PAPER – II

EDUCATIONAL PSYCHOLOGY

SECTION-I

PSYCHOLOGY OF THE LEARNER

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UNIT II: UNDERSTANDING THE DEVELOPMENT OF THE LEARNER

a) Concept and Principles of Growth and Development.
*Meaning of growth and development and difference between the two.

Meaning of Growth and Development
Most of us use the two terms growth and development interchangeably and accept them as synonyms. Both these terms relate to the measurement of changes occurred in the individual after conception in the womb of the mother. Change is accepted as the law of nature. An individual starting from a fertilized egg turns into a full fledged human adult. In this turn over process he undergoes a cycle of changes brought about by the process of growth and development. In various dimensions physical, mental, social etc. Therefore in the wider sense both the terms growth and development can be used for any change brought about by maturation and learning (Formal as well as informal education) and essentially is the product of both heredity and environment.

In reality these two terms have different meanings. Let us now discuss the difference under the two headings:

Meaning of Growth:
1. Growth is a sign of life. All living animals irrespective of their status in the biological hierarchy have to grow. The following points can clarify the meaning of growth from psychological point of view. The term growth is used in purely physical scene. It generally refers to an increase in size, length, height and weight. Changes in the quantitative respect come into the domain of growth.
2. Growth is one of the part of the developmental process. In the strict scene development in its quantitative aspects is termed as growth.
3. Growth may be referred to describe the changes which take place in particular aspects of the body and behavior of an organism.
4. Growth does not continue throughout the life. It stops when maturity has been attained.
5. The changes produced by growth are subjects of measurements. They may be quantified and observable in nature.
6. Growth may or may not bring development. A child may grow (in terms of weight) by becoming fat but this growth may not bring any functional improvement (Qualitative change or Development)

**Meaning of Development:**
Development, by contrast refers to qualitative and quantitative changes. It may be defined as a progressive series of orderly coherent changes. Webster’s dictionary defines development as the series of changes which an organism undergoes in passing from an embryonic stage to maturity. This change refers to physical, emotional, intellectual changes which shall be discussed under the following points:
1. Development implies overall changes in shape, form or structure resulting in improved working or functioning. It indicates the changes in the quality or character along with the quantitative aspect.
2. Development is a wider and comprehensive term. It refers to over all changes in the individual growth which is one of it’s part.
3. Development describes the changes in the organism as whole and does not list the changes in parts.

4. Development is a continuous process. It goes on from the womb to the tomb; It does not end with the attainment of maturity. The changes however small they may continue throughout the life span of the individual.
5. Development simply implies improvement in functioning and behavior and hence brings qualitative changes that are difficult to be measured directly. They are assessed through keen observation of behavior in different situations.
6. Development is also possible without growth as we see in the cases of some children that they do not gain in terms of their height, weight or
size but they do experience functional improvement or development in physical social or intellectual aspects.

**Principles of Development**

There is a set of principles that characterizes the pattern and process of growth and development. These principles or characteristics describe typical development as a predictable and orderly process; that is, we can predict how most children will develop and that they will develop at the same rate and at about the same time as other children. Although there are individual differences in children's personalities, activity levels, and timing of developmental milestones, such as ages and stages, the principles and characteristics of development are universal patterns.

**Principles of Development**

1. **Development proceeds from the head downward.** This is called the cephalocaudal principle. This principle describes the direction of growth and development. According to this principle, the child gains control of the head first, then the arms, and then the legs. Infants develop control of the head and face movements within the first two months after birth. In the next few months, they are able to lift themselves up by using their arms. By 6 to 12 months of age, infants start to gain leg control and may be able to crawl, stand, or walk. Coordination of arms always precedes coordination of legs.

2. **Development proceeds from the center of the body outward.** This is the principle of proximodistal development that also describes the direction of development. This means that the spinal cord develops before outer parts of the body. The child's arms develop before the hands and the hands and feet develop before the fingers and toes. Finger and toe muscles (used in fine motor dexterity) are the last to develop in physical development.
3. **Development depends on maturation and learning.** Maturation refers to the sequential characteristic of biological growth and development. The biological changes occur in sequential order and give children new abilities. Changes in the brain and nervous system account largely for maturation. These changes in the brain and nervous system help children to improve in thinking (cognitive) and motor (physical) skills. Also, children must mature to a certain point before they can progress to new skills (Readiness). For example, a four-month-old cannot use language because the infant's brain has not matured enough to allow the child to talk. By two years old, the brain has developed further and with help from others, the child will have the capacity to say and understand words. Also, a child can't write or draw until he has developed the motor control to hold a pencil or crayon. Maturational patterns are innate, that is, genetically programmed. The child's environment and the learning that occurs as a result of the child's experiences largely determine whether the child will reach optimal development. A stimulating environment and varied experiences allow a child to develop to his or her potential.

