Human Development and Learning (EDU 302)

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Lecture 01
Concept of Human Development

Learning objectives

After going through this unit you will be able to:

1. Identify and differentiate the meaning of Growth and Development.
2. Explain the relationship between Growth and Development.
3. Describe the Principles of Development
4. Discuss about the Developmental Periods

Introduction

i. This unit deals with general nature of growth and development. An understanding of growth and development will helps us to plan educational growth and development of the child.

ii. Human life starts from a single cell. This cell is under constant interaction with the environment in the mother's womb and after birth with the outside world. This interaction leads to the Growth and Development of the child.

iii. The primary purpose of studying the growth and development of children is to understand them better.

iv. An orderly pattern is found in the growth of every organ of the body and area of development.

Definition of Human Development and Growth

GROWTH

The term growth denotes a net increase in the size, or mass of the tissue. It is largely attributed to multiplication of cells and increase in the intracellular substance.

ACCORDING TO HURLOCK

GROWTH is change in size, in proportion, disappearance of old features and acquisition of new ones

According to Crow and Crow (1962)

Growth refers to structural and physiological changes

Development

Development specify maturation of functions. It is related to the maturation and myelination of the nervous system and indicates acquisition of a variety of skills for optimal functioning of the individual

According to Hurlock (1959)

Development means a progressive series of changes that occur in an orderly predictable pattern as a result of maturation and experience.

Development

- ***According to J.E. Anderson(1950)***

Development is concerned with growth as well as those changes in behavior which results from environmental situations.

- ***According to Liebert, Poulos and Marmor (1979)***

Development refers to a process of change in growth and capability over time, as function of both maturation and interaction with the environment

Difference between growth and development

Growth:

- The term is used in purely physical sense. It generally refers to increase in size, length.
- Changes in the quantitative aspects come into the domain of Growth.
- It is a part of developmental process. Development in its quantitative aspect is termed as growth.
- Growth does not continue throughout life. It stops when maturity has been attained.
- Growth involves body changes.
- The changes produced by growth are the subject of measurement. They may be quantified.
- Growth is cellular . It takes place due to the multiplication of cells.
- Growth may or may not bring development.

Development:

- Development implies overall change in shape, form or structure resulting in improved working or functioning.
- Changes in the quality or character rather than the quantitative aspects comes in this domain.
- It is a comprehensive and wider term and refers to overall changes in the individual.
- Development is a wider and comprehensive term and refers to overall changes in the individual. It continues throughout life and is progressive.
- Development involves changes of an orderly, coherent type tending towards the goal of maturity.
- Development implies improvement in functioning and behavior and hence bring qualitative changes which are difficult to be measured directly.
- Development is organizational. It is organization of all the parts which growth and differentiation have produced.
- Development is also possible without growth.

RELATIONSHIP OF GROWTH AND DEVELOPMENT

- The term growth is used in purely physical sense. It generally refers to an increase in size, length, height and weight. Changes in the quantitative aspects come into the domain of growth. Development implies overall changes in shape, form or structure resulting in improved working or functioning. It indicates the changes in the quality or character rather than in quantitative aspects.
- Growth is one of the parts of developmental process. In a strict sense, development in its quantitative aspect is termed as growth. Development is a wider and comprehensive term. It refers to overall changes in the individual.
- Growth describes the changes which take place in particular aspects of the body and behaviour of an organism. Development describes the changes in the organism as a whole and does not list the changes in parts.
- Growth does not continue throughout life. It stops when maturity has been attained. Development is a continuous process. It goes from womb to tomb. It does not end with the attainment of maturity, the changes however small they may be, continue throughout the life span of an individual.
- The changes produced by growth are the subject of measurement. They may be quantified. Development implies improvement in functioning and behaviour and hence brings qualitative changes which are difficult to be measured directly.

General principles of human development

The following are the important principles of Development :

1. Development is a continues process

- First development is a continuous process. Development does not stop at any time. It continues from the moment of conception until the individual reaches maturity. It takes place at a slow or a rapid rate but at a regular pace rather than by leaps and bounds.
- There may be a break in the continuity of growth due to illness, starvation or malnutrition or other environmental factors or some abnormal conditions in the child's life.

2. Development follows a pattern :

- Secondly, development occurs in orderly manner and follows a certain sequences.
- The rate and speed of development may vary in individual cases, but the sequence of the pattern is the same.

3. Development proceeds from general to specific responses

- Thirdly, it makes from a generalized to localized behaviour. In studying the development pattern of children, it is observed that general activity always precedes specific activity.
  Example
- The earliest emotional responses of the new born are generally diffused excitement and this slowly gives way to specific emotional patterns of anger, joy, fear, etc.
- Babies wave their arms in general, random movements before they are capable of such specific responses as reaching for an object held before them.

4. Development involves change

- Development involves a progressive series of changes. The human being is never static.
- From the moment of beginning to the time of death, the person is undergoing changes.
- Nature shapes development most clearly through genetic programming that may determine whole sequences of later development. It refers to a progressive series of orderly coherent changes. Growth on the other hand refers to quantitative changes increasing in size and structure. Development implies both quantitative and qualitative changes.

5. Development is a product of interaction of the heredity and environment

- Child at any stage of his growth and development is a joint products of both heredity and environment. But it is not possible to indicate exactly in what proportion heredity and environment contribute to the development of an individual.

6. Principle of uniqueness

- Development is individualized process. Although the pattern of development is similar for all children, they follow the pattern at their own rate.
- Each child is a unique individual. No two children can be expected to behave or develop in an identical manner although they are of the same age.

7. The Principle of Interaction of Maturation and Learning

- Another important principle of development is that it occurs as a result of both maturation and learning.
- Maturation refers to changes in a developed organism due to the unfolding ripening of abilities, characteristics, traits and potentialities present at birth.
- Learning denotes the changes in behaviour due to training and or experiences.
- Maturation is the inner growth process unaffected by training. Another factor that causes growth is 'learning'.

- Learning implies exercise and experience on the part of an individual. Learning may result from practice, which in due course of time may bring about a change in the individual's behaviour.

Factors influencing human development

Factors influencing human development

- ***Environmental factors,*** such as income and education, all affect a child's development. A safe community offers a chance to explore. Income affects nutrition, housing, clothing, toys and access to resources and programs. A parent's education may affect how often they read to the child.
- ***Biological factors***, including gender and health, affect development. Females and males develop at different rates. Children with health or mental issues develop differently. Nutrition and physical activity affect a child's growth and health.
- A ***child's relationships are important***. Children bond strongly with their parents and play and learn with siblings and peers at school. Some children are involved in Sunday school, daycare or other social groups.
- Early ***sensory experiences affect development***. All five senses are involved in a child developing an understanding of the world.

LET US SUM UP

- Growth refers to change in size; development implies overall changes in the individual. The principles of development state that it is a continuous process; it follows a pattern; it proceeds from general to specific responses; it proceeds at different rates for different parts of the body; there are individual differences in development; it is both quantitative and qualitative and it is often predictable. There are internal, external and other factors that affect the growth and development of the child.
- There are two main phases of the process of development i.e the stage or phase of before Birth and the stage or phase of after Birth. The second phase of life has four stages, i.e. Infancy, childhood, Adolescence and Adulthood. The period of infancy covers the period from birth to 5 years, childhood from 6 to 12 years and adolescence from 12 to 18/19 years. Each stage of development has its own specific characteristics.

