelligence tests are

present, for the measurement of intelligence. If we put light on the kinds of intelligence tests, they can

be divided between two groups—

(a) Personal or community intelligence test

(b) Verbal or non-verbal intelligence test

Intelligence test can be divided into four parts by the combination of above two groups—

1. Personal translation intelligence test

2. Personal non-verbal intelligence test

3. Community verbal intelligence test

4. Community non-verbal intelligence test

It is necessary to understand the differences and the nature of both groups before describing the different

kinds of intelligence tests—

(a) Personal or community intelligence test—Personal intelligence test includes the testing of one man

at a time, on the contrary, when many people are tested together at one time, it is called community

intelligence test. Personal and community intelligence tests have some differences which are following-

Difference between personal and community intelligence tests

Following differences are found in the personal and community intelligence test

Personal Test

1. This test takes much time.
2. This test can only be taken by a trained man.
3. This is appropriate for the young children.
4. This test has difficult questions.
5. There is difficulty in the making of this test's questions.
6. This test is expensive.
7. Child is often confused in this test.
8. There is close intimacy established in this test between the child and invigilator.
9. The results of this test are more valid and reliable.
10. In this test, community intelligence cannot be known.

Community Test

1. This test is often completed within 45 to 50 minutes.
2. This test can be taken by a common man.
3. It is appropriate for the elders and adolescence.
4. It has easy questions.
5. Questions are prepared easily in it.
6. This test is not expensive.
7. In the community test, they support happily.
8. There is lack of this thing in community test.
9. The conclusions of community test are less valid and reliable.
10. Community can be guessed in the community test.

We can say after the above description that personality test is better in comparison of community test.

Personality test needs more money, time and trained man, so community tests are used mostly. But as far as the question of validity and reliability, personality tests are appropriate.

(b) Verbal or Non-Verbal Intelligence Test—Language is used in the verbal intelligence test. Many questions are collected together in a small book in this test. In the verbal test words and digits are mostly used. In this test it is necessary for a man to have knowledge of language and digits. In non-verbal intelligence test language is not used. Some indications are indicated for doing some work in this test, so it is also called '**Performance Test**'. Performance intelligence tests are used for the people who do not have the knowledge of language or illiterate. Mostly non-verbal or performance intelligence tests are in the form of personality tests.

In non-verbal intelligence, test language is not used, indications are provided for doing some works. So it is also called performance test.

Development of learner and teaching learning process 127 30/07/13 3:03 PM

Difference between verbal or non-verbal intelligence test

In verbal or non-verbal intelligence test, following differences are found-

Verbal Test

1. In verbal test, it is necessary for a man to have knowledge of language and digit.
2. In verbal intelligence test the marking of responses is done after reading the instructions given in language and digits.
3. For the marking of responses in the verbal test, putting tick on the words/sentences, filling in the blanks, matching the correct responses are used as methods.
4. In the verbal intelligence test, time limitation is not so important.
5. The effect of the development of language affects the result of this test.
6. Mostly, verbal intelligence tests are taken in groups.

Non-Verbal Test

1. In non-verbal less test it is not necessary to

have knowledge of the language.

2. In the non-verbal intelligence test examiner gives oral instructions. The candidate verbal instructions and functions. Instructions can also be written, but the response does not use words or numerals.

3. In the non-verbal test, to recognizing the picture completing the organs, making the figure, joining the parts according to the picture etc. methods are used.

4. In the non-verbal test for the measurement of Intelligence, limitation of time is given importance.

5. The effect of level of the knowledge of language does not fall on the conclusion of non-verbal intelligence test.

6. Non-verbal intelligence tests are often taken individually.

Now it will be appropriate to briefly describe the four groups of intelligence tests that emerge from these two broad categories—

1. Personal verbal intelligence test—One man is tested at a time in the personal verbal intelligence

test. It is necessary for a man to know the language which is used in the test.

Specific personality verbal intelligence test are following—

(a) Binet-Simon Intelligence Scale—Binet developed an intelligence test with the support of his

companion **Simon** in the effort of recognizing weak students, which was published in 1905. Binet test is

considered first among the successful intelligence tests. In 1908 and 1911, both tried to make it complete

after doing corrections in it. This test is known with the name of Binet-Simon Scale test.

In **Binet-Simon Scale** test Intelligence is done on the basis of mental age. Some questions are given

to know the mental age each year. The child who responds correctly to the entire questionnaire

for the determining age, his mental age is calculated, for example, if five years child gives correct

answers of the questions determined for four years' age, his mental age is considered to be four years, but if he answers correctly to the questions determined for the seven years, his mental age will be considered seven years. In the comparison of real age, if the mental age is more, the child will be considered more intelligent. This type of intelligence measurement is expressed as intelligence quotient. To know the intelligence quotient methods are given. Binet- Simon intelligence test was decided for 3 to 15 years old girls/boys, four questions were determined for 4 years' child and no questions were determined for 11 to 13 years age. For three years' age, following questions were determined—

(i) Tell your name.

(ii) Point your mouth, nose and ear with your hand.

(iii) After seeing a picture tell some important things.

(iv) Repeat easy sentence of six words.

(v) Repeat two digits after hearing once. As 2-3, 3-7, 6-8 etc.

It was found in the final studies that Binet-Simon Scale had many faults. The main fault was if any child could not answer the questions determined for his age, his mental was considered less than his real age.

(b) Stanford Binet Scale—In spite of having many faults in Stanford Binet-Scale, it became world famous and got success in getting the attention of popular psychologists. To make Binet-Simon intelligence Scale free of faults, **Cyril Burt** of England and **Lewin M. Terman** of America, who were professors of psychology in Stanford University, did important work in 1916. Thus improved intelligence test is known by the name of '**Stanford Binet-Scale**'. While doing correction Terman made it fault-less with the help of his friend **Maud A. Merrill** in 1937 and again in 1960. 90 questions were put in place of 54 exercises of Binet in this corrected intelligence test, in which, some questions of Binet were also included.

The intelligence of boys and girls of 2 to 14 years of age is measured by this scale. In this test two months were decided for the correct answer of each question for the age till 13, four months for the age till 14, and five months were decided for normal adult. On the basis of the answers of the questions of this exercise, mental age is known. And decision is given about the measurement of intelligence in the ratio to his real age. For example, in the exercise of Stanford Binet for the age of three years the list of determining questions is followings—

- (i) Telling the name of his family.
- (ii) To say about itself whether boy or girl (sex knowledge).
- (iii) Repeat the sentence of 6 to 7 words.
- (iv) Telling about his mouth, nose, ears etc with his finger.
- (v) Seeing the knife, Scissors and keys etc, to tell their name.
- (vi) Seeing any picture, telling its important things.

Through the above mentioned questionnaire Binet – Simon and Stanford – Binet Scale IQ differences can be seen.

2. Personality Non-Verbal Intelligence Test—Personality nonverbal intelligence tests are for those who do not have language related knowledge. Pictures, things and figures are used in place of language.

This type of intelligence is also called performance intelligence, because answers are given in it in a performing way. Important nonverbal intelligence tests are following-

(a) Picture Drawing—This test is appropriate for the child from 4 to 10 years. Paper and pencil is given

to the child, he is asked to draw the picture of a cow. In this test, marks are given on the basis of the completeness of the picture.

(b) Picture Completing Test—In this test in front of the child picture is given cutting in square in shape, and said to them, after collecting make a complete picture.

(c) Maze Test—In this test, child is given such a picture which has many ways to reach to a destination.

The children, who reach there without any difficulty, are considered intelligent.

Portius Maze Test

d) Form Board Test—In it, there is a board of wood in which, the holes of different shapes are made, as circular, semi-circular, triangular and quadrangular etc. The pieces that have been cut out have to be fixed in proper places. The child, who puts the proper pieces in proper places within proper time, is considered intelligent.

(e) Performance Group—Test made by Dr. Alexander—Alexander has invented a Battery after assembling up three test for the measurement of intelligence. This battery has following three tests—

I. Kohas Block Design Test—In this test, there are sixteen colorful cubes of one inch and ten designs.

These designs are prepared upon the piece of card-board with the same color. Child has to jumble up all the cubes in such a way that design is made. Child has to jumble up all the cubes in many ways for different designs.