4. **Development proceeds from the simple (concrete) to the more complex.** Children use their cognitive and language skills to reason and solve problems. For example, learning relationships between things (how things are similar), or classification, is an important ability in cognitive development. The cognitive process of learning how an apple and orange are alike begins with the most simplistic or concrete thought of describing the two. Seeing no relationship, a preschool child will describe the objects according to some property of the object, such as color. Such a response would be, "An apple is red (or green) and an orange is orange." The first level of thinking about how objects are alike is to give a description or functional
relationship (both concrete thoughts) between the two objects. "An apple and orange are round" and "An apple and orange are alike because you eat them" are typical responses of three, four and five year olds. As children develop further in cognitive skills, they are able to understand a higher and more complex relationship between objects and things; that is, that an apple and orange exist in a class called fruit. The child cognitively is then capable of classification.

5. **Growth and development is a continuous process.** As a child develops, he or she adds to the skills already acquired and the new skills become the basis for further achievement and mastery of skills. Most children follow a similar pattern. Also, one stage of development lays the foundation for the next stage of development. For example, in motor development, there is a predictable sequence of developments that occur before walking. The infant lifts and turns the head before he or she can turn over. Infants can move their limbs (arms and legs) before grasping an object. Mastery of climbing stairs involves increasing skills from holding on to walking alone. By the age of four, most children can walk up and down stairs with alternating feet. As in maturation, in order for children to write or draw, they must have developed the manual (hand) control to hold a pencil and crayon.

6. **Growth and development proceed from the general to specific.** In motor development, the infant will be able to grasp an object with the whole hand before using only the thumb and forefinger. The infant's first motor movements are very generalized, undirected, and reflexive, waving arms or kicking before being able to reach or creep toward an object. Growth occurs from large muscle movements to more refined (smaller) muscle movements.
7. There are individual rates of growth and development. Each child is different and the rates at which individual children grow is different. Although the patterns and sequences for growth and development are usually the same for all children, the rates at which individual children reach developmental stages will be different. Understanding this fact of individual differences in rates of development should cause us to be careful about using and relying on age and stage characteristics to describe or label children. There is a range of ages for any developmental task to take place. This dismisses the notion of the "average child". Some children will walk at ten months while others walk a few months older at eighteen months of age. Some children are more active while others are more passive. This does not mean that the passive child will be less intelligent as an adult. There is no validity to comparing one child's progress with or against another child. Rates of development also are not uniform within an individual child. For example, a child's intellectual development may progress faster than his emotional or social development.

An understanding of the principles of development helps us to plan appropriate activities and stimulating and enriching experiences for children, and provides a basis for understanding how to encourage and support young children's learning.
b) Theories of Development and their Educational Implications.
   i. Piaget’s theory of Cognitive Development.
   ii. Kohlberg’s theory of Moral Development.
   iii. Erikson’s theory of Psychosocial Development.

   *Theories – explain the theory and its educational implications

UNIT II b – i
Piaget’s theory of Cognitive Development

Jean Piaget (1896-1980) was one of the 20th centuries most influential researchers in the area of developmental psychology. Piaget originally trained in the areas of biology and philosophy and considered himself a “genetic epistemologist.” He was mainly interested in the biological influences on “how we come to know.” Piaget believed that what distinguishes human beings from other animals is our ability to do “abstract symbolic reasoning.” There are two major aspects to his theory:
   • the process of coming to know and
   • the stages we move through as we gradually acquire this ability.

As a biologist, Piaget was interested in how an organism adapts to its environment (Piaget described this ability as intelligence.) Behavior is controlled through mental organizations called schemes that the individual uses to represent the world and designate action. This adaptation is driven by a biological drive to obtain balance between schemes and the environment (equilibration). Piaget hypothesized that infants are born with schemes operating at birth that he called "reflexes."
In other animals, these reflexes control behavior throughout life. However, in human beings as the infant uses these reflexes to adapt to the environment, these reflexes are quickly replaced with constructed schemes.
Piaget described two processes used by the individual in its attempt to adapt:

- Assimilation
- Accommodation.

Both of these processes are used throughout life as the person increasingly adapts to the environment in a more complex manner.

**Assimilation:**
The process of using or transforming the environment so that it can be placed in preexisting cognitive structures. Example: an infant uses a sucking schema that was developed by sucking on a small bottle when attempting to suck on a larger bottle.

**Accommodation:**
The process of changing cognitive structures in order to accept something from the environment. Example: the infant modifies a sucking schema developed by sucking on a pacifier to one that would be successful for sucking on a bottle.

As schemes become increasingly more complex (i.e., responsible for more complex behaviors) they are termed structures.
As one's structures become more complex, they are organized in a hierarchical manner (i.e., from general to specific).

Piaget's theory identifies four developmental stages and the processes by which children progress through them. The four stages are:

- Sensorimotor stage (birth – 2 years old) - The child, through physical interaction with his or her environment, builds a set of concepts about reality and how it works.