Lecture 2

Aspects of Human Development

Learning Objectives

- After going trough this unit you will be able to:

1. Identify and differentiate the meaning of Growth, maturation, Intelligence, heredity and environment.
2. Understand aspects of human development
3. Explain intelligence and its measurement
4. Illustrate different theories of intelligence
5. Understand the concept of metacognition and theories of forgetting

Human Growth and Maturation

- Growth is the increase in overall body size with changes in muscle, bone and fat and this affects motor skills. Growth is complicated because:
- different parts of the body grow at different rates;
- periods of growth start and stop at different times.
- Most of the changes during development are simply due to growth, heredity factors or maturation.
- Maturation refers to changes that occur naturally, spontaneously and automatically. These are to a large extent, genetically programmed which appear at certain period of age and are relatively unaffected by environment except in cases of malnutrition or severe illness.
- Growth is one of the characteristics of living organisms. It is a process which involves to increase the size and complexity and change the shape of the bodies of living organisms.
- Growth is irreversible. Growth in humans is rapid at two stages- first, during the period of gestation and two years after the birth of a child and second, during adolescence (the age from 11 to 17 or 18).
- Maturation has diverse meanings.
  One meaning that is relevant to the topic of growth is "the process of being mature". This period starts by the end of the puberty in human.

Difference between Intelligence, Heredity and Environment

- Intelligence is an inferred process that humans use to explain the different degrees of adaptive success in people's behavior
- The mental abilities that enable one to adapt to, shape, or select one's environment
- The ability to judge, comprehend, and reason
- The ability to understand and deal with people, objects, and symbols
- The ability to act purposefully, think rationally, and deal effectively with the environment
- Intelligence (in all cultures) is the ability to learn from experience, solve problems, and use our knowledge to adapt to new situations.

Heredity *(Nature)*

- Man's behaviour is influenced by two forces: *heredity* and *environment*.

- The biological or psychological characteristics which are transmitted by the parents to their off-springs are known by the name of heredity.
- Heredity is, in other words, a biological process of transmission of certain traits of behaviour of the parents to their children, by means of the fertilized egg.
- Heredity traits are innate; they are present at birth.

Nature and Nurture

- Th e nature-nurture issue involves the debate about
- whether development is primarily influenced by nature or by nurture (Cosmides, 2011; Eagly & Wood, 2011).
- *Nature* refers to an organism's biological inheritance, *nurture* to its environmental experiences. Almost no one today argues that development can be explained by nature or nurture alone.
- But some ("nature" proponents) claim that the most important influence on development is biological inheritance,
- and others ("nurture" proponents) claim that environmental experiences are the most important influence.

Aspects of Human Development

1. Physical Development

- It deals with changes in body structure and functions mainly due to growth or maturation.
- Therefore, physical development can properly be called as physical growth rather than physical development.
- Learning plays little role in physical development.

2. Social Development

- It refers to changes in the way an individual relates to others. A large part of these changes are due to learning.

3. Emotional Development

- It means changes in the way individual becomes capable of understanding, expressing and controlling personal feelings, understanding feelings of others and responding to them.
- In emotional development maturation and learning both play important role.
- It is yet debatable that which plays a greater role.

4. Intellectual Development

- It refers to changes by which mental processes becomes more complex and sophisticated.
- Intellectual development is also considered to be under the influence of both heredity (maturation) and environment (learning).

Metacognition and Theories of Forgetting

Metacognition

- Metacognition refers to awareness of one's own knowledge----what one does and doesn't know---and one's ability to understand, control, and manipulate one's congnitive processes (Meichenbaum, 1985).
- "Metacognition" is often simply defined as *"thinking about thinking."*

- Metacognition refers to *higher order thinking* which involves active control over the cognitive processes engaged in learning.
- Activities such as *planning* how to approach a given learning task, monitoring comprehension, and evaluating progress toward the completion of a task are metacognitive in nature.
- Because metacognition plays a critical role in successful learning, it is important to study metacognitive activity and development to determine how students can be taught to better apply their cognitive resources through metacognitive control.

Theories of Forgetting

The loss of information or the in ability to access previously encoded information within memory.

Two possible answers:

Forgetting information from "Short Term Memory (STM)" can be explained using the theories of "Trace Decay" and "Displacement"

Forgetting from "Long Term Memory (LTM)" can be explained using the theories of "Interference" and "Lack of Association"

1. Trace Decay theory of forgetting

- This explanation of forgetting in short term memory assumes that memories leave a trace in the brain. A trace is some form of physical and/or chemical change in the nervous system.
- Trace decay theory states that forgetting occurs as a result of the automatic decay or fading of the memory trace. Trace decay theory focuses on time and the limited duration of short term memory.
- This theory suggests short term memory can only hold information for between 15 and 30 seconds unless it is rehearsed. After this time the information / trace decays and fades away.
- Decay theory has difficulty explaining the observation that many people can remember events that happened several years previously with great clarity, even though they haven't thought about them during the intervening period.
- If our memories gradually decayed over time, then people should not have clear memories of distant events which have lain dormant for several years. However, there is evidence to suggest that information is lost from sensory memory through the process of decay (Sperling, 1960).
- **Solution**
- In order to combat decay, the learnt information must be periodically reviewed in order to keep it alive in the LTM.

2. Displacement from STM

- Displacement theory provides a very simple explanation of forgetting. Because of its limited capacity, suggested by Miller to be 7+/- 2 items, STM can only hold small amounts of information.
- When STM is 'full', new information displaces or 'pushes out' old information and takes its place. The old information which is displaced is forgotten in STM.

- It was also assumed that the information that had been in the short-term store for the longest was the first to be displaced by new information, similar to the way in which boxes might fail off the end of a conveyor belt - as new boxes are put on one end, the boxes which have been on the conveyor belt the longest drop off the end.
- Support for the view that displacement was responsible for the loss of information from short-term memory came from studies using the 'free-recall' method.
- A typical study would use the following procedure: participants listen to a list of words read out a steady rate, usually two seconds per word; they are then asked to recall as many of words as possible. They are free to recall the words in any order, hence the term 'free recall'.
- The findings from studies using free recall are fairly reliable and they produce similar results on each occasion

Two possible answers:

Forgetting information from "Short Term Memory (STM)" can be explained using the theories of "Trace Decay" and "Displacement"
Forgetting from "Long Term Memory (LTM)" can be explained using the theories of "Interference" and "Lack of Association"

1. Interference Theory

- One explanation is that we forget the learnt information because of interference for other learning. New learning can interfere with old knowledge stored in the memory. This is called *Retroactive or Backward Interference*.
- For Example: forgetting old phone numbers of friends after learning their new numbers. Sometimes, the opposite occurs.
- One may have difficulty in learning new phone numbers by finding oneself repeatedly dialing the old numbers. This is *Proactive or forward Interference*.
- Both types of interference are likely to occur when new learning is similar to old knowledge.
- The more similar the new information to the previously learnt information, the more the interference, either retroactive or proactive or both.
- In order to reduce the interference, the difference between the new and existing knowledge must be highlighted during instruction and students be encouraged to remember both.

2. Lack of association

- The information is lost due to poor association with related knowledge. When new information is not related and tied with previously learnt and relevant ideas, the new information remains floating here and there in the ocean of memory without proper anchors (cues or signals).
- The memorized facts become difficult to recall.