Kohas Block Design Test

II. Cube Construction Test—This test has three parts—

(i) In the first part, there is a big model Block of 3" × 1" × 1". Its four surfaces are of red colors and

upper and lower surface are simple. Apart from this, there are 9 cubes made of 1inch. Its surfaces

are colorful. Arranging the small boxes the shape of the model block is obtained.

(ii) In the second part of the model block, only the lower surface is not colorful.

There are 9 cubes of 1

inch cube in it, whose surfaces are colorful. It is asked to them to prepare the shape of model block

by jumbling them up.

(iii) In the third part there is a colorless cube of two inches and cubes of 8 cubes of 1 inch, out of which **Notes** three surfaces are colorful. Assembling up, all these small cubes have to be put in a shape.

III. Pas Along-Test—In this test, there are 8 square or rectangular pieces of red or yellow color. These

have to be moved without lifting that the required design is obtained. There are eight designs in this test.

(f) Object Assembling Test—Wacksler test is famous among this kind of tests. A human figure is divided in to many in it and child has to prepare a complete human figure after assembling the different parts.

(g) Bhatia Battery—The founder of Bhatia battery is Chandra Mohan Bhatia. It is also made for the measurement of intelligence in Indian situation. In this Battery, there is a assembling of five tests, which are following-

- (i) Kohas Block design test
- (ii) Alexander pass along test
- (iii) Pattern drawing test
- (iv) Immediate memory test
- (v) Picture creativity test

Intelligence test prepared by Dr. Bhatia is very good for the measurement of intelligence in Indian situation.

In the above test, there is limitation of time. Only 45 minutes are given for the responses. Students can answer the questions as early they want. On the basis of it, the speed of person is also tested along with the intelligence. In the tests where time is limited, they are called **time limited test**. Some tests don't have time limitation. Student can take long time for responding the questions. In this test, it is also seen how accurate work a student can do along with the intelligence.

3. Community Verbal Intelligence Test—language is more used in it. In this test many questions that are collected in a small book. In the verbal test words and digits are used mostly. Children's verbal ability is measured by these tests.

The examples of the questions of Verbal intelligence test's are following—

1. In the following words which words are different from other words, underline them—

Chair, Table, Cupboard, Bed, Shirt.

2. Which is not matched with the rest four among the five words?

China, Japan, Mumbai, India, France.

3. The opposite of night is –pupil, king, day, evening.

4. 1, 4, 12, 16, 20—Write the successive terms of this sequence.

5. The meaning of mountain is—Field, Coast, Hill, Stone.

6. Vimal runs faster than Kamal. Hari runs slower than Kamal. Who runs fastest? Kamal, Vimal, Hari?

Group verbal intelligence test was developed during the time of First World War, because armies were to be selected within the short span of time. The main tests of this group are following-

(a) Army Alpha Test—This is for the people who know English. This test was developed in America for selecting officers, supporting staff and soldiers in large number during the time of World War I. It seems that the subject material of this test has been taken from the **Stanford-Binet Test**.

(b) Army General Classification—Army general classification had been prepared for the classification of army for the different divisions during World War II in America. In this test, there are three kinds of problems, As-Vocabulary, Maths and the problems related to the counting. This test was used for conducting the intelligence test for about of 12 lacs applicants. In the field of collective intelligence test, notable efforts have been done in India. In which, Dr Mohanlal's B.P.T 12, B.P.T 13, B.P.T 14 are for the age of 12, 13,14. Dr. Jalota's and Dr. Joshi's tests are considered important. Besides it many intelligence tests have been prepared by Psychologists' Laboratory, Uttar Pradesh which are for the classes of eight, ninth and tenth standard.

4. Group Nonverbal Intelligence Test—Language is not used in it. In this test the picture of any animal is made and mistakes are to be found in the given picture. **Terman, Thomson, Hangto, Ballard** and **Cattell** etc. psychologists gave essential contribution in the construction of intelligence test. Ballard's saying in this relation—"To find out fools and not to plough donkey with bull and to place capable person on the right position is possible with this plan." This type of test is applied for many men together without using language. This group's noted tests are following—

(a) Army Beta Test—Army beta test was also developed during the time of First World War in America for the fulfillment of purpose like Army Alpha test. The selection for the various positions for different divisions in the army was to be done from the people who were illiterate or had no knowledge of English language. Hence this method was adopted to find out the people with relative intelligence among the people with no knowledge of English language. Intelligence is measured in this method by counting of the articles, telling the relation between two articles with respect to the printed figure, and marking the elements of the figure which do not correspond to these articles at all etc. problem resolving.

(b) Chicago Non-verbal Test—Chicago non-verbal test is used for the age from 6 years boys or girls till the adulthood. It has proved more useful for the intelligence test of the age of 13 years. In this test, many working instruction are given, as telling the equality or inequality in different shapes, completing the picture after assembling the separated pieces of the picture, counting the things with the help of wooden pieces and recognizing the same things among the different things and putting them in different classes.

Besides the above in the group verbal intelligence test, **Cattell's** cultural independence test and **Pigeon's** non-verbal test have important place, where different kinds of shapes are shown and similarities or differences have to be shown in those shapes.

Intelligence Testing in India

The development of intelligence testing has been done in India some days ago. In the above described intelligence test, it was attempted to use Binet test in the Indian situation. Intelligence test related work was being done in the 'education department' or 'psychological Bureau' in the universities of the different states. In 1922 Dr. C.H. Rice published '**Hindustani Binet Performance Test.**' This test is the

corrective form of Binet test. After this, whichever performance test was constructed, **Dr. Bhatia Battery**

of Performance Test is worth mentioning.

Bhatia Battery of Performance Test—Dr. Bhatia constructed the performance test for the children on

the basis of battery of performance test made by Alexander. Following five tests are included-

In your opinion, what are the reasons of late start of the intelligence testing in India?

1. Kohas Block Design Test.

2. Alexander Pass Along Test.

3. Pattern Drawing Test. 4. Immediate Memory Test for digits.

5. Picture Construction Test, it has two tests of the same types which have been described above.

Pattern Design Test—In the Pattern Design Test, 8 line art were drawn on different cards. It is asked to

draw the similar picture putting them in front.

In the Immediate Test for Digits—some digits as 7, 5, 11, 14 are asked to repeat once they are shown or told.

Picture Construction Test—There are five scenes from Indian life, putting them in the different pieces

it is told to assemble them. Complete picture is prepared with this activity.

Apart from these intelligent test, following tests have been prepared in Hindi—

1. Verbal Intelligence Test—This was constructed in psychological Bureau in U.P. This test is for the

age of 10 to adulthood.

2. Verbal Intelligence Test—This test has been prepared in U.P., this test is for the children of class 8,

10, and 12.

3. Verbal Intelligence Test—This test is for the children of 10 to 16. It has been constructed by Dr. S.A.

Mohsin.

4. General Mental Ability test—This test has been constructed by Dr. Jalota. This test is for the age of

12 to 16 years.

Besides it, many intelligence tests have been prepared, which are used in the different fields according

to the need.

Self Assessment

Select the correct alternative:

1. The credit of establishing the first laboratory goes to—
(a) Alfred Binet (b) Wount
(c) Terman (d) Alexandar
2. The American psychologist who corrected 'Binet-Simon Scale' was—
(a) Pearson (b) Galton
(c) Terman (d) Alfred Binet
3. The credit for preparing the first intelligence in India goes to—
(a) Dr. Sohan Lal (b) Dr. Bhatia
(c) Dr. Jalota (d) All above
4. The basis of intelligence test prepared by Dr.Bhatia in India was—
(a) Cattell's Performance Test (b) Binet Performance Test
(c) Alexander's Performance Test (d) Binet-Simon Test

Method of Measuring Intelligence

It is necessary for us to obtain knowledge about two subjects for knowing the method of measuring intelligence.