1. Development from Reflex Activity to Sensori Motor Ways of Solving a Problem
2. Coordination of Sensory Motor Actions
3. Primitive Ways of Anticipating Future Events
4. The First Signs of Curiosity
5. Tendency to Imitate or Repeat Behavior or Actions of Models
6. Perception of Objects and People
7. Object Permanence develops towards the end.

Preoperational stage (ages 2-7) — The child is not yet able to conceptualize abstractly and needs concrete physical situations.

1. During the First half of this Stage, Extremely Rapid Development of Language Occurs
2. The Child’s Thought is Dominated by Perception
3. Thinking is marked marked by Egocentrism, Animinism and Realism

Egocentrism refers to the inability of the children to look at a problem from the point of view of others.
Animinism implies the belief of a child that things are alive because they are moving
Realism implies a belief that all that they see are real nothing is fictitious.

Concrete operations (ages 7-12) — As physical experience accumulates, the child starts to conceptualize, creating logical structures that explain his or her physical experiences. Abstract problem solving is also possible at this stage. For example, arithmetic equations can be solved with numbers, not just with objects.

1. Logical thinking using concrete objects occurs during this stage
2. Child’s Egocentrism waves and he is able to take others view point
3. The concrete operational child understands conservation off numerousness, length, area and ultimately volume
4. Decentering and reversibility of thought
5. Capacity to classify group and arrange objects serially
Formal operations (beginning at ages 11-15)— By this point, the child's cognitive structures are like those of an adult and include conceptual reasoning.

1. System of mental operation has reached a degree of equilibrium
2. Ability to apply logical thoughts to all classes of problems
3. Ability to use abstract rules to solve a whole class of problems
4. Formal thought is rational and systematic
5. Becomes concerned with the hypothetical, abstract and the future

Piaget outlined several principles for building cognitive structures. During all development stages, the child experiences his or her environment using whatever mental maps he or she has constructed so far. If the experience is a repeated one, it fits easily—or is assimilated—into the child's cognitive structure so that he or she maintains mental "equilibrium." If the experience is different or new, the child loses equilibrium, and alters his or her cognitive structure to accommodate the new conditions. This way, the child erects more and more adequate cognitive structures.

How Piaget's Theory Impacts Learning:

Curriculum--Educators must plan a developmentally appropriate curriculum that enhances their students' logical and conceptual growth. Instruction--Teachers must emphasize the critical role that experiences—or interactions with the surrounding environment--play in student learning. For example, instructors have to take into account the role that fundamental concepts, such as the permanence of objects, play in establishing cognitive structures.
Kohlberg was a professor at Harvard University. He became famous for his work there beginning in the early 1970s. He started as a developmental psychologist and then moved to the field of moral education. He was particularly well-known for his theory of moral development which he popularized through research studies conducted at Harvard's Center for Moral Education.

His theory of moral development was dependent on the thinking of the Swiss psychologist Jean Piaget and the American philosopher John Dewey. These men had emphasized that human beings develop philosophically and psychologically in a progressive fashion. Kohlberg believed that people progressed in their moral reasoning through a series of stages. He believed that there were six identifiable stages which could be more generally classified into three levels.

**Kohlberg's Classification Can Be Outlined In The Following Manner:**

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>STAGE</th>
<th>SOCIAL ORIENTATION</th>
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<tbody>
<tr>
<td>Pre-conventional</td>
<td>1</td>
<td>Obedience and Punishment</td>
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<td>2</td>
<td>Individualism and Exchange</td>
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<td>Conventional</td>
<td>3</td>
<td>&quot;Good boy/girl&quot;</td>
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<td></td>
<td>4</td>
<td>Law and Order</td>
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<td>Post-conventional</td>
<td>5</td>
<td>Social Contract</td>
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<td>6</td>
<td>Universal Principles</td>
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PRE-CONVENTIONAL LEVEL

The first level of moral thinking is that generally found at the elementary school level.

STAGE 1 - Obedience and Punishment: In this stage, people behave according to socially acceptable norms because they are told to do so by some authority figure (e.g., parent or teacher). This obedience is compelled by the threat or application of punishment. Morality is based on punishments and rewards. Judgments are formed according to external authorities. Physical consequences determine good vs. bad

STAGE 2 - Individualism and Exchange: This stage is characterized by a view that right behavior means acting in one's own best interests. Morality is reciprocal. We seek what is in our best interest, and only help others if it benefits us. You scratch my back, I’ll scratch yours

CONVENTIONAL LEVEL

The second level of moral thinking is that generally found in society, hence the name "conventional."

STAGE 3 - Good boy/Good girl: This stage is characterized by an attitude which seeks to do what will gain the approval of others. Morality is defined in terms of good interpersonal relationships. Right behavior is what pleases others. Behavior is now judged by intention

STAGE 4 - Law and Order: This stage is one oriented to abiding by the law and responding to the obligations of duty. Morality is concerned with the well-being of all and maintaining the social order.