OTHER THEORIES OF FORGETTING

- **1. Retrieval cue**

- "Any stimulus that assists the process of locating and recovering information stored in memory" (Grivas et al 2011)

Examples of retrieval cues

- Photos
- Music/songs/sounds
- Places
- Questions
- Smells
- Objects
- Emotional and physical states
- People
- Even letters of the alphabet!

Retrieval cues...

- Examples of retrieval cues include:
- questions
- emotional states such as happiness or depression
- physical states such as being intoxicated or in pain
- environmental cues such as sights, sounds and smells within that specific situation

2. Retrieval failure theory

- According to this theory, we forget because we are not able to use the correct cues to retrieve or access information.
- Forgetting occurs when information is available in LTM but is not accessible.

Tip of the tongue phenomenon

- A **type** of retrieval failure is the tip of the tongue phenomenon (TOT).
- **Definition:** The tip---of---the---tongue phenomenon is the term for the temporary inability to remember something you know, accompanied by a feeling that it is just out of reach.
- **Explanation:** There is a failure to retrieve information from memory, but there is often **partial recall** such as the first letter or how many syllables it has and the feeling that you know the information and that you will eventually remember it.

THE TIP OF THE TONGUE PHENOMENON IS SIGNIFICANT BECAUSE IT SHOWS US...

- that we can retrieve part of the information stored in memory
- that information can be stored in LTM but not accessible without the right retrieval cues

* how LTM is organised.

Explanation: TOT experiences indicate that information stored in LTM is organised and connected in a relatively organised way. Often when we retrieve connected pieces of information, that provides cues for whatever we are trying to remember. The connected piece of information is linked to the piece that is difficult to remember.

Retrieval Failure Theory

Summary, questions and evaluation

Question 1: What is forgetting?

• Answer: The inability to retrieve previously stored information.
• Question 2: According to retrieval failure theory, why do we sometimes forget?
• Answer: Because we lack or fail to use the right retrieval cues to retrieve information stored in memory.
• Question 3: What is another name for retrieval failure theory?
• Answer: Cue-dependent forgetting.
• Question 4: What is a retrieval cue?
• Answer: Any stimulus that assists the process of locating and recovering information stored in memory.

Strengths and limitations of retrieval failure theory

❖**STRENGTHS**...

- There is research evidence to support it.
- Studies of **recal**l versus **recognition** show that the amount of forgetting can be greatly reduced when retrieval cues are made available, e.g. Meyer & Hilterbrand (1984).
- The ***tip-of-the-tongue phenomenon*** is a frequent reminder that we have information stored in memory that we cannot access, until we find the right cue.

❖ **LIMITATIONS**...

- The theory doesn't explain why there is a failure to retrieve some memories but not others.

3. Motivated Forgetting Another theory of forgetting

This theory describes forgetting as a defense mechanism in which people are motivated or desire to forget unwanted or disturbing memories, either consciously (**suppression**) or unconsciously (**repression**).
• Motivated forgetting is based on Freud's theory that people create a **defense mechanism** to protect themselves from painful experiences.
• Motivated forgetting has been an aspect of psychological study relating to such traumatizing experiences as torture, war, natural disasters, rape and murder.
• Some of the earliest documented cases of memory suppression and repression relate to veterans of the Second World War. The number of cases of motivated forgetting was high during war times, mainly due to factors associated with the difficulties of trench life, injury and shell shock. (Source: Wikipedia)

- **Other examples:** A car accident as a young child or other traumatic event. A repressed memory may be retrieved into one's normal waking consciousness through counselling, in dreams or when a conversation or experience triggers emotion associated with the unpleasant event.

Repression

- ***Unconsciously blocking*** a memory of an experience from entering your conscious awareness because it is ***psychologically painful*** or unpleasant to remember.
- This is a defense mechanism used by the ego to protect us from anxiety.
- It is not lost from memory but not easily accessible during normal waking consciousness.

Suppression

- Deliberately making a conscious effort to keep it out of your conscious awareness.
- People are aware of the event however make an effort not to think about it.
- It may be even be possible to deliberately forget information.

Motivated Forgetting
Uses and Limitations

- **Uses**
- Useful for explaining people's tendency to forget crucial, traumatic experiences
- **Limitations**
- Cannot however explain all forgetting experiences
- Applies only to quite specific, distressing experiences

INTELLIGENCE AND ITS MEASUREMENT

- **Defining Intelligence**
- In a study in which laypeople and experts completed a similar exercise, both groups viewed intelligence as made up of at least three broad attributes***: verbal ability, practical problem solving, and social competence*** (Sternberg & Detterman, 1986).
- The abilities and capacities to **acquire** and **apply knowledge**, to **reason logically**, to **plan effectively**, to **conclude wisely**, to exhibit **sound judgment** and **problem-solving** ability, to grasp and **visualize concepts**, to be **mentally alert**, to be able to find the **right words and thoughts** with facility, and to be able to **cope, adjust**, and make the most of new situations– but please do not interpret these words as the last word on what intelligence is" (Cohen & Swerdlik, 2002, p. 224).
- Problem-solving skills and the ability to adapt to and learn from life's everyday experiences.

David Wechsler

- "Intelligence, operationally defined, is the aggregate or global capacity of the individual to act purposefully, to think rationally and to deal effectively with his environment" (1958, p.7).

Jean Piaget

- Cognitive structure develop through the interaction between child and environment.
- This interaction is at first physical and later involves mental operations.

- **Alfred Binet: A Holistic View**
- The social and educational climate of the late ***nineteenth*** and early ***twentieth*** centuries led to the development of the first intelligence tests.
- The most important influence was the beginning of universal public education in Europe and North America.
- When all children-not just society's privileged---could enroll in school, educators called for methods to identify students who could not profit from regular classroom instruction.
- The first successful intelligence test, constructed by French psychologist Alfred Binet and his colleague Theodore Simon in 1905, responded to this need.
- The French Ministry of Instruction asked Binet to devise an **objective method** for assigning pupils to special classes---one based on **mental ability**, not classroom naughtiness and indiscipline.
- Other researchers had tried to assess intelligence using simple measures of sensory responsiveness and reaction time (Cattell, 1890; Galton, 1883).

- In contrast, Binet believed that test items should tap complex mental activities involved in intelligent behavior, such as memory and reasoning.
- Consequently, Binet and Simon (1908) devised a test of general ability that included a variety of verbal and nonverbal items, each of which required ***thought and judgment***.
- Their test was also the first to associate items of increasing difficult with chronological age (Sternberg & Jarvin, 2003).
- This enabled *Binet* and Simon to estimate how much a child was behind or ahead of her age mates in intellectual development.
- The Binet test was so successful in predicting school performance that it became the basis for new intelligence tests.
- In 1916, Lewis Terman at Stanford University adapted it for use with English-speaking school children. Since then, the English version has *been* known as the ***Stanford-Binet Intelligence Scale***.

The factor Analysts: A Multifaceted View

- To find out whether intelligence is a single trait or an assortment of abilities, researchers used a complicated correlational procedure called ***factor analysis***, which identifies ***sets of test items that cluster together***, meaning that test-takers who do well on one item in a cluster tend to do well on the others.
- Distinct clusters are called ***factors***.
- ***For example***, if vocabulary, verbal comprehension, and verbal analogy items all correlate highly, they form a factor that the investigator might label ***"verbal ability."***
- Using factor analysis, many researchers tried to identify the mental abilities that contribute to successful intelligence test performance.