1. Mental Age
2. Intelligence Quotient

Mental Age—Mental age of a man is the indication of the level of intelligence. Mental age, in some especial age, expresses the mental maturity of a child. According to Dr. Mathur, "Mental age is the expression of limit of the development obtained by any man which is known by his works, and it is expected of him in some specific age." In psychology various kinds of intelligence tests have been constructed for the different ages and for determining mental age. Mental age can be known by these intelligence tests. For example, if any intelligence test, for the age of 12 years child's determines average score as 75, if the test score of any child is 75, his mental age will be considered 12 years even if he is 10 years old. There is no fixed relationship between the real age and mental age of any child. The mental age of 12 years old child can be equal to 8 years old child also. It is necessary to use intelligence test for

knowing the mental age. The knowledge of mental age is obtained on the basis of the responses of the above descriptive tests.

Intelligence Quotient

After knowing the mental age of a man, it is not found whether he is intelligent, common or dull minded.

Psychologist Terman invented intelligence quotient for measuring the intelligence. What is Intelligence

Quotient? To know this, first it is necessary to find out the chronological age and mental age. After this,

intelligence quotient is known by the following formula.

Intelligence Quotient =

Mental Age

$\frac{\text{C h r o n o l o g i c a l A g e}}{\text{C h r o n o l o g i c a l A g e}} \times 100$

Or, I.Q. = $\frac{\text{M A}}{\text{C A}} \times 100$

For example if the mental age of any child is 15 years and his chronological age is 12 years, his intelligence

quotient is obtained in this way—

Intelligence Quotient = $\frac{15}{12} \times 100 = 125$

The meaning of this intelligence quotient is that, the child is intelligent. Generally, whose intelligence

quotient is 100 or approximately, they are considered of normal intelligence.

The Classification of Intelligence Quotient

Psychologists have put the intelligence of man in the following classes on the basis of the counting of

intelligence quotient.

Intelligence-Quotient Class Intelligence Class

1. From 140 till 200 Genious
2. From 120 till 140 Very Superior
3. From 110 till 120 Superior
4. From 90 till 110 Average
5. From 80 till 90 Dull
6. From 70 till 80 Feeble Minded
7. From 50 till 60 Moron
8. From 25 till 50 Imbecile
9. Under 25 Idiot

Utility of intelligence Tests Notes

Intelligence tests have important place in the field of education. According to modern psychologist, education should be provided considering child as the central point. So it is necessary providing education, keeping in mind the intelligence and the capability of child. From this point of view, intelligence tests have become the important aid to education. Intelligence tests have following utilities in education—

1. Help in the Selection of the Student—Intelligence test helps in the entrance of proper student for proper class. Unworthy student are found out by it. And only worthy students are selected.

2. Help in the Psychological Classification of Child—Children can be divided into various classes with the help of intelligence tests. Genius, Average and dull minded children, Putting them in different classes, education should be provided to them according to their ability.

3. Help in the Measurement of Especial Ability—The best student in the college can be selected by this test, whoever gets highest place in the debate or other activities.

4. Help in the Dealing with the Problematic Students—The intelligence quotient of such a child found out by the intelligence test, whether the reason of his behavior is lack of intelligence or any other reason. Thus, with the help of intelligence test, the reason of uncommon behavior is known and they can be cured or improved.

5. Help in Giving Work According to the Capacity of a Child—The working capability of child can be found out by the intelligence test.

6. Indication Towards the Future of a Child—Douglas and Dazed have said, “intelligence tests point towards the future of a child.” His future problem can be found out by this test.

7. Help in the Selection of Syllabus—It can be found on the basis of the test which subjects are proper for which students.

8. Help in the Annual Examination—On the basis of these tests, if intelligent student get less mark in the examination or gets failure, or due to illness he does not obtain good marks, he can be promoted to

the next class.

9. Verification of the Works of a Teacher—How has teacher taught the students, it can also be found out by these tests.

10. Help in the Teaching Work of Teachers—By using the intelligence test, genius or dull minded child can be put in the different classes. Teachers feel comfort in teaching in this type of class, in which the students are of same level of intelligence and student also learns with interest.

11. Help in the Guidance Related to Occupation—Student's occupational ability can also be known by the intelligence test and they can be provided help in the selection of occupation.

12. Knowledge of the Progress of the Students—Teacher finds this by using the intelligence quotient, that, according to his ability, a student is progressing in his subjects or not. Thus by this test, the hardwork done by the student can be known.

13. Diagnosis of Mental Health—By the intelligence test, mental unhealthiness can known and cured.

14. Help in Deciding Scholarships—By these tests, worthy students can known, and scholarships can be given to them.

15. Remedy of Extravagance in the Education—Often in the colleges, many youngsters post-pone their education after failure. So for removing this extravagance, knowledge of a child's ability can be known, and they can be provided help in the selection of the proper subjects.

16. Help in the Study of the Specific Classes of Children—Intelligence test helps in the survey of the intellectual level of other racial community or specific classes as- dumb, deaf and blind.

17. Utility in the Field of Industrial and Occupation—By the intelligence test, help can be taken in the selection of the employees and officers for the government and non-government services. Thus,

we can see that the use of the intelligence test in the different field of day to day life is increasing.

Many problems can be resolved and cured by the intelligence test in all the important spheres of life.

Especially its usage has been proved very important in the educational field.

Summary

It is important in the field of education to study the differences in mental abilities. The differences

between the mental abilities and capabilities are decided by intelligence.

In education it is necessary to study the personality differences. Many methods are used for obtaining the knowledge of personality differences.

Psychologists have made different tests for the measurement of personality differences. In modern

warfare, intelligence-tests began in Europe in relation to scientific study.

In this relation **Alfred Binet** of France, **Thorndike** and **Terman** of America have done works that

worth mentioning. Other psychologists as **Galton**, **Cattell** and **Pearson** have also invented many

intelligence tests, but these tests measured common mental activities, so these cannot be called

intelligence tests. In this field the first and prominent was **Alfred Binet**.

Today many intelligence tests are present, for the measurement of intelligence. If we put light on

the kinds of intelligence tests, they can be divided between two groups—(a)

Personal or community

intelligence test (b) Verbal or non-verbal intelligence test.

The development of intelligence testing has been done in India some days ago. In the above described

intelligence test, it was attempted to use Binet test in the Indian situation.

Intelligence test related

work was being done in the 'education department' or 'psychological Bureau' in the universities of

the different states. In 1922 Dr. C.H. Rice.

Intelligence tests have important place in the field of education. According to modern psychologist,

education should be provided considering child as the central point. So it is necessary providing

education, keeping in mind the intelligence and the capability of child. From this point of view,

intelligence tests have become the important aid to education.

Theories of Intelligence

Psychologists have accepted the following theories about the organization of intelligence—

1. Unifactor or Monarchic Theory
2. Two factor Theory

Theories of Intelligence

3. Three factor theory **Notes**
4. Multi factor or anarchic theory
5. Multi mental Ability theory
6. Group factor or Oligarchic theory
7. Hierarchical Theory
8. Cattell's Theory
9. Unifactor Theory

(1) Unifactor or Monarchic Theory—It has been called one factor theory. The followers of this theory are Binet, Terman and Stern. According to it, intelligence is a unit and entire intelligence does only one type of work at one time when active. According to this theory intelligence is the most powerful mental power, which dominates all mental abilities. But this theory is considered faulty, because we cannot say if a person is good in Mathematics, he will be good in arts as well.

(2) The Two Factor Theory—the follower of this theory is psychologist, Spearman. According to this theory, there are two factors of intelligence, means intelligence can be divided between two parts.

(a) General Ability or 'G' factor

(b) Specific Ability or 'S' factor

According to Spearman, intelligence is the addition of two kinds of strengths.

General ability helps a

man in all kinds of activities and special ability helps in doing some special work.

As-one is intelligent in

music or art and other in Maths or Science. For the skillfulness in special activities, 'S' factor is needed.

General factor of intelligence has following characteristic—(1) it is found in all the factors. (2) It is innate. (3) This factor is always equal. (4) There is difference in the general ability of every person.

(5) The man who has this factor more, he gets more success than other person. (6) This factor is more

needed in all works of life.

Spearman has considered difference in the general ability of man, one who has this factor

more, he succeeds more than others.

These are Characteristic of Special Factor of Intelligence—(1) this factor is found in different people in less or more quantity. (2) Different kinds of special factor are determined for different activities.