POST - CONVENTIONAL LEVEL

The third level of moral thinking is one that Kohlberg felt is not reached by the majority of adults.
**STAGE 5 - Social Contract:** This stage is an understanding of social mutuality and a genuine interest in the welfare of others. Morality looks at individual and moral rights within the social contract. Right behavior is based on individual rights, agreed upon by society. Laws can be changed to benefit society.

**STAGE 6 - Universal Principles:** This stage is based on respect for universal principle and the demands of individual conscience. Morality is defined by universal principles of justice. We come to moral decisions by taking on the perspective of those involved. Right behavior is based on individual conscience and the ethical principles one chooses. Moral obligation to disobey unjust laws.

While Kohlberg always believed in the existence of Stage 6 and had some nominees for it, he could never get enough subjects to define it, much less observe their longitudinal movement to it.

Kohlberg believed that individuals could only progress through these stages one stage at a time. That is, they could not "jump" stages. They could not, for example, move from an orientation of selfishness to the law and order stage without passing through the good boy/girl stage. They could only come to a comprehension of a moral rationale one stage above their own. Thus, according to Kohlberg, it was important to present them with moral dilemmas for discussion which would help them to see the reasonableness of a "higher stage" morality and encourage their development in that direction. The last comment refers to Kohlberg's moral discussion approach. He saw this as one of the ways in which moral development can be promoted through formal education. Note that Kohlberg believed, as did Piaget, that most moral development occurs through social interaction. The discussion approach is based on the insight that individuals develop as a result of cognitive conflicts at their current stage.
**Unit II b – iii
ERIKSON’S THEORY OF PSYCHOSOCIAL DEVELOPMENT**

Erikson’s theory of psychosocial development is one of the best-known theories of personality. Similar to Freud, Erikson believed that personality develops in a series of stages. Unlike Freud’s theory of psychosexual stages, Erikson’s theory describes the impact of social experience across the whole lifespan.

Each stage in Erikson’s theory is concerned with becoming competent in an area of life. If the stage is handled well, the person will feel a sense of mastery. If the stage is managed poorly, the person will emerge with a sense of inadequacy.

In each stage, Erikson believed people experience a conflict that serves as a turning point in development. In Erikson’s view, these conflicts are centered on either developing a psychological quality or failing to develop that quality. During these times, the potential for personal growth is high, but so is the potential for failure.

**Psychosocial Stage 1 - Trust vs. Mistrust**

- The first stage of Erikson’s theory of psychosocial development occurs between birth and one year of age and is the most fundamental stage in life.
- Because an infant is utterly dependent, the development of trust is based on the dependability and quality of the child’s caregivers.
- If a child successfully develops trust, he or she will feel safe and secure in the world. Caregivers who are inconsistent, emotionally unavailable, or rejecting contribute to feelings of mistrust in the children they care for. Failure to develop trust will result in fear and a belief that the world is inconsistent and unpredictable.
Psychosocial Stage 2 - Autonomy vs. Shame and Doubt

- The second stage of Erikson's theory of psychosocial development takes place during early childhood and is focused on children developing a greater sense of personal control.
- Like Freud, Erikson believed that toilet training was a vital part of this process. However, Erikson's reasoning was quite different then that of Freud's. Erikson believe that learning to control one’s body functions leads to a feeling of control and a sense of independence.
- Other important events include gaining more control over food choices, toy preferences, and clothing selection.
- Children who successfully complete this stage feel secure and confident, while those who do not are left with a sense of inadequacy and self-doubt.

Psychosocial Stage 3 - Initiative vs. Guilt

- During the preschool years, children begin to assert their power and control over the world through directing play and other social interaction.
- Children who are successful at this stage feel capable and able to lead others. Those who fail to acquire these skills are left with a sense of guilt, self-doubt, and lack of initiative.

Psychosocial Stage 4 - Industry vs. Inferiority

- This stage covers the early school years from approximately age 5 to 11.
- Through social interactions, children begin to develop a sense of pride in their accomplishments and abilities.
- Children who are encouraged and commended by parents and teachers develop a feeling of competence and belief in their skills.
- Those who receive little or no encouragement from parents, teachers, or peers will doubt their ability to be successful.
Psychosocial Stage 5 - Identity vs. Confusion

- During adolescence, children are exploring their independence and developing a sense of self.
- Those who receive proper encouragement and reinforcement through personal exploration will emerge from this stage with a strong sense of self and a feeling of independence and control. Those who remain unsure of their beliefs and desires will insecure and confused about themselves and the future.

Psychosocial Stage 6 - Intimacy vs. Isolation

- This stage covers the period of early adulthood when people are exploring personal relationships.
- Erikson believed it was vital that people develop close, committed relationships with other people. Those who are successful at this step will develop relationships that are committed and secure.
- Remember that each step builds on skills learned in previous steps. Erikson believed that a strong sense of personal identity was important to developing intimate relationships. Studies have demonstrated that those with a poor sense of self tend to have less committed relationships and are more likely to suffer emotional isolation, loneliness, and depression.