Early Factor Analysis

- British psychologist Charles Spearman (1927) was the first influential factor analyst. He found that all test items he examined correlated with one another. As a result, he proposed that a common underlying ***general intelligence***,' called **"g"** influenced each of them.
- At the same time, noticing that the test items were not perfectly correlated, Spearman concluded that they varied in the extent to which **"g"** contributed to them and suggested that each item, or a set of similar items, also measured a ***specific intelligence***_ that was unique to the task.
- Spearman represented as less significant or important the significance of ***specific intelligences***.
- He regarded "g" as central and supreme, and was especially interested in understanding it.' With further study, he inferred that "g" represents abstract reasoning capacity because test items that involved forming relationships and applying general principles clustered together especially strongly.
- They also were the best predictors of cognitive performance outside the testing situation.
- American psychologist Louis Thurstone (1938) soon took issue with the importance of "g."
- His factor analysis of college students' scores on more than 50 intelligence tests indicated that separate, unrelated factors exist.
- Declaring the supremacy of these factors, Thurstone called them ***primary mental abilities.***

CONTEMPORARY EXTENSIONS

- ***Spearman and Thurstone*** eventually resolved their differences, as each acknowledged findings that supported the other's perspective (Brody, 2000).
- Current theorists and test designers combine both approaches by proposing hierarchical models of mental abilities. At the highest level is "g" assumed to be present to a greater or lesser degree in all separate factors.
- These factors, in tum, are measured by subtests, groups of related items.
- Subtest scores provide information about a child's strengths and weaknesses. They also can be combined into a total score representing general intelligence.
- Contemporary theorists have extended factor-analytic research.
- The two most influential are **R. B. Cattell** and **John Carroll**. Each offers a unique, multilayered perspective on intelligence.

Crystallized versus Fluid Intelligence

- According to **Raymond B. Cattell** (1971, 1987), in addition to "g," intelligence consists of **TWO** broad factors:
- **Crystallized intelligence** refers to skills that depend on accumulated knowledge and experience, good judgment, and mastery of social customs-abilities acquired because they are valued by the individual's culture.
- In other words ***crystallized intelligence*** involves knowledge and comprehension which is considered important in a specific culture but which varies from culture to culture.
- On intelligence tests, vocabulary, general information, and arithmetic problems are examples of items that emphasize crystallized intelligence.
- In contrast, fluid intelligence depends more heavily on basic information-processing skills-the ability to detect relationships among stimuli, the speed with which the individual can analyze information, and the capacity of working memory.
- ***Fluid intelligence is assumed to be influenced more by conditions in the brain and less by culture.***
- It often works with crystallized intelligence to support effective reasoning, thinking, abstraction, and problem solving (Horn & Noll, 1997).

Research findings

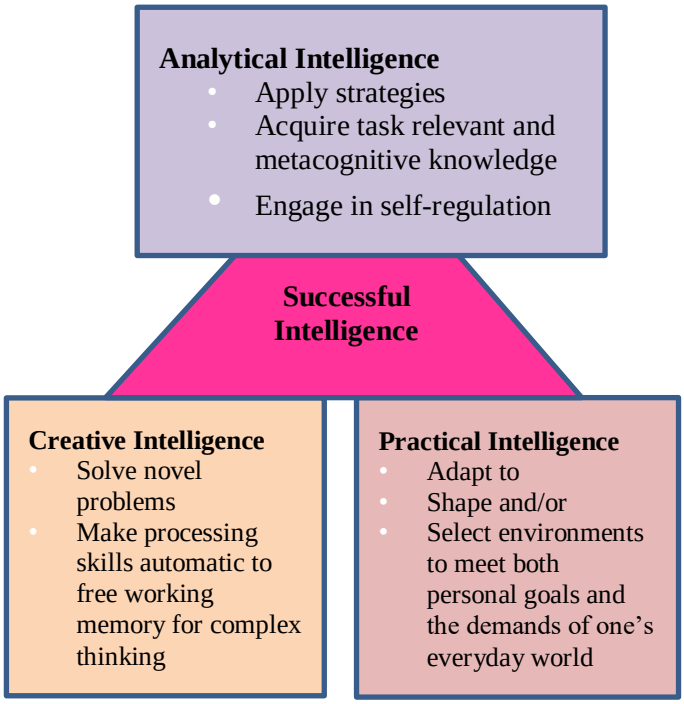
- Among children who are similar in cultural and educational background, crystallized and fluid intelligence are highly correlated and difficult to distinguish in factor analyses, probably because children high in fluid intelligence acquire information more easily.
- But when children differ greatly in cultural and educational experiences, the two abilities show little relationship; children with the same fluid capacity may perform quite differently on crystallized tasks (Horn, 1994).
- As these findings suggest, Cattell's theory has important implications for the issue of *cultural bias* in intelligence testing. Tests aimed at reducing culturally specific content usually emphasize fluid over crystallized items.

The Three-Stratum Theory of Intelligence

- Using improved ***factor-analytic methods***, John Carroll (1993, 1997) reanalyzed relationships between items in hundreds of studies.
- His findings yielded a three-stratum theory of intelligence that elaborates the models proposed by ***Spearman, Thurstone, and Cattell***.
- Carroll represented the structure of intelligence as having ***three tiers***.

- As **Figure 8.1** shows, ***"g" presides at the top***.
- In the **second tier** are an array of ***broad abilities***, which Carroll considered to be the basic biological components of intelligence; they are arranged from left to right in terms of decreasing relationship with "g."
- In the **third tier** are ***narrow abilities-specific*** behaviors through which people display the second-tier factors.
- **Carroll's model** is the most comprehensive factor-analytic classification of mental abilities to date. It provides a useful framework for researchers seeking to understand mental test performance in cognitive-processing terms. It also reminds us of the great diversity of intellectual factors. Currently, no test measures all of Carroll's factors.
- Sternberg's (1997, 2001, 2002) triarchic theory of successful intelligence identifies **THREE** broad, interacting intelligences:

(1) *analytical intelligence,* or information-processing skills;
(2) *creative intelligence,* the capacity to solve novel problems
(3) *practical intelligence,* application of intellectual skills in everyday



Robert Sternberg defines intelligence as :
"the cognitive ability to learn from experience, to reason well, to remember important information, and to cope with the demands of daily living."

SUCCESSFUL INTELLIGENCE

- Sternberg believes that intelligence has less to do with success in the classroom and more to do with success in the real world. He refers to the ability to achieve success in life as "successful intelligence." He believes

that people have three types of intelligence and that "successfully intelligent" people learn to balance the three types of intelligence effectively.

Analytical/ Componential Intelligence

- Sternberg believes that intelligence is comprised of three separate, though interrelated, abilities:
- The first intelligence , analytical consists of the information processing components that underlie all intelligent acts:
- Applying strategies
- Acquiring task relevant and metacognitive knowledge,
- Engaging in **self-regulation**
- Try to solve familiar problems by using strategies that manipulate the elements of a problem or the relationship among the elements (e.g., comparing, analyzing)

Creative Intelligence

- Try to solve new kinds of problems that require us to think about the problem and its elements in a new way (e.g., inventing, designing)
- **Creative intelligence** relates to the way a person approaches new information or a new task. You may also hear creative intelligence referred to as experiential intelligence. It involves a person's ability to apply their existing knowledge to new problems.
- If you were assessing a person's level of creative intelligence, you might ask questions like: How quickly can this person solve a new problem when presented with it? Can they automatically apply a new skill when they're presented with the problem again?