(3) the person who has more quantity of any special factor, he gets more ability in that. (4) Special factor

can be acquired. (5) Different persons have different kinds of special factors.

(3) Three Factor Theory—In this theory, **Spearman** added collective factor with 'G' and 'S' factors of

intelligence. According to it, three factors are needed in the intelligence test—general intelligence, special

intelligence and language and spatial knowledge. This theory is in controversy.

Psychologists have

expressed their difference of opinions in this theory. So this theory cannot be all accepted.

(4) Multi Factor or Anarchic Theory—the founder of this theory is **Thorndike**, the famous psychologist

of America. According to his opinion intelligence is the collection of many kinds of powers and there is

no need of any kind of equality in these different kinds of powers. **Thorndike** does not consider the equal

factor of intelligence, in his opinion, all men have unique intelligence. If one has the ability in one subject,

his ability in other subject can not be guessed. **Thorndike** has divided the intelligence in three parts—

(i) Social Intelligence

(ii) Concrete Intelligence

(iii) Abstract Intelligence

Psychologist, Thorndike does not accept the equal factor of intelligence; rather in his opinion every man has a special intelligence.

(5) Multi Mental Ability Theory—Thorndike has called intelligence the collection of many abilities, but

Psychologist Thurston and Kelly have said that the intelligence is made of a collection of some mental

abilities. Kelly has described nine following abilities in the construction of intelligence—

- (i) Social Ability
- (ii) Verbal Ability
- (iii) Numerical Ability
- (iv) Motor Ability
- (v) Physical Ability
- (vi) Mechanical Ability
- (vii) Musical Talent
- (viii) Interest
- (ix) Ability to deal with special relations

Thurston concluded after using different kinds of psychological tests that intelligence is the collection

of following seven Primary Mental Abilities:

- (i) Number Ability or N
- (ii) Verbal Ability or V
- (iii) Spatial Ability or S
- (iv) Word Fluency Ability or W
- (v) Reasoning Ability or R
- (vi) Memory Ability or M
- (vii) Perceptual Talent or P

It can be written in this way in English formula:

Intelligence = N + V + S + W + R + M + P

(6) Group Factor or Oligarchic Theory—The follower of this theory is G.

Thomson, the famous

psychologist of Scotland. According to him, there is a group or collection of special abilities. There

is equality among the same abilities of a group or collection, as-under the collection of the literature

abilities there will be a close relation among poem, story, and fiction and essay, but these abilities will

have no relationship with the abilities of the collection of science.

(7) Hierarchical Theory—The follower of this theory is **Burt** and **Vernon**. They have given hierarchical

theory to the mental abilities. And they have told the four following mental abilities.

- (i) General mental health
- (ii) Two parts of mental Ability-
 - (a) Performance, mechanical, internal and psychical abilities
 - (b) Verbal, numeric and educational abilities.

(iii) Division of above two level of abilities into many mental abilities, like memory, imagination and thoughts

(iv) Special mental abilities

(8) Cathell's Theory—Cathell has told the two factors of the general factor of theory of Spearman. These **Notes** two factors are—

(a) Crystallized Intelligence—Cathal has called it GF factor and

(b) Fluid Intelligence—Cathal has called it GE factor.

The effect of heredity falls on the development of fluid intelligence. So, due to the different reason and

heredity related changes, there is difference in the intelligence of different persons.

The development

of the crystallized intelligence is affected by the environment. Therefore, due to the environmental

differences or similarities, equality or inequality can be seen in the intelligence of different persons.

According to Cathal, after philosophical analysis, the above two factors they can be divided among

many factors. Cathal has constructed 'Culture Free Test for the measuring the intelligence'. By which

fluid intelligence is measured.

(9) Unified Theory—Guilford has delivered the unified theory. According to Guilford, intelligence is

a 'structure of intellect Model'. There are three parts of structured model which includes different

abilities. These are following—

Which is the most scientific theory among the different theories of intelligence in your

opinion? And why?

Guilford's S.I. Model

Under many intelligence related theory, Guilford has constructed his own theory. According to Guilford—

intelligence is only a structure of primary intellectual abilities. Guilford said that every intellectual

ability is special or unique in itself. There is need of some or the other intellectual ability in doing every

work in proper way. Therefore, in Guilford's opinion, every intellectual ability should be measured in different way. Sir Guilford accepts that there are some similarities shown among some mental abilities.

Guilford has put these in the three groups on the basis of these similarities-

1. Process or operation
2. Content or material
3. Product

Sir Guilford has described some special mental abilities for the each parts of these three, which is described in short—

1. Process or Operation—process means the nature of mental process by a man, means what will be nature of mental activities adopted by man in doing any given work, its explanation comes under the 'process'.

For example, if a man is asked to explain the pros & cons of mobile, here the evaluation will be found comprising of five factors of process, under which following five important mental abilities come—

(a) Cognition—on the basis of this ability a man remembers any thing again. Repeat it and try to recognize it.

(b) Memory—on the basis of this ability a man, on the basis of his previous experiences, establishes relationship with the present. He remembers his previous experiences and remembers them carefully.

(c) Divergent thinking—on the basis of this ability, a man uses his intelligence in the many dimensions. He can think about different dimensions, can take decision according to the situation.

His thinking is not one sided.

(d) Convergent thinking—convergent thinking is the other side of divergent thinking. Both types of thinking are important in the life of a man. With this type of thinking, a man becomes capable in a way that he finds out correct solution for any problem at last.

(f) Evaluation—on the basis of this ability, a man lives in whichever atmosphere or doing work

on whichever problem, he tries to keep all information about them. Then, after analyzing the entire situation he reaches out to the correct decision by the proper method.

2. Content or Material—Content means the field of information, which serves as the basis for all process.

Guilford has divided this kind of information among four parts. Under process, whichever examples have been presented, evaluation is included in them. Its content is semantic. But sometimes it happens that the information obtained by person is not semantic, rather it is in the form of pictures. In this condition, the nature of content will be called figurative. Under it Guilford has described the following four parts—

(i) Figure—It means that a man tries to understand and recognize some special figure after watching it. He does this work with the help of his sense organs. And inspect the figure thoroughly in a proper way.

(ii) Symbolic—It means that after understanding the different symbols in proper way, a man can use them according to the importance in his life. It is needed to understand the different kinds of symbols to do different kinds of work in life.

(iii) Language—Language related ability is considered important to succeed in life. In the condition of having good command over language, a man can convey his own thoughts to others very well and understand others' thought very well. Even the nature of thoughts can also be easily perceived.

(iv) Behavioral—It means social intelligence, which helps a man in the understanding of different human communications easily. It has been considered as the most important stage of life.

3. Product—the meaning of product is the result of the process done by any special kind of content.

Guilford has divided it in 6 parts. For example, if we tell any student to put odd and even numbers in

different categories, then the work done by the student will be put under product category. When content is used in any process, result is obtained. Under it, six types of abilities come, they are following—

(a) Units—It is important to understand the meaning and knowledge of seeing, hearing and symbolic units. Means, here a man tries to understand the uniqueness and characteristics of sensory perceptions.

(b) Class and Category—Under it, the ability of the classification of the units come. It is seen in it that a man can put thoughts in category or not.

(c) Relation—Under it, it is observed that a man can understand the relationship among different things, or not, along with this whether he can explain this relationship or not.

(d) Systems—According to it, providing the arranging the nature of different kinds of thoughts and problems and finding out their solution etc are included.

(e) Transformations—It is related to that type of ability in which a man can learn of the nature of particular thing after making a specific change, or to advice which change will be able to bring

about the specific form. **Notes**

(f) Implications—it means that the man has the sufficient ability to understand the contained meaning in the thought, things and facts. So some people use implication as the contained meaning.