Psychosocial Stage 7 - Generativity vs. Stagnation

- During adulthood, we continue to build our lives, focusing on our career and family.
- Those who are successful during this phase will feel that they are contributing to the world by being active in their home and community. Those who fail to attain this skill will feel unproductive and uninvolved in the world.
Psychosocial Stage 8 - Integrity vs. Despair

- This phase occurs during old age and is focused on reflecting back on life.
- Those who are unsuccessful during this phase will feel that their life has been wasted and will experience many regrets. The individual will be left with feelings of bitterness and despair.
- Those who feel proud of their accomplishments will feel a sense of integrity. Successfully completing this phase means looking back with few regrets and a general feeling of satisfaction. These individuals will attain wisdom, even when confronting death.

c) Developmental Characteristics of ‘Adolescence’ with reference to Physical, Cognitive, Emotional & Social aspects

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<th>Developmental Stages for Children/Youth</th>
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UNIT III: INTELLIGENCE & CREATIVITY

a) Nature of Intelligence
b) Theories of Intelligence
   i. J.P. Guilford’s Structure of Intellect
   ii. Gardner’s theory of Multiple Intelligence.
   iii. Goleman’s theory of Emotional Intelligence.
c) Creativity:
   i) Meaning of Creativity and Identification of Creative Learner.
   ii) Process of Creativity.
   iii) Teacher’s role in fostering Creativity.

Unit III a)

According to Alfred Binet, Intelligence involves abilities such as, "Understanding, Originality, Persistence and Self criticism". Thus Intelligence involves the 3 major aspects as

1. Adjustment or adaptation ability
2. Ability to learn
3. Ability to carry out abstract thinking.

There are many views regarding what constitutes intelligence. Different psychologists have given different viewpoints and formulated their own theories of intelligence. Some important such theories are as follows:

Unitary Theory:
This theory holds that intelligence consists of all pervasive capacities. Binet, Terman and some other classical psychologists supported this view.

According to this theory, if one has a fund of intelligence he can utilise it to any area of his life. The intelligence of a person gets stamped in all what he thinks and acts.

Multi-factor Theory of Thorndike:
Thorndike was an Associationist and he opposed the theory of General intelligence. According to the theory intelligence is said to be
constituted of multitude of separate factors or elements each being a minute element or ability.

Spearman’s Two Factor theory
Spearman proposed this Two factor theory of intelligence in 1904. As the name implies, the theory involves two factors namely General(G) and Specific(S) factors. The first factor was a general capacity which was basically a reasoning factor. According to this theory every different mental ability involves a general factor(G), which it shares with all other mental activities and a specific factor(S), which is shared with none. The general factor is largely innate and accounts for success in all activities.

Group Factor Theory of Thurstone
Thurstone and his associates proposed the Group factor theory. According to this theory, intelligent activity is not an expression of innumerable highly specific factor as Thorndike claimed. Nor it is the expression primarily of a general factor as Spearman held. Instead the analysis and interpretation of Thurstone and others, lead them to the conclusion that certain mental operations have in common a PRIMARY factor that gives them psychological and functional unity and which differentiates them from other mental operations. These mental operations then constitute a group. A second group of mental operations has its own unifying Primary factor; a third group has a third Primary factor and so on. Each of these primary factor is said to be relatively independent of others. From further analysis, Thurstone and his associates concluded that seven Primary mental abilities emerged clearly enough for identification and used in test designing. They are
  
  - S - spatial
  - P - perception
  - N - numerical reasoning
  - V - verbal meaning
  - W - word fluency
  - M - memory
  - I - inductive reasoning
Joy Paul Guilford was a US psychologist, best remembered for his psychometric study of human intelligence, including the important distinction between convergent and divergent production. His "Structure of Intellect" model organized these various abilities along three dimensions: content, product, and process. He sought to develop tests for each combination of the possibilities on these three dimensions, expecting that a person could be high on some of these abilities while being low on others.

According to him, Intelligence depends on:
- Mental operations (process of thinking)
- Content (what we think about)
- Product (result of our thinking)

By content he meant that different people seemed to pay more attention to and think more effectively about different kinds of information.

There are 5 kinds of Contents

1. Visual - Information perceived through seeing
2. Auditory - Information perceived through hearing.
3. Symbolic content = arbitrary signs such as numbers or codes
4. Semantic content = word meanings
5. Behavioral content = nonverbal information involved in human interaction such as emotion

The products dimension relates to the kinds of information we process from the content types. There are 6 kinds of Products

1. Units refer to the ability to perceive units in a content area. This might be symbolic units such as words, visual units such as shapes, or behavioral units such as facial expressions.
2. Classes refers to the ability to organize units into meaningful groups and to sort units into the right groups.
3. Relations pertains to the ability to sense the relationships between pairs of units.
4. **Systems** consist of the relationships among more than two units.
5. **Transformations** is the ability to understand changes in information, such as rotation of visual figures, or jokes and puns in the semantic area.
6. **Implications** refers to expectation. Given a certain set of information, one might expect certain other information to be true.