Practical Intelligence

- **Practical intelligence** relates to how you react to your environment and your ability to adapt to it or change it to suit your needs.
- Practical intelligence is the ability to thrive in the real world. You might compare practical intelligence to common sense or street smarts. It involves the ability to understand how to deal with everyday tasks.
- If you were analyzing someone's level of practical intelligence, you might ask yourself questions like: How does this person relate to the world around them? Are they adept at dealing with everyday experiences? Could someone take advantage of this person easily?

Lecture 3
Gardner's Theory of Intelligence

- When you think of intelligence you normally think of the one intelligence that must be preferred to and that is intellectual intelligence. Howard Gardner says there are actually multiple types of intelligences. Lets go through all these one by one

1. Logical mathematical intelligence

- Solving math and logic problems
- Taking tests in which high logical intelligence is required
- Ability to make and read graphs
- Organization of things

2. Verbal linguistic

- People with high verbal linguistic intelligence probably they are good at:
- Poems
- Rhyming words
- Reading and writing
- Story teller

3. Interpersonal intelligence

- Understanding other people's emotions
- Understanding social etiquettes and norms are of the different situations
- Good leader or manager and have to coordinate with employees then you might have good interpersonal intelligence

4. Body Kinesthetic Intelligence

- Ability to use the body purposefully
- People excellent in their bodily kinesthetic field are
- Dancers
- Actors
- Solders
- Sports athletes

5. Musical Intelligence

- This is associated with rhythmic and harmonic music
- Being able to interpret sounds, rhythms and tones and pitches
- Probably compose or at least play an instrument

6. Visual Spatial

- Its basically is how well you visualize something in your mind's eye
- How well you can think about something in your mind

Example

- How well you get through a maze
- How you read a map?

7. Intrapersonal intelligence

- Different from interpersonal intelligence
- This is more about how you understand your self
- Are you self aware or not?
- How well you can control your emotions and moods?
- You know your strengths and weaknesses?

8. Naturalistic intelligence

- You can recognize and classify all types of animals, plants and minerals in the real world
- Hunters and fisherman are pretty intelligent in naturalistic field
- Sheff's and botanists

Critics of Gardner's Theory

Critics of Gardner's theory, however, question the independence of his intelligences. They point out that the excellence in most fields requires a combination of intelligences.

A talented musician, **for example**, uses logic mathematical intelligence to interpret the score, linguistic intelligence to respond to teaching, spatial intelligence to orient to the keyboard, interpersonal intelligence to react to the audience, and intra personal intelligence to play expressively. Furthermore, some exceptionally gifted individuals have abilities that are broad rather than limted to a particular domain.

Measurement of intelligence

- Intelligence is measured through intelligence testes that are **individual's tests** (Stanford-Binet test) as well as **group tests** (Wechsler tests).
- Intelligence testing began in early 1900's when Alferd Binet and Simon developed the first individual intelligence test it identify those children who could not profit from normal classroom instruction and required special education.
- This test, after four revisions, is still used to measure the intelligence.
- It consists of school related task and intellectual skills needed to do well in school. Initially, 'mental age' of the students was determined.
- For example, if a child succeeded on all items meant for 6 years old, he was considered to have mental age of 6 whether the child was actually more or less in physical age. Later, the concept of intelligent quotient' (IQ) was added.
- THE FORMULA For calculation was:

$$IQ = \frac{\text{Mental Age (MA)}}{\text{Chronological Age (CA)}} \times 100$$

- The above formula of calculating IQ, presently known as **Ration IQ** is no longer used. Instead **deviation IQ** is calculated these days by comparing the performance of the person with his age group.
- The value of IQ is used for predicting school achievement

Aspects of Human Development

Learning Objectives

After this lecture students will be able to:

- ❖ Define personality
- ❖ Briefly describe type theories of personality
- ❖ Explain the trait theories of personality

- ❖ Summarize psychodynamic theories, learning theories, humanistic theories and cognitive theories by highlighting the differences in explaining personality
- ❖ Describe the ways for personality assessment and techniques employed under each

Definition of Personality

- ☙ Shaffer defines personality as a ***broad collection of attributes*** and distinctive patterns of behavior or habits that seem to characterize an individual on temperament, traits, interests, attitudes and values
- ☙ Personality is individual's characteristic pattern of perceiving, thinking, feeling and continuing over time.

Theories of Personality

- ☙ Type Theories
- ☙ Trait Theories
- ☙ Psychodynamic Theories
- ☙ Learning Theories
- ☙ Humanistic Theories
- ☙ Cognitive Theories
- ☙ Erikson's Theory of Personality Development

• Type Theories

Greek physician Hippocrates (c. 400 B.C.),

- ☙ Type theories are simplest and oldest ways of describing individual differences by classifying people into types on the basis of a major characteristics such as differences in body chemistry or variation in body shape.
- ☙ Type theorists hold that personality differences are due to an imbalance of **FOUR** humors or body fluids: ***blood, phlegm, yellow bile and black bile***.
- ☙ An excess of each humor is said to create specific personality temperament:
- ☙ sanguine (optimistic) type was associated with **blood**,
- ☙ the phlegmatic type (slow, unconcerned and lethargic) with **phlegm**
- ☙ choleric (angry) type with **yellow bile**
- ☙ And the melancholic type (sad, depressed) with **black bile**
- ☙ The ancient Greeks and Romans also felt that a person's body shape or form was an important predictor of personality.
- ☙ This was also theorized more recently in 1940s by Sheldon, an American personality theorist, who stated that there are three body types each associated with specific personality type.
- ☙ A person with a **thin body** prefers privacy, is sensitive and enjoys intellectual persuits.
- ☙ A person with **muscular body** is assertive, athletic and emotionally independent
- ☙ A **fat person** loves comfort, is sociable, and has an agreeable personality.
- ☙ Many other classifications also exist categorizing people into TWO or THREE broad classes.

Weakness of Type Theory

- ☙ A major weakness of Sheldon's morphological classification system and other type theories in general is the element of **oversimplification** inherent in placing individuals into a single category, which ignores the fact that every personality represents a unique combination of qualities.

- Systems that address personality as a combination of qualities or dimensions are called trait theories

• The Trait Theories

- Personality types are broad categories.
- Traits refer to small bits of personality.
- Each type may consist of traits .
- **Gordon Allport (1897-1967)** , a Harvard psychologist, identified **THREE** kinds of trait to describe a person that is:

Cardinal Trait

- Central Traits and
- Secondary Traits which are the building blocks of personality .
- **A cardinal trait** is a single trait which is so strong that it influences most aspects of person's behavior.
- **For example** dependence would be a cardinal trait in people who consistently require others to do things for them. Allport thought that it was rare for a person to be strongly influenced by one, dominant trait.