It is clear from the above description, that, in the context of intellectual abilities, mental abilities have the followings things contained in them as per Guilford—

1. Five operations
2. Four contents or materials
3. Six Products

According to Guilford all these mental abilities are related to one another. Thus, the total counting of the intellectual dimensions can be called— $5 \times 4 \times 6 = 120$

Guilford's above descriptive theory is one of the best extended theories. Yet the assumption of Guilford

states that this model is quite theoretical and changes can be done in it. The most important thing is that it gives birth to new possibilities in the scientific field. This theory of Guilford can be understood in short in the following way, that, intelligence is a logical structure which is made of two main things—memory and ruminative thinking. The classification of the ruminative thinking has been done under cognition, production and evaluation. Production has been divided between two classes—divergent thinking and convergent thinking. Thus, in total there is a collection of five intelligence parts, which has been cleared by the medium of some processes. The classification of five collections has been done on the basis of two theories. Under it whichever types of outcomes (units, classes) are included and the types of content (figural, language, symbolic and practical) that have been taken, in this connection Guilford ends his theory, stating, that the blank cells indicate towards those primary mental abilities, whose discovery still remains. Its long factors—Guilford presented a model of the shape of box, on the basis of scientific analysis in 1967, which is known by the name of Intellect Structure Model. He made cubes of 5 × 4 × 6 in this model, means total 120 cells, in which different factors depending on the three factors related to mental ability have been put. Minimum one factor or ability has been kept in each cell, in some cells, factors more than one can be put. There is no arrangement of it. Guilford has described each factor in three dimensions and on the basis of his factor analyzing research; he has got success in establishing the existence of 80 factors, and was hopeful for the remainder. Guilford has divided all the factors of intelligence in this way.

General Mental Intelligence

Operation Content Product

1. Evaluation 1. Figural 1. Units
2. Production 2. Symbolic 2. Classes
3. Memory 3. Semantic 3. Relations
4. Cognition 4. Behavioral 4. Systems
5. Transformations

6. Implications

Productional Implications

As far as the question of the implication of this theory in the educational field, Guilford had told during the time of delivering this theory that this theory will give birth to new possibilities in the field of education and in the field of research. Guilford had this belief that this theory would provide a new

nature to the entire educational learning process. He has compared learner to computer. Difference between them is so that student determines his program himself, while computer depends on others.

Operation

Evaluation
C-Production
D-Production
Memory
Cognition
Units
Classes
Relations
Systems
Transformation
Implication

Content

Figural
Symbolic
Semantic
Behaviour
C M P P E

I
T
S
R
C
U
B
S
S

F

Product

Intellect Structure Model

In short it can be said that Guilford's above descriptive theory is not completed yet and it is necessary to

do further discoveries in this regard. There is no doubt that Guilford has shown a new way of searching

by delivering this theory in the field of intelligence. Igink writes in the relation of this theory-

“Guilford classifies the intellect into operations, which it can perform, different contents of these

operations and different products. By taking all possible interactions we obtain 120 cells corresponding

to different mental abilities. Of these, Guilford claims to have evidence in actual factorial studies for

eighty. He is optimistic about the discoveries of remainder.”

Summary

□□ Intelligence affects the mental ability of a child. What is intelligence? The answers to this question

have been given by the psychologists as per their opinions. Psychologists have explained the nature

of intelligence with the help of various definitions, and their conclusion is, that, intelligence is a

general ability. It is a collection of different abilities and the essence of special ability.

□□ Psychologists have accepted the following theories about the organization of intelligence.

1. Unifactor or monarchic Theory

2. Two Factor theory

3. Three factor theory

4. Multifactor or anarchic theory

5. Multi mental Ability theory

6. Group factor or Oligarchic theory

7. Hierarchical Theory

8. Cathell Theory

9. Unified Theory

□□ Under many intelligence related theory, Guilford has constructed his own theory.

According to

Guilford—intelligence is only a structure of primary intellectual abilities. Guilford said that every intellectual ability is special or unique in itself. There is need of some or the other intellectual ability in doing every work in proper way. Therefore, in Guilford's opinion, every intellectual ability should be measured in different way. Sir Guilford accepts that there are some similarities shown among some mental abilities. Guilford has put these in the three groups on the basis of these similarities—

1. Process or operation
2. Content or material
3. Product

(b) Emotional intelligence- concept, dimensions, role of teacher in promoting emotional intelligence.

Intelligence is a general descriptive term referring to a hierarchy of mental abilities, from simple perceptual processes and information processing to higher and more general forms of problem solving (Carroll, 1993). Until now the term "intelligence" has been limited largely to certain kinds of problem-solving involving language and logic. However, human beings are able to deal with numerous kinds of content besides words, numbers, and logical relations -- for example, space, music, the psyches of other human beings. Thus, in the present decade, researchers have explored the possibility that intelligences are a more diverse and looser confederation of abilities than once was thought. One evident factor in the rethinking of intelligence is the perspective introduced by scholars who are not psychologists. Anthropologists have commented that some cultures do not even have a concept called intelligence, and others define intelligence in terms of traits such as obedience, good listening skills, or moral fiber (Gardner, 1999). Neuroscientists are skeptical that the highly differentiated and modular structure of the brain is consistent with a unitary form of intelligence. By the end of the twentieth century, it was amply evident that mental functions are highly interconnected. Most of one's mental processes, from colour perception to self-insight, potentially involve and activate both emotion and intelligence

1. The Definition and Scope of Emotional Intelligence

Emotional intelligence (EI) is historically defined as the ability to carry out accurate reasoning focused on emotions and the ability to use emotions and emotional knowledge to enhance thought (Mayer & Salovey, 1997). Its primary focus has to do with reasoning about emotions and the use of emotions to

enhance thought. Thus, EI represents abilities that join intelligence and emotion to enhance thought.

Many commentators suppose that EI derives from the broader construct of social intelligence (e.g. BarOn, 2000). Contemporary perspectives on social intelligence have their origins in Thorndike's influential, tripartite division of intelligence into the following broad classes: (a) abstract-scholastic intelligence: the ability to understand and manage ideas, (b) mechanical-visuo-spatial intelligence: the ability to understand and manipulate concrete objects; and (c) social (practical) intelligence: the ability to understand and manage people and act wisely in social contexts. However, despite considerable interest and numerous attempts to define and measure social intelligence over the past eight decades, these attempts have proved problematic (Kihlstrom & Cantor, 2000). The inability to discriminate between general and social intelligence, coupled with difficulties in selecting external criteria against which to validate experimental scales, led to a decline in research focusing on social intelligence as a distinct intellectual entity, until the recent upsurge of interest in EI.

Emotional intelligence (EQ) vs. Intellectual intelligence (IQ)

Many Research studies have shown that Emotional Intelligence significantly contributes to job performance and leadership. Competency research in over 200 companies and organizations worldwide suggests that about one-third of this difference is due to technical skill and cognitive ability while two-thirds is due to emotional competence. (Goleman, 1998). Research by the Center for Creative Leadership has found that the primary causes for derailment in executives involves deficits in emotional competence. The three primary ones are: difficulty in handling change, not being able to work well in a team, and poor interpersonal relations. A study of 130 executives found that how well people handled their own emotions determined how much people around them preferred to deal with them (Walter V. Clarke Associates, 1997). John Kotter of Harvard Business School aptly quotes - "Because of the furious pace of change in business today, difficult to manage relationships sabotage more business than anything else—it is not a question of strategy that gets us into trouble, it is a question of emotions." Goleman (1998) relates the story of Melburn McBroom, who was a domineering leader, with a bad temper. The problem with this combination of emotional deficiencies was that he also happened to be an airline pilot. In 1978 as McBroom's plane was approaching Portland, Oregon to land, he noticed a problem with the landing gear. He decided to maintain a holding pattern as he obsessed about the landing gear. His co-pilots watched as the fuel gauges approached empty, but they were so fearful of their leader's wrath that they said nothing. The plane crashed, killing ten people. This story is told in training courses to enforce the need for teamwork, open communication, cooperation, listening, which leaders with high emotional intelligence foster. (Goleman, 1998) IQ measurements on most children with autism are typically very high, yet it is well known that these children are burdened by their inability to communicate in other forums. We all know people who are academically brilliant and yet are socially inept and unsuccessful. What they are missing is emotional intelligence.