The **operations** dimension describes what the brain does with and to these types of information. **There are 5 kinds of Operations**

1. **Cognition** = knowing, discovering, being aware
2. **Memory** = retrieving information
3. **Divergent thinking** = generating multiple responses or decisions
4. **Convergent thinking** = reducing information to one single accepted solution
5. **Evaluation** = judging the appropriateness of information

These three factors combine to identify 150 different skills. i.e 5 x 5 x 6 =150 distinct mental abilities

Guilford’s Structure of Intellect can be diagrammatically shown as
Unit III b ii
Howard Gardner’s Multiple Intelligence Theory

Definition of Intelligence

*Gardner’s Definition*
- The human ability to solve problems or to make something that is valued in one or more cultures.

The theory of multiple intelligences is Howard Gardner’s theory that proposes
- That people are not born with all of the intelligence they will ever have.
- It says that intelligence can be learned throughout life.
- Claims that everyone is intelligent in at least nine different ways and can develop each aspect of intelligence to an average level of competency.
- Intelligence, as defined by Gardner, is the ability to solve problems or fashion products that are valuable in one or more cultural settings.

The 9 intelligences included in Gardner’s theory are:

1. Verbal/ Linguistic
2. Visual/ Spatial
3. Interpersonal
4. Musical/ Rhythmic
5. Logical/ Mathematical
6. Intrapersonal
7. Bodily/ Kinesthetic
8. Naturalist
9. Existentialist
**Principles of Multiple Intelligence Theory:**

1. Intelligence is not singular: intelligences are multiple.
2. Every person is a unique blend of dynamic intelligences.
3. Intelligences vary in development, both within and among individuals.
4. All intelligences are dynamic.
5. Multiple intelligences can be identified and described.
6. Every person deserves opportunities to recognize and develop the multiplicity of intelligences.
7. The use of one of the intelligences can be used to enhance intelligence.
8. Personal background density and dispersion are critical to knowledge, beliefs, and skills in all intelligences.

**Linguistic Intelligence:**
Linguistic Intelligence (*Word Smart*) is the capacity to use language, your native language, and perhaps other languages, to express what's on your mind and to understand other people.

Criteria Used for Linguistic Intelligence
- Can understand words and manipulate the structure of language
- Has highly developed communication skills including writing, speaking, and story-telling
- Knows and correctly uses rules of grammar
- Enjoys reading, writing, and speaking
- Has a large vocabulary
- These people would do well in these careers: Author, Journalist, Poet, Playwright, Radio Announcer, etc
Logical-Mathematical Intelligence:
- Logical-mathematical intelligence is the capacity to use numbers effectively and reason well.
- Someone who has this kind of intelligence is able to see cause and effect really well; also, they are able to identify a problem and solve it right there on the spot.
- People with this intelligence think by reasoning, and they love experimenting, questioning, figuring out logical puzzles, and calculating.

The kinds of processes used in the logical-mathematical intelligence sequence are:
- Categorization
- Classification
- Inference
- Generalization
- Calculation
- Hypothesis testing

These people would do well in these careers: Accountant, Auditor, Banker, Bookkeeper, Businessperson, Computer Analyst, Computer Programmer, etc

Spatial Intelligence:
Spatial intelligence is the brain’s ability to perceive and interpret visual stimuli. In other words, it’s how our minds process what we see. Although not very recognized, spatial intelligence is very important in the arts and in everyday life.

Why is spatial intelligence important?
- We visually perceive and interpret the world around us is an important quality to have.
- In the arts, the ability to transfer a vision to a painting, sculpture, or film is a key quality.
- Careers such as architecture require a person to transfer a vision of a structure into a blueprint.
- Spatial intelligence is even used by average people to remember small, but important facts; like how to travel from your school to your house. Everyone uses spatial intelligence in everyday life.
- Possible Careers: Architect, Cartographer(Map Maker), Drafter, Engineer, Fine Artist, Graphic Designer, Fashion Designer, etc

**Bodily-Kinesthetic Intelligence:**
- It is expertise in using one’s whole body to express ideas and feelings.
  Examples: acting, dancing, sports, and using body language
- It is the ability to use one’s hands to produce or transform things.
  Examples: sculpting clay and hands-on learning

- Possible Careers: Actor, Athlete, Carpenter, Choreographer (creates and arranges dances), Craftsman, Dancer, Farmer, Forest Ranger, etc

**Musical Intelligence:**
Being musically intelligent means that you are able to distinguish the sounds around you and that you have the ability to make your own melodies. Even if you are only singing a song or making music, you are using your musical intelligence.
  If you are musically intelligent, you are able to:
- Perceive
- Discriminate
- Transform
- Express
  All kinds of musical forms
Possible careers: Song Writer, Performing Musician, Piano Turner, Singer, Musical Theater Actor/Actress, Studio Engineer, Instrument Manager
Interpersonal Intelligence

*Gardner's Definition:*

- Interpersonal intelligence, (people smart), is understanding other people. It’s an ability we all need, but is at a premium if you are a teacher, clinician, salesperson, or a politician. Anybody who deals with other people has to be skilled in the interpersonal sphere.
- Possible Careers: Public Relations, Salesperson, Sociologist, Therapist, Teacher, Travel Agent

Intrapersonal Intelligence

Intrapersonal intelligence is self-knowledge and the ability to act adaptively on the basis of that knowledge. This intelligence includes having an accurate picture of oneself (one’s strengths and weaknesses); awareness of inner moods, intentions, motivations, temperaments, and desires; and the capacity for self-discipline, self-understanding, and self-esteem. Essentially, it’s how well you know yourself.