- The second kind of trait **central traits** , according to Allport were very influential in guiding a person's behavior but not as pervasively as the cardinal trait. He believed that most people were influenced by a small group of central traits.
- **For Example** honesty, friendliness, aggressiveness, suspiciousness and optimism (hopefulness)

- **Secondary traits** are the third kind of traits which are thought to be much narrow in influence. They may lead to specific behaviours in particular situations. Sometimes, they are useful in understanding why a person appears to be strongly inconsistent.
- **For Example,** sometimes a self-centered, suspicious person may act in a generous or trusting way.
  This behaviour may come as a surprise to other people.

- One of the best known British Psychologist working in the area of trait Theories is **H. J. Eysenck** whose tests of personality have been widely used in educational and psychological setting. The tests indicate the existence of **THREE** major personality traits or dimensions labeled as **Extraversion, Neuroticism and Psychoticism.**

1. Extraversion

High score on **'extraversion'** indicates that the individual is oriented primarily towards the external world of people and experiences while low scores show him to be more withdrawn and more concerned with his inner states of mind (a condition which Eysenck terms as '**introversion'**).

2. Neuroticism

High scores on '**neuroticism'** indicate that the person is more inclined to anxiety and fear while low scores show good psychological balance (termed as stability).

3. Psychoticism

High **'psychoticism'** scores indicate an individual who is relatively independent, tough-minded, aggressive and cold while low scores go with dependency and tender mindedness (loving or caring).

Furthermore,,,

- Much research, to date, particularly in educational setting has been carried out using the extraversion and neuroticism scale (the "E" and "N" scale).
- These scales are interdependent which yield four distinct personality types like unstable extravert, stable extravert, stable introvert and unstable introvert.
- The interesting thing about these personality types is that they fit remarkably well with four types identified by the ancient Greeks and Romans, namely the Choleric, Sanguine, phlegmatic and melancholic.
- They also give clues to how two personality dimensions interact with each other.

The Trait Theories

- The other major champion of trait based approach is American Psychologist R.B. Cattell.
- He has identified 16 source traits.
- Source traits are measured by a ten point rating scale.

16 Source Traits

Reserved	Outgoing
Less Intelligent	More Intelligent
Affected by Feelings	Emotionally Stable
Submissive	Assertive
Serious	Happy-go-lucky
Expedient	Conscientious
Timid	Venturesome
Tough Minded	Tender-Minded
Trusting	Suspicious
Practical	Imaginative
Forthright	Shrewd
Self-assured	Apprehensive
Conservative	Experimenting
Group Dependent	Self-sufficient
Uncontrolled	Controlled
Released	Tense

Psychodynamic Theories

- Trace the development of personality and stress the unconscious determinants of human personality which lead to differing personality traits. These personality characteristics originate during early years of life due to inappropriate (too much or too less) need gratification that may result fixation at one stage which is reflected in adult personality traits.
- The individual is presently unaware of these traumatic, anxiety creating experiences because these have been pushed back into the unconscious part of human mind.
- Sigmund Freud is the founding father of psychodynamic theories whose explanations about personality development were later revised and extended by his students.
- Erik Erikson was one of his most distinguished students who disagreed with his teacher and believed that, instead of biological instincts, social aspects of culture shape human personality. Erikson's theory offers more promise than Freudion Theory in education.

Personality Assessment Techniques

I. Subjective Methods.
II. Objective Methods.
III. Projective Methods.

IV. Psycho-Analytical Methods.
V. Physical Test Methods or Physiological Methods.

Each one of these categories refers to a number of measuring tools or techniques.

1. The Subjective Methods

The Subjective Methods are those in which the individual is permitted to disclose what he knows about himself as an object of observation. They are based on what the subject himself has to say about his traits, attitudes, personal experiences, aims, needs and interests.

Examples of Subjective Methods

Some of the important subjective methods are:

- The autobiography,
- The case history,
- The interview, and
- The questionnaire or the inventory.

The Autobiography

The autobiography is a narration by the individual, given either freely or according to certain subject headings provided by the examiner, of his experiences throughout life, of his present aims, purposes, interests and attitudes.

The subject has freedom in selecting experiences which are of significance to him and these reveal his personality. The disadvantage is that what the subjects out of his life is that part of his experience which he is willing to reveal.

The Case Study

The case history is dependent to a great or less extent upon the autobiography. In a case history, we integrate the information that we obtain from various sources about the individual. This requires many interviews with individual and other persons who know the individual.

The case-study technique gives information about the individual's parents and grand-parents, his home background, his medical history, his educational career, his friendships, his marital life, his profession and others. This method is more useful in understanding the personality-patterns of an individual who is a problem or is maladjusted.

The Interview

The interview is the most common method of judging personality. The interviewer questions or lets the individual speak freely so as to get a clear picture of the individual. From what he says, the interviewer knows about his interests, problems, assets and limitations. The chief dimension in respect to which the interview may vary is the rigidity or flexibility with which the interviewer holds to a pre-decided outline or schedule of questions or topics.

The interviewer evaluates personality traits not only from the content of answers to questions asked, but also from the dogmatism with which the news are expressed, by the interest shown, by vocabulary or incidental references which the subject employs unwittingly in his conversation, and by observing his hesitations, his fidgeting, his emotionality and the like.

The limitation of the method is that it is subjective and is less valid than one believes it to be.

The Questionnaire

Questionnaires are a series of printed or written questions which the individual is supposed to answer. Ordinarily, the subject is expected to answer each question by checking or encircling or underlining 'yes' or 'no' provided against the question. The investigator counts the number of yes's, No's and?'s and thus is in a position to state whether a certain individual possesses certain traits or not.

The questions or statements provided describe certain traits emotions, attitudes or behaviours in situations revealing personality. The yes's or no's are counted in certain groups or sections depending on the traits to be indicated by positive or negative answers. The **limitation** of this device is that the subject may not be willing to reveal correct facts about himself or may not be in conscious possession of these facts. The method, at its best, reveals that part of personality which is explicit or available to the subject's scrutiny.

Some of the well- known personality questionnaires are the:

- Bernrenter Personality Questionnaire,
- The Bell Adjustment Inventory,
- The Washbume Social-Adjustment inventory.
- The Indian Statistical Institute has also released a short personality inventory.
- Recently, other research centers have also developed their own or adapted some of the well-known inventories.

2. The Objective Methods

The Objective Methods do not depend on the subject's own statements about himself but on his overt behaviour as revealed to others who serve as observers, examiners or judges.

Examples

Some of the objective methods are:

- Miniature Life Situations,
- Unobserved Observation,
- Physiological Measures,
- Rating Scales,

i. Miniature Life Situations

In miniature life situations, ***artificial situations resembling real life situations, are created*** and the subject's reactions and **behaviour are observed and evaluated**. Situations involving honesty, cooperation, persistence, and team-work can be created and the subject's behaviour may be noted and judged accordingly.