5 Main Components of Emotional Intelligence

1. Self-awareness: Recognize and understand your own moods and motivations and their effect on others. To achieve this state, you must be able to monitor your own emotional state and identify your own emotions. *Emotional Maturity in this trait shows:*

- Confidence
- Sense of humor (can laugh at self)
- Aware of your impression on others (can read the reactions of others to know how you are perceived)

2. Self-Regulation: Controlling your impulses—instead of being quick to react rashly, you can reign in your emotions and think before responding. You express yourself **appropriately**. *Emotional Maturity in this trait shows:*

- **Conscientious** and take personal responsibility for your own work/deeds.
- Adaptable (and favorable) to change
- When someone is complaining or is rude to you, you do not respond in kind. You respond in a manner which would not escalate the situation. (At this point, you will also realize that when someone expresses anger at you, they're not always angry at you; they're often just angry and want to take it out on someone.)

3. Internal Motivation: Internal motivation is marked by an interest in learning. It is also self-improvement vs. a pursuit of wealth and status (as a pursuit of wealth and status is an external motivator). *Emotional Maturity in this trait shows:*

- Initiative and the commitment to complete a task
- Perseverance in the face of adversity

4. Empathy: The ability to understand another person's emotional reaction. This is only possible when one has achieved self-awareness—as one cannot understand others until they understand themselves. *Emotional Maturity in this trait shows:*

- **Perceptive** of other's emotions and taking an active interest in their concerns.
- **Proactive**—able to anticipate someone's needs and the appropriate reaction.
- Social Situations such as office politics do not phase one who has a firm grasp of empathy.

5. Social Skills: Identifying social cues to establish common ground, manage relationships and build networks. *Emotional Maturity in this trait shows:*

- **Communication:** Listening and responding appropriately
- **Influence and Leadership:** The ability to guide and inspire others

- Conflict Management: The ability to diffuse difficult situations using persuasion and negotiation.

- **Unit-IV Understanding Children with Diverse Needs a) Children with diverse needs/different abilities: Concept, Classification, Role of Teacher**

- **Introduction**

- In a normal classroom a teacher tries to explain the concepts. Some children understand the concepts better and in no time, some children take sometime to understand them and a few may not be able to understand even if teacher explains it time and again. It may be due to the reason that some children are mentally alert or superior, some are average and some are dull. In simple language there are different categories of children in the same class. A teacher is supposed to teach each and every child according to his or her level of understanding. In the following pages we shall try to understand the different categories of children along with their characteristics and causes, which make them special in nature.

- **Exceptional Children**

- **Who is a exceptional child**

- The term exceptional means different to different people. Some use it for bright child or for a unusual talented child and others may use it for deviant child. Generally it is accepted either for gifted or for handicapped. The child who has a physical handicap, such as a crippling condition, deafness or blindness or the child who deviates mentally whether he is bright or dull or mentally retarded or a child who is maladjusted or emotionally disturbed is termed to be a exceptional child.

- In fact the term exceptional is new, originating in the past decade to describe all types of learners that cannot perform at the 'normal' level in one or another area. In an classroom teacher may face different categories

of exceptional children such as hyperactive, hyperkinetic, MBD (minimal brain dysfunction or minimal brain damage), emotionally handicapped, physically handicapped, culturally disadvantaged, socially maladjusted gifted, backward delinquent and creative. Ellingsworth (1975) has cited over forty different terms to describe virtually the identical behavioural and learning disorders. A child is educationally exceptional if his deviation is of such kind and degree that it interferes with his development under ordinary classroom procedures and necessitates special education, either in conjunction with the regular class or in a special class or school, for his maximum development. In measured words the term 'exceptional child' is used to designate, "He who deviate from what is supposed to be the average in physical, mental, emotional or social characteristics to such an extent that they require special educational services in order to develop to their maximum capacity."

■ **Gifted Child**

- Over 2000 years ago, Plato advocated that children with superior intellect be selected at an early age and offered a specialized form of instruction in science, philosophy and metaphysics. Plato felt that the survival of Greek democracy was contingent upon its ability to educate the superior citizens for leadership positions in society. History recalls with authenticity that civilization like Egypt, Rome, Greek, Harappa and China owe their greatness largely to the efforts of the then rulers to identify develop and exploit the intellectually superiority in the citizenry. Before we get to know the identification or characteristics of gifted individuals let us try to understand the concept of giftedness.
- One definition of gifted is : A talented or gifted child is one who shows consistently remarkable performance in any worth-while line of endeavour. Thus, we shall include not only the intellectually gifted but also these who show promise in music, the graphic arts, creative writing, dramatics, mechanical skills and social leadership.
- Sumption and Luecking define gifted as "Those who possess a superior central nervous system characterized by the potential to performance tasks requiring a comparatively high degree of intellectual abstraction or creative imagination or both. Fliegler and Bish say, "the term gifted encompasses those children who possess a superior intellectual potential and functional

ability to achieve academically in the top 15 to 20 percent of school population and/or talent of a high order in such special areas as mathematics, mechanics, science, expressive arts, creative writing, music, and social leadership; and a unique creative ability to deal with their environment. Some psychologists are of the view that children of I.Q. above 120 may be called gifted and some think these who have I.Q. of 140 or 150 should be labelled as gifted children.

- With giftedness sharing itself in so many different ways we can say a gifted is the one who has superior ability to deal with facts, ideas or relationships, whether this ability comes from a high I.Q. or a less well defined creativity. For better understanding of concept a socially talented, mechanically talented, artistically talented, musically talented, physically talented, linguistically talented and academically talented child is a gifted child.

- **Characteristics of the gifted children**

- There is no doubt that gifted children exhibit their talents by their performance in all the tasks done by them. We can identify them by observing them. Although there are individual differences among gifted children, certain characteristics are common to the majority of the gifted. Hollingworth, Terman and his associates and Witty & others have worked in the area. From their works some chief characteristics are as follows:

- **(a) Physique and Health**

- Gifted children are taller, heavier, stronger more energetic and healthier than the other children of their age who have average intelligence. Many gifted children are outstanding in athletic ability and variety of sports. Two aspects of gifted are important in this area. First, although the gifted children clearly tend to excel their average age mates in both mental and physical characteristics by the time they are several years old, it is not easily possible to detect their superiority at birth. Secondly, since there is correlation between I.Q. and socio-economic status, the physical superiority of gifted child may be the result of non-intellectual factors.

- **(b) School Achievements**

- Most gifted children like their school. They are often accelerated, almost never retarded and less absent. They have sense of humour, enjoy

free discussion are creative and original. They are generally high achievers. Many of them are more advanced in reading than in areas that require manual dexterity such as writing, art. Many gifted children are younger than their classmates because of their superior academic performance.

▪ **(c) Interests**

- Gifted children are characterized by enthusiasm, they enjoy games with other children. They usually persist in the face of difficulty if the activity appears to them as the worthwhile.

▪ **(d) Social and Emotional**

- The organisational capacity of the mind which the gifted children possess is of high degree which influences their social and emotional development. It makes them active participant in the process of growing emotionally stable. But it does not mean that gifted is never aggressive. He challenges the controls of school or home if he feels these are unreasonable. They display more emotional maturity and minimum conflicts with parents.

▪ **Personality Characteristics**

- Terman is of the view that gifted show superior character and personality. They learn rapidly, remember the things easily, have the ability to analyse, reason and reproduce accurately. They are better adjusted and have power of sustained attention. They enjoy creative pursuits.

▪ **Occupational Characteristics**

- They tend to enter occupations that demand greater than average intelligence, ability, creativity and motivation. A high proportion of gifted children, distinguish themselves among their peers in adulthood.

▪ **Identification of the Gifted**

- Gifted children of every type are in every society or culture. Yet they remain hidden until they are identified. In identifying gifted children anecdotes records, cumulative records are very help along with the mental tests. Following are some of the techniques to reach them.

▪ **1. Mental tests or intelligence tests**

- These tests provide clear proof of the child's intelligence and on the basis it is possible to identify them and formulate future plans.