Possible Careers: Entrepreneur, Program planner, Psychiatrist, Psychology Teacher, Researcher, etc

Naturalistic Intelligence:

*Gardner's Definition:*

- Naturalist intelligence designates the human ability to discriminate among living things (plants, animals) as well as sensitivity to other features of the natural world (clouds, rock configurations).

- Naturalistic intelligence is the ability to understand, relate to, categorize, classify, comprehend, and explain the things encountered in the world of nature.

- People who exhibit developed naturalistic intelligence include: Farmers, Ranchers, Hunters, Gardeners, Botanists, Geologists, etc
Existential Intelligence:

Gardner's Definition:
- Individuals who exhibit the proclivity to pose (and ponder) questions about life, death, and ultimate realities.
- Existential Intelligence is sensitivity and capacity to tackle deep questions about human existence.

People who exhibit developed existential intelligence include:
- Theologians
- Philosophers
- Spiritual advisors

In a nutshell...

Verbal/Linguistic - "Word Smart"
Logical/Mathematical - "Math Smart"
Musical/Rhythmic - "Music Smart"
Bodily/Kinesthetic - "Body Smart"
Visual/Spatial - "Art Smart"
Naturalist - "Nature Smart"
Intrapersonal - "Self Smart"
Interpersonal - "People Smart"
Existential - "Wondering Smart"
The theory of multiple intelligences has encouraged the idea that a person is not born with all the intelligence they will ever possess.
Unit III b iii
Daniel Goleman’s Emotional Intelligence

1. Definition of EI

2. Golemans’s EI Model
   - The Four Dimensions
   - 18 Core Competencies

3. Education and EI

Meaning of Emotional Intelligence:

Emotional Intelligence - EQ - is a relatively recent behavioural model, rising to prominence with Daniel Goleman's 1995 Book called 'Emotional Intelligence'.

EQ embraces two aspects of intelligence:

- Understanding yourself, your goals, intentions, responses, behaviour and all.
- Understanding others, and their feelings.

Definition  – Daniel Goleman

“The capacity for recognizing our own feelings and those of others, for motivating ourselves and for managing emotions well in ourselves and others.”

Its about:

- Managing ourselves
- Managing our interaction with others
- Understanding more about human behaviour
- Understanding consequences more
- A language or a framework
Daniel Goleman’s EI Model

- According to Daniel Goleman there are Four areas
  - Self-Awareness
  - Self-Management
  - Social Awareness
  - Relationship Management
- 18 specific competencies

- **Self-Awareness:** Knowing one’s internal states, preferences, resources, and intuitions
  - **Self-Confidence**
    - A strong sense of one’s self-worth and capabilities
  - **Accurate Self-Assessment**
    - Knowing one’s strengths and limits
  - **Emotional Self-Awareness**
    - Recognizing one’s emotions and their effects
II.1 Psychology of the Learner

❖ **Self-Management**: Managing one’s internal states, impulses, and resources

- **Emotional self-control (mandatory)**
  - Keeping disruptive emotions and impulses in check
- **Transparency**
  - Maintaining standards of honesty and integrity
- **Adaptability**
  - Flexibility in handling change
- **Achievement**
  - Striving to improve or meet a standard of excellence
- **Initiative**
  - Readiness to act on opportunities
- **Optimism**
  - Persistence in pursuing goals despite obstacles and setbacks

❖ **Social Awareness**: Awareness of others feelings, needs or concerns

- **Empathy (mandatory)**
  - Sensing others’ feelings and perspectives, and taking an active interest in their concerns
- **Organizational Awareness**
  - Reading a group’s emotional currents and power relationships
- **Service Orientation**
  - Anticipating, recognizing, and meeting clients’ (students’) needs

❖ **Relationship Management**: Adeptness at inducing desirable responses in others

- **Influence (mandatory)**
  - Having impact on others
– **Developing Others**
  • Sensing others’ development needs and bolstering their abilities
– **Inspirational Leadership**
  • Inspiring and guiding individuals and groups
– **Change Catalyst**
  • Initiating or managing change
– **Conflict Management**
  • Negotiating and resolving disagreements
– **Teamwork & Collaboration**
  • Working with others towards shared goals

“In the dance of thinking and feeling, our emotional faculty guides our moment to moment decisions, working hand-in-hand with the rational mind, enabling or disabling thinking itself.”