For selection of leaders in the army, this method is often used with great advantage. Reactions to failure and success may also be evaluated by putting subjects in situations where they fail and get frustrated or gratified.

ii. Unobserved Observation

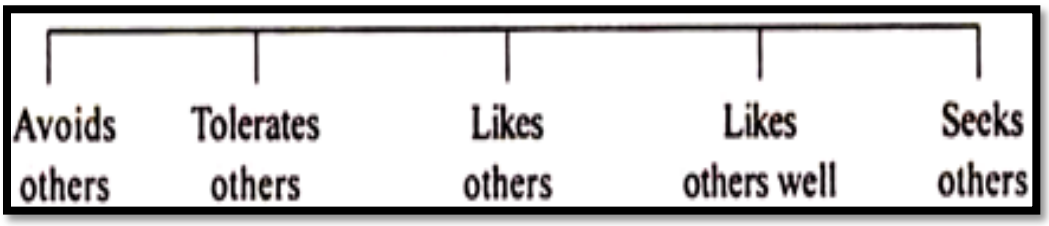
- The method of unobserved observation is quite popular in child development centers of guidance clinics. The individual is asked to perform some task or is left himself and his behaviour is observed through a one-way mirror, screen or other device and he is overheard by a concealed microphone setup.
- One modification of this method is prolonged observation of an individual in the same situation for several days together. Or the subject is observed by more than one person and the observations are pooled together. Of course, before observation is started, certain

decisions must be arrived as to what to observe. One great case that is to be taken in this method is the distinction between what is observed and what is interpreted.

iii. Rating Scales

In rating scales we rate an individual of the possession or absence of certain traits on a certain scale. The individual is given a place on the scale or a score which indicates the degree to which a person possesses a given behaviour trait.

For example, if we want to rate students on their sociability, we might ask three or four supervisors or teachers to point out the place of each student on the scale which may be as follows:



3. The Projective Methods

In these methods or techniques, the examiner does not observe the overt behaviour of the subject as in miniature life situations; nor does he ask the subject to state his opinion of his own behaviour or his feeling about certain experiences.

- Instead, the subject is requested to behave in an imaginative way i.e., by making up a story, interpreting ink-blots or constructing some objects out of plastic material and drawing what he wants.
- Thus the subject is encouraged to 'project' or throw his thoughts, emotions, wishes and other reactions freely in some situations which are provided. These methods are, thus, intend to reveal the underlying traits, moods, attitudes and fantasies that determine the behaviour of the individual in actual situations.
- The assumption that underlies the use of projective method is that in what he perceives in his unstructured and indefinite environment and what he says about it, an individual is revealing his innermost characteristics or his personality.

Common Features

The projective techniques have in common the following features:

1. The stimulus material is generally neutral, ambiguous or more or less undefined so that the subject can easily leave an impression of his personality on it.
2. The psychological reality, rather than the actual reality of the subjects world is important – his wishes, his attitudes, beliefs, ideals, conflicts and fantasies.
3. Implicit or unconscious aspects of the personality are revealed in these techniques – and psycho-dynamic principles, therefore, play an important part in the interpretations.
4. An untrained interpreter is likely to project his own biases and fantasies into his interpretations of the subject's productions.

Examples

Some of the important projective techniques are:

1. The Rosschach Ink Blot Test
2. The Thematic Apperception Test
3. Children's Apperception Test (C.A.T.)

4. The tantoplione is introduced by B.F. Skinner
5. Play Techniques
6. Word Association Test
7. Picture Association Test
8. The Incomplete Sentence Technique

1. The Rosschach Ink Blot Test

- Developed by a Swiss psychologist Herman Rosschach (1921), consists of 10 inkblots having symmetrical designs. Five of these cards are in black and white, two with splashes of red and thee in other colours. The test is usually administrated individually.
- When the card is shown or placed before the client he is asked to tell what he sees in the inkblot or what it means to him or what this might be. In the second phase, called the enquiry the examiner ascertains more fully not only what the person sees, but also what and how he sees it.
- In the third phase, called "testing the limits", the examiner tries to ascertain whether the subject responds to the colour, shading and other meaningful aspects of the inkblots, or whether the whole or parts of the blots are used by the subject in his responses. All these responses are then subjected to a scoring system, designed either by Beek or by Klopfer and Kelley.
- We need highly trained personnel to administer and interpret Rosschach;
- It is a time consuming test there are its limitations.

2. The Thematic Apperception Test (TAT)

(TAT) developed by Murray and Morgan (1935) consists of a series of 20 pictures. The person is asked to tell the story that each one suggests to him. These pictures are arranged in appropriate groups for male and female adults and for children. On each picture, the subject tells the story by identifying the characters, explaining their relationships to each other, describing what preceded the situation shown in the picture, and stating an outcome.

These theme projects implicit attitudes, habits of thought, ideals and drives of the subject, as well as the characteristics of the other characters- father, mother, brother, sister, husband and wife. The Rosschach Test throws light on the structures of personality whereas the TAT throws light on the functioning of personality.

3. Children's Apperception Test (C.A.T.)

This test was constructed Bellack in 1948. It is used to assess the personality of children upto twelve years of age. Young children are very much interested in listening to stories about animals and in playing with animals. Before administering the test, Psychologist establishes rapport with the chief so as to win his cooperation. CAT brings to light the child's repressed desires.

4. The Tantoplione is introduced by B.F. Skinner

Here the subject is advised to listen while a phonograph reproduces at low intensity various speech samples in a man's voice. The subject is asked to say what comes to his mind as he listens to each speech sample in much the same way that he might interpret an ink-blot. Thus, it is the auditory Rosschach technique.

5. Play Techniques

Play techniques are more applicable to children than to adults. The subject is allowed or encouraged to construct scenes by using dolls, toys, blocks and other building

materials. This technique has both diagnostic and therapeutic value and is frequently used in Child guidance clinics.

6. Word Association Test

Another commonly used technique is the word-association method in which the subject is presented with a list of words, one at a time, with the instruction to respond with the first word that enters his mind. The examiner notes the time required forgiving each response and the responses themselves. Departures from the average amount of time and the content of unusual responses help us to identify certain attitudes, anxieties or sentiments.

7. Picture Association Test

A recent projective technique is the picture- association method in which pictures of social situations are substituted for words as the stimulus material.

It consists of 24 cartoons like drawings depicting everyday situations of frustration or stress involving his individuals, one of whom is usually shown as frustrating the other.

The subject is asked to write or say in the blank caption box, above the head of the frustrated individual, the first association that comes into his mind as appropriate. Then associations reveal areas of conflict, anxieties and stress in the life of the individual.

9. The Incomplete Sentence Technique

The incomplete sentence technique given by Rotter, Stein and many others is a type of paper-and-pencil personality inventory which has features of an association test as well as of a projective technique. The subject is represented with a number of incomplete sentences which he finishes in any way that he likes.

5. The Psycho-Analytic Method

This method was propounded by Sigmund Freud, the father of the School of Psycho-analysis. Two types of tests, in the Psycho-analytic method of investigation of Personality are very popular viz.:

(1) Free Association Test.

(2) Dream Analysis Method.

Both these tests show the peculiarities of the Personality, in its unconscious aspect. In the dream analysis, the subject describes his dream and without using the mind, meaning thereby the unrestricted state of the mind associates freely the dream objects and activities.

Because of the absence of the mental element, the truth of the unconscious mind is expressed by which the psycho analyst discovers many peculiarities of a character. Its main difficulty lies in the need for a skilled and experienced psycho-analyst. Often the psycho-analyst analyses his own mind in order to remove the possibility of any prejudice.

6. Physical Test Methods or Physiological Methods

In physiological methods of assessment of personality following instruments are commonly used:

1. Pneumograph:

It is used for measuring the rate of respiratory activity of the individual.

2. Plenthysmograph:

It is used for measuring the individual's Blood pressure.