▪ **2. Aptitude Tests**

- Children who are gifted in the sense that they possess some special ability and not identified by intelligence tests. These excel in art, drama, music and other non-academic areas. Here we use aptitude tests.
- **3. Achievement Tests**
- This test helps to indicate the range of child's success and potential achievement.
- **4. Reports of Parents**
- Parents reports are often considered valuable in identifying gifted children.
- **5. Teacher's Opinion**
- Teacher remains in constant touch with the child, hence is the best judge of his abilities.
- **Education of Gifted or Role of Teacher**
- Following steps can be followed for providing fruitful and satisfactory education to gifted.
- **1. Enriching the regular classes**
- Enrichment of the regular class curriculum can be a method to meet the needs of gifted children.
 - (a) Independent reading,
 - (b) Special assignments,
 - (c) Panel discussions,
 - (d) Creative projects and use of reference books. can be helpful to enrich the curriculum.
- The term enrichment refers to those activities which give gifted opportunity to study more and deeply. Visit to Museums, field trips, libraries, industries can also help gifted to learn more.
- **2. Acceleration**
- It refers to various provisions in the school that help a gifted child move through school at speed. Various forms of acceleration are:
 - (a) Permit child to skip grade or class.
 - (b) Admit child to first grade at an earlier age than is customary.
 - (c) Establish special courses for the gifted in order to permit him to complete, Say, a 10 year school program in 8 or 9 years.
- Some educationists favour acceleration and some do not. Those who favour argue that it is more challenging to the gifted, it requires him to

work more. Those who oppose it argue that setting the child apart from his age group creates social and emotional problem.

- Researches have shown that beneficial effects of acceleration seem to out-weight any possible harmful effects.

▪ **3. Special Classes**

- Here intellectual superior child is put in special class and is separated from average or below average children. Teachers are also special in the sense they are trained to deal with the gifted children.

▪ **Backward children**

- In almost every class there are many children who are so backward in basic subjects that they need special help. These pupils have limited scope for achievement. They constitute about 18 per cent of the school population. These students do not stand out as very different from their classmates except that they are always slow to understand the instructions. In simple terms they make less progress than other children of similar age or abilities thus known as backward children.

▪ **Meaning : Subnormal progress in education is called educational backwardness.**

- A child is called a backward child if he or she
- (a) Is a slow learner as compared with children of his age or grade.
- (b) Does not respond satisfactorily to the normal school curriculum, normal methods of teaching, normal class-room work.
- (c) Has academic or scholastic achievement lower than the children of his age or class.
- Sir Cyril Burt defines a backward child as one "who in mid school career is unable to do the work of the class next below that which is normal for his age."
- For example, we may assume that, according to his age, a particular child should be in class eight. If this child is unable to perform the work of seventh class he is taken as a backward child.
- Schannel defines the backward child as one who shows marked educational deficiency when compared with other pupils of the same chronological age."
- In mathematical terms a backward child is one where EQ (Educational Quotient) is less than 85.

- $$EQ = \frac{\text{Attainment Age}}{\text{Chronological Age}} \times 100$$
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- Where attainment level is the average of the combination of all ages of all abilities in arithmetic he may be 8 years, in reading 9 years or so on, where as chronological age is 11 years.

- A backward child is a slow learner. The slow learner is one whose IQ is between 70 to 90.

- **Types of Backwardness**

- It is of two types.

- **1. General Backwardness**

- When children are backward in many or all school subjects and intellectual ability. They suffer from general backwardness. They are dull in all activities.

- **2. Specific Backwardness**

- When children are backward in all subjects. This may be in history, spelling. They suffer from specific backwardness. They are not dull.

- **Harmful effects of Backwardness**

- Educational backwardness is not only an educational problem. But it is more so a personal and social problem. A backward child is unable to pass a good life. He is frustrated and in frustration he is liable to become delinquent. He can become a mental patient or at least a problem child. Such a child is a danger to society and to themselves also.

- **Causes of Backwardness**

- Backwardness in general and specific. Likewise the causes are also general and specific. Psychologists believe that backwardness is not caused by one factor only. It is caused by many factors. From a study of hundreds of backward children Sir Cyril Burt found that backwardness is caused generally by the following factors.

- **1. Low Intelligence**

- In about 60% cases educational backwardness is caused by poor intelligence. There is no remedy to it. It is a curse of inheritance.

- **2. Sub-normal physical development**

- Sometimes as a result of poor food, back environment etc. some children are unable to acquire normal physical development. This causes backwardness.
- **3. Physical defects and diseases**
- Some children have defective eye sights, poor hearing, speech defects, enlarged tonsils etc. Some of them suffer from chronic diseases, back digestion, headache, mental fatigue and other physical ailments. Children who suffer from one or many such diseases cannot give required time to studies. They become backward.
- **4. Poor home conditions**
- Some homes have over crowding and bad sanitation. There is no place to study. There is noise. There is dirt and parents are poor and children have lot of domestic work. Children from such homes are liable to become backward.
- **5. Emotional Disturbance**
- Owing unhappy relations between mother and father between siblings between neighbours, children are emotionally disturbed. They are not happy. They are not at peace. Their mind is unable to concentrate at studies. Teachers tease and make fun of them. This adds to their emotional disturbance.
- **6. Unloving parents and unsympathetic teachers**
- Love and affection is the food of the child. A child who is denied the love, affection, encouragement and security loses his balance and withdraws from the situation from work and even from life.
- **7. Other causes**
- (i) Truancy
- (ii) Absence from school
- (iii) Bad study habits
- (iv) Non-availability of study material
- (v) Rough handling by parents and teachers
- (vi) Bad company
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- **How to identify backward children**
- **1. By observation**

- Teachers and parents should keep a record of the school work of the child, a comparison of the progress made by child will at once indicate the amount of backwardness.
- **2. Use of tests**
- Intelligence tests, scholastic tests, tests of interest, attitude inventories and checklists and case histories may be useful in locating educational backwardness.
- **3. Medical tests**
- Regular medical examination and a record of physical health is essential for the diagnosis of backwardness.
- **4. Study of home and school**
- A visit to the home by the teacher and to the school by parents will give an idea of the emotional tone and the general environment at both the places.
- **5. Activities participate by children**
- **6. Interview with the child**
- **Educational Guidance or Teaching technique and role of teacher**
- **Diagnosis are application of Cure**
- The first step towards educational guidance or towards remedy of backwardness is to find out the causes of backwardness. This can be done jointly by school, doctor, parents, teachers, a social worker and school counsellor. Remedies can be suggested depending on the causes.
- Some specific suggestions are as follows:
- **1. Finding level of Intelligence**
- By using standardised tests the level of intelligence of children can be found. Those who have a low level of intelligence can learn slowly, they should be given more time and individual attention by the teachers in the class teaching.
- **2. Making environmental changes**
- It is found out that bad environment is the cause of backwardness, the situation lies in improving the environment.
- **3. Attending to the health of the child**
- Efforts should be made to remove physical ailments by giving treatment and good diet.
- 4. Use good methods of teaching.

- 5. Making home and school environment humane i.e. full of love, sympathy and security.
- 6. Use of extra-curricular activities.
- 7. Grouping the similar backwardness and helping them.
- 8. Training the teachers to handle backward children.
- 9. Flexibility in school organisation and time-table.
- 10. Use of remedial teaching in different subjects.
- 11. Use of gadgets like tape-recorders, computers, speech mirrors etc.

▪ **Delinquency**

- Meaning : Hadfield defines "delinquency as an antisocial behaviour". When anti-social behaviour assumes bigger proportions it takes the form of breaking the law. Then it is called a crime. In education in schools we deal with children below the age of 18 years. In connection with them we use the term Juvenile delinquency. In that case juvenile delinquency may be defined as a social offence committed by a young person below the age of 18. If such a offence committed by an adult it will be called a crime punishable under the law of the land. There may be three points of view of juvenile delinquency.
- **(a) Clinical Viewpoint** :It is concerned with aspects of personality and adjustment of the delinquent.
- **(b) Legal view point:** It is concerned with breaking of law of school, community or state or country and it is punishable if committed by adult.
- **(c) Socio-cultural view point :** It is concerned with the code of conduct which a society enforces upon its members.

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▪ **Types of Delinquency**

▪ **1. Benign delinquency**

- This type of delinquency when a child runs away from class to see interesting magic show or movie being held outside, is a crime for an anti-social behaviour in the legal sense but not an abnormal behaviour from the mental point of view. Teachers and parents should try to understand this type which is man made and the children should not be held responsible for the same.