  — Daniel Goleman

From: Emotional Intelligence: Why it Can Matter More than IQ

**Action Steps to School Success**

• Focus on what the learner currently knows and can do.
• “Actuate the positive!”
• Create intrinsic interest, a mystery, a hook.
• Provide early success during new learning.
• Create a safe learning environment with cooperative learning.
Creativity is a concept long under consideration by psychologists. It seems to have taken a number of years for psychologists to agree on an acceptable definition of the word "creativity" and effective ways to measure it. Although there is still some controversy over the definition of creativity, the most common definition is that a creative act or product is uncommon and is useful to society.

**Creativity** refers to the phenomenon whereby a person creates something new (a product, a solution, a work of art etc.) that has some kind of value. What counts as "new" may be in reference to the individual creator, or to the society or domain within which the novelty occurs.

**Barriers to creativity**

- Fear of failure
- Fear of change and disruption
- Fear of responsibility for outcomes (Fromm)
- Existing values and perceptions
- Existing knowledge
- Existing neural connections
- Oppressive environment
- Family / friends / peers / colleagues / employer etc. not valuing or fearing challenge and change
II.1 Psychology of the Learner

Process of Creativity

There are four stages in the process of Creativity:

1. *Preparation* (preparatory work on a problem that focuses the individual's mind on the problem and explores the problem's dimensions),
2. *Incubation* (where the problem is internalized into the unconscious mind and nothing appears externally to be happening),
3. *illumination* or insight (where the creative idea bursts forth from its preconscious processing into conscious awareness); and
4. *Verification* (where the idea is consciously verified, elaborated, and then applied).

What do we do to foster creativity in our classrooms?

1. Establishing purpose and intention
2. Building basic skills
3. Encouraging acquisitions of domain-specific knowledge
4. Stimulating and rewarding curiosity and exploration
5. Building motivation, especially internal motivation
6. Encouraging confidence and a willingness to take risks
7. Focusing on mastery and self-competition
8. Promoting supportable beliefs about creativity
9. Providing opportunities for choice and discovery
10. Developing self-management (metacognitive skills)
11. Teaching techniques and strategies for facilitating creative performance
12. Providing balance

Promoting intrinsic motivation and problem solving are two areas where educators can foster creativity in students. Students are more creative when they see a task as intrinsically motivating, valued for its own sake. To promote creative thinking educators need to identify what motivates their students and structure teaching around it. Providing students with a
choice of activities to complete allows them to become more intrinsically motivated and therefore creative in completing the tasks. Teaching students to solve problems that do not have well defined answers is another way to foster their creativity. This is accomplished by allowing students to explore problems and redefine them, possibly drawing on knowledge that at first may seem unrelated to the problem in order to solve it.

**Unit IV - B**

**Inclusive Education**

“Children, who learn together, learn to live together”.

**Meaning of Inclusive Education:**

→ Inclusive education is the process of bringing exceptional children of whatever conditions into the general classroom for their education having access to the same curriculum, and being accepted by all regardless of gender, ethnicity or special needs. It involves being physically in the same place as other students and social acceptance and belonging’.

→ Inclusive education means that all students in a school, regardless of their strengths or weaknesses in any area, become part of the school community. They are included in the feeling of belonging among other students, teachers, and support staff. The federal Individuals with Disabilities Education Act (IDEA) and its 1997 amendments make it clear that schools have a duty to educate children with disabilities in general education classrooms.

→ It emphasis on equality of access and opportunity for all students to learn and to make progress.

→ It offers high quality education to all, to promote, to foster and fulfill the potential of every student and to prepare students for adult life after school.

→ Respect for difference and diversity is at the heart of inclusive education.
Thus, inclusive education is the practice of providing a child with disabilities with his or her education within the general education classroom with the supports and accommodations needed for that student. Inclusive Education means that all students in a school regardless of their strengths and weakness in any area become part of the mainstream education

Need for Inclusive Education

협Promotion of Human Rights

➔ All children have the right to learn together.
➔ Children should not be devalued or discriminated against by being excluded or sent away because of their disability or learning difficulty.
➔ There are no legitimate reasons to separate children for their education. Children belong together - with advantages and benefits for everyone. They do not need to be protected from each other.

協Good Education

➔ Research shows children do better, academically and socially in integrated settings.
➔ There is no teaching or care in a special school, which cannot take place in an ordinary school.
➔ Given commitment and support, inclusive education is a more efficient use of educational resources.

協Good Social Sense

➔ Segregation teaches children to be fearful, ignorant and breeds prejudice.
➔ All children need an education that will help them develop relationships and prepare them for life in the mainstream.
Only inclusion has the potential to reduce fear and build friendship, respect and understanding.

Thus, it can be concluded that Inclusive Education is the gateway to build relationships where difference is welcomed and respected. A society which accepts the right to study in a mainstream school as a human right moves in the direction of delivering good education with good social sense.