▪ **2. Temperamental delinquency**

- The delinquent which develops on account of malfunctioning of physiological activities in the body may be because of disease, early maturation etc. This can be checked by attending to physiological defects.
- **3. Simple delinquency**
- The delinquency which results from the conflict between the needs of the individual and the society or the bad environment. If delinquent is put in good environment and is made aware of the problem of the society and its aims delinquency can be taken care of.
- **4. Reaction delinquency**
- This type of delinquency is a reaction of the child against the society may be parents and teachers from whom the child feels that he has got some sorrows, suffering, punishment and nothing else. When children fail to get love and affection from parents, relatives and teachers he takes pleasure in disrespecting and in breaking the law.
- **5. Psychoneurotic Delinquency**
- This type of delinquency is the result of repressed tendencies. The cure lies in psychoanalysis.
- **Patterns of delinquency**
- Delinquent children can be grouped under two patterns.
- **(1) Active :** Such children are always on the go, they run, they move from place to place, are very energetic. They are adventurous. Their behaviour is disruptive and dangerous. They are agitators, strikers, believe in doing damage to property etc.
- **(2) Silent :** This group consists of children who are shy, selfish, quiet and have no consideration for others. The largest numbers of delinquents are found between the age of 14-16.
- More boys than girls are delinquents. In our country the ratio between boys and girls is around 6:1. But more girls are involved in the crime than committed.
- **Nature and background of the delinquent**
- Once upon a time it was felt that delinquents are born and delinquency is inherited. But researches have proved it wrong. In another view delinquents were mentally defective. But this theory was proved to be wrong because many delinquents were found to be above average in intelligence. However, studies done by Cyril Burt have shown that larger number of

delinquents had poor intelligence. There is agreement on the following points.

▪ **(i) Home background**

- Usually delinquents come from unfortunate homes where there are widowed parents or step-parent, where there is poverty, where needs remain unfulfilled.

▪ **(ii) Slum Areas**

- Most delinquents belong to families who live in slum areas. In the home or huts there is over crowding dirt, noise, livelihood depends upon stealing or begging.

▪ **(iii) Psychologically unsound parents**

- It has been found that most delinquents belong to the homes where parents are blind to their limitations, they blame others, they lack vigour and initiative where entertainment is of cheap type.

▪ **Causes of delinquency**

- Although every delinquent child like every patient has his own disease which is different from the disease of another patient yet the factors responsible for delinquency can be broadly grouped into five categories.

- **1. The biological causes** : which includes in born mental deficiencies, constitutional defects of subnormal growth. Children with biological deficiencies are more prone to delinquent acts.

- **2. Personal causes:** which include temperamental instability, poor health, short size, early maturation.

- **3. Psychological causes** : Such as emotional disturbances and frustration. A atmosphere of over protection or over restriction. In security and rigid domination also work for delinquent behaviour.

- **4. Environmental causes:** which include poverty and unemployment, quarrel between parents, parental neglect, vices among parents, unfavourable school environment, absence of co-curricular activities, dictating headmaster also promote delinquency.

- **5. Socio-cultural causes:** when social values change suddenly and society, family or community or religion makes high demands from children they get confused and sometime revert to cultural set up.

- **Measures for Reducing Delinquency:**

- **(4)** Not only the child but their parents need guidance and training in child rearing, in understanding the problems of children and setting good conduct as an example for child. PTA's can be helpful in this direction.

- **Points to Remember**

- **Exceptional Children**

- He who deviate from what is supposed to be the average in physical, mental, emotional or social characteristics to such an extent that they require special educational services in order to develop to their maximum capacity. The different categories of exceptional children are; hyperactive, hyperkinetic, MBD, emotionally handicapped, physically handicapped, gifted, backward, socially maladjusted and delinquent.

- **Gifted Child**

- A talented or gifted child is one who shows consistently remarkable performance in any worthwhile line of endeavour. Gifted children have good physique and health, they have high achievers in academic works, more advanced in reading have varied interests, are socially and emotionally stable, better adjusted and they distinguish themselves among their peers. They are identified through observation and different tests. Enriching the curriculum and acceleration in the school programme is recommended in their educational programmes.

- **Backward Child**

- Who in mid school career is unable to do the work of the class next below that which is normal for his age. There are two types of backwardness; general and specific. A child may be backward due to low intelligence, subnormal physical development, poor home conditions, emotional disturbances and physical defects. Identification of such children is done by following methods.

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- (1) By observation.
- (2) Use of tests.
- (3) Medical tests.
- (4) Study of home and school.
- (5) Activities participated by children.
- (6) Interview with children.

- Removing the causes of backwardness can help the child to benefit from the educational programme. Educational and Remedial programme to such children is suggested as below:
- (1) Teacher should find out the intelligence level through standardised tests. Those who have backwardness due to low level would learn slowly, they should be given more time to learn and be given individual attention.
- (2) Making environmental changes.
- (3) Attending to health of the child.
- (4) Use good methods of teaching.
- (5) Making home and school environment humane i.e. full of love, sympathy and security.
- (6) Use of extra curricular activities.
- (7) Grouping the similar backwardness.
- (8) Training the teachers to handle backward child.
- **Delinquency**
- Delinquency as an anti-social behaviour. When a child below the age of 18 commits a social offence he is called a delinquent. There are four types (a) Benign, (b) Temperamental, (c) Simple and (d) Reaction delinquency. Large number of delinquents came from unfortunate homes, slum areas and belong to psychologically unsound parents. There are biological, personal psychological, environmental and socio-cultural causes which lead to delinquency. Remedial measures are of two types: (1) Extra mural, (2) Intra mural. It is always better to prevent it. Teachers should be careful in dealing with delinquents. Adequate schooling and recreational facilities should be provided to them.

c) Inclusive Education: Concept, Process and Barriers

What does 'inclusion' really mean?

There seems to be a lot of [confusion and misinformation](#) about what inclusion actually means. Inclusive education involves the full inclusion of all children. No children are segregated.

Supports for inclusion are embedded within everyday practices. If aides are employed they circulate around the classroom, or spend time assisting the teacher and making adaptations to materials, rather than being off in a corner with one particular child.

There are no separate areas or curricula for children who experience disability. All children are supported to be involved in all aspects of learning.

At one school I visited in my research, a young boy with Down syndrome was learning a modified version of sign language, which supplemented his spoken language, with the rest of his class.

His teachers completed a one-day keyword sign workshop at the start of the year. His teacher introduced a unit on Auslan (Australian sign language) where all of the students learn about Auslan and learn new signs together each week.

Learning sign language in this way did not single him out. However, it did create the opportunity for him to share his knowledge with his peers and support their learning, while also supporting him in his communication.

This example provides only one snapshot of inclusion within a classroom experience, but it illustrates some key elements of inclusion in action. The child in this example participates in the classroom experiences with the other children in the class, but with supports and adaptations as needed (for him and his peers).

That each child has individual differences is not ignored. It is embraced and valued as what makes each person unique. The goal is not to make any child "normal", but rather to grow and learn together.

The child who experiences disability could be sitting in the same classroom, separate to his peers, with an aide who may or may not be using sign language. However, this would not be inclusion - this would be exclusion.

Common misunderstandings of inclusion

Common misunderstandings of inclusion relate to (incorrectly) considering integration and inclusion to be synonyms; viewing inclusion as simply the presence of a child who is labelled "disabled" or "different" in a mainstream setting; thinking that inclusion is only about some people (instead of about everyone); and viewing inclusion as a process of assimilation.

These misunderstandings of inclusion lead to macro or micro exclusion, which is sometimes mistaken for - or misappropriated as - inclusion. Macro

exclusion is where a child is segregated into a separate classroom, unit, or school.

Micro exclusion is where, for example, a child is enrolled in a mainstream setting, but is segregated into a separate area of the classroom or school for all or part of the day; where a child is only permitted to attend for part of the day; present but not participating in the activities along with the other children in the setting; or present but viewed as a burden and not an equally valued member of the class or setting.

While the recent article on [The Conversation](#) claims to explore research on inclusive education, studies cited in that article explicitly represent examples of macro or micro exclusion. It is alarmingly common in research and practice for examples of exclusion (micro and macro) to be reported as being about inclusion.