3. Shymograph:

It is used for measuring the activity of heart.

4. Electrocardiograph:

It is used for measuring the activity-of-heart.

5. Electro-encephalograph:

It is used for measuring the electrical activity in the human brain,

6. Graphology:

The individual's personality is assessed through a study of his handwriting.

7. Electromyogram:

It is used for measuring muscular activity.

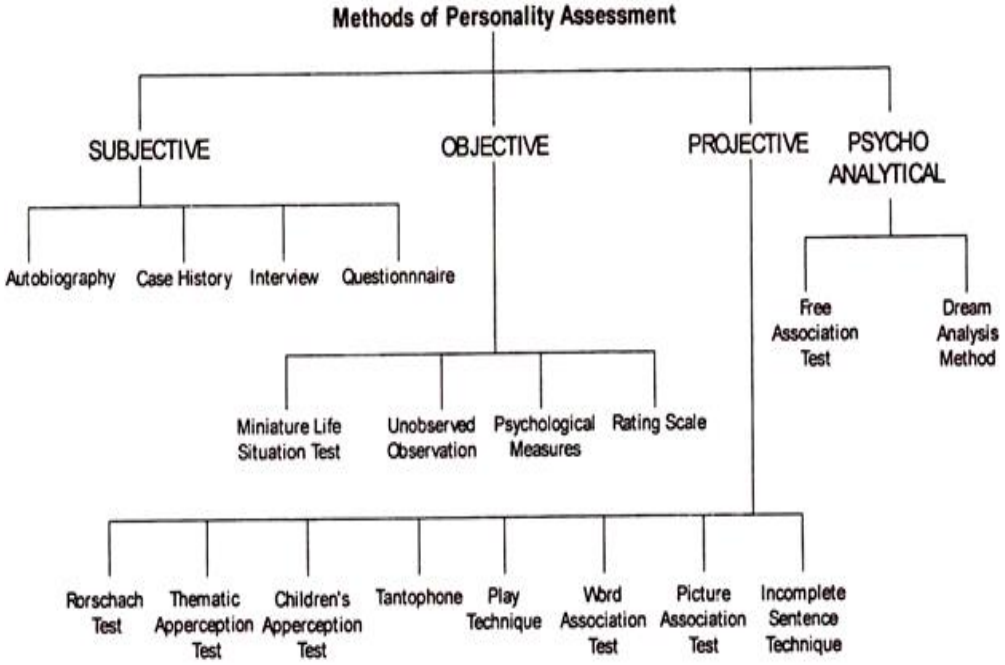


Illustration. Methods of Personality Assessment.

Reference

- Arif, H. A. (2003) *Human Development and Learning*. Lahore: Majeed Book Depot.
- Berk, E. L. (2006) *Child Development*. (7th Ed). New York: Pearson Education, Inc
- http://www.psychologydiscussion.net/notes/psychology-notes/personality-psychology-notes/personality-methods-of-personality-assessment/2601

Lecture 4
Theories of Human Development

Learning Objectives

- After this lecture students will be able to:

1. Understand the developmental task theory and its stages.
2. Explore the Erikson's psychoanalytic theory.
3. Identify the difference among all stages of psychosocial theory
4. Explore strengths and weaknesses of these theories

Developmental Task Theory

1. Although many theorists are responsible for contributing to the Developmental Tasks Theory, it was Robert J. Havighurst who elaborated this theory in a most systematic and extensive manner.
2. Havighurst's main claim is that development is continuous throughout the entire lifespan, occurring in stages, where the individual moves from one stage to the next by means of successful resolution of problems or performance of developmental tasks.
3. These tasks are those that are typically encountered by most people in the culture where the individual belongs. If the person successfully accomplishes and masters the developmental task, he **feels pride and satisfaction**, and consequently earns his community or society's approval. This success provides a sound foundation which allows the individual to accomplish tasks to be encountered at later stages.
4. Conversely, if the individual is not successful at accomplishing a task, he is unhappy and is not accorded the desired approval by society, resulting in the subsequent experience of difficulty when faced with succeeding developmental tasks. This theory presents the individual as an active learner who continually interacts with a similarly active social environment.
5. From examining the changes in your own life span you can see that critical tasks arise at certain times in our lives. **Mastery of these tasks is satisfying and encourages us to go on to new challenges.** Difficulty with them, slows progress toward future accomplishments and goals.

Robert Havighurst(1952, 1972, 1982) has identified critical developmental tasks that occur throughout the life span. Although our interpretations of these tasks naturally change over the years and with new research findings. Havighurst's developmental tasks offer lasting testimony to the belief that we continue to develop throughout our lives.

Havinghurst (1972) *defines a developmental task as one that arises at a certain period in our lives, the successful achievement of which leads to happiness and success with later tasks; while leads to unhappiness, social disapproval, and difficulty with later tasks.* Havighurst uses lightly different age groupings. He identifies **three** sources of developmental tasks (Havighurst, 1972)

1. **Tasks that arise from physical maturation**. For example, learning to walk, talk, and behave acceptably with the opposite gender during adolescence; and biological development
2. **Tasks that from personal sources**. For example, those that emerge from the maturing personality and take the form of personal values and aspirations, such as learning the necessary skills for job success.
3. **Tasks that have their source in the pressures of society.** For example, learning to read or learning the role of a responsible citizen.

Developmental stages

- **Infancy - Early Childhood (birth to 5 years)**
- **Middle Childhood (6 to 12 years)**
- **Adolescence (13 to 18 years)**
- **Early adulthood (19 to 29 years)**
- **Middle Adulthood (30-60 years)**
- **Later Maturity (60>)**

Stage 1

Infancy - Early Childhood (birth to 5 years)

- Learning to take solid foods
- Learning to walk.
- Learning to talk
- Learning to control the elimination of body wastes
- Learning gender differences
- Forming concepts and learning language to describe social and physical reality.
- Getting ready to read

Stage 2

Middle Childhood (6 to 12 years)

1. Learning physical skills necessary for ordinary games.
2. Building wholesome attitudes toward oneself as a growing organism
3. Learning to get along with age-mates
4. Learning an appropriate masculine or feminine social role
5. Developing fundamental skills in reading, writing, and calculating
6. Developing concepts necessary for everyday living.
7. Developing conscience, morality, and a scale of values
8. Achieving personal independence
9. Developing attitudes toward social groups and institutions

Stage 3

Adolescence (13 to 18 years)

1. Achieving new and more mature relations with age-mates of both sexes
2. Achieving a masculine or feminine social role
3. Accepting one's physique and using the body effectively
4. Achieving emotional independence of parents and other adults
5. Preparing for marriage and family life preparing for an economic career
6. Acquiring a set of values and an ethical system as a guide tom behavior; developing an ideology
7. Desiring and achieving socially responsible behavior

Stage 4

Early adulthood (19 to 29 years)

1. Selecting a mate
2. Achieving a masculine or feminine social role
3. Learning to live with a marriage partner
4. Starting a family
5. Rearing children
6. Managing a home

7. Getting started in an occupation
8. Taking on civic responsibility
9. Finding a congenial social group

Stage 5

Middle Adulthood (30-60 years)

1. Maintaining economic standard of living
2. Performing civic and social responsibilities
3. Relating to spouse as a person
4. Adjusting to physiological changes

Stage 6

Later Maturity (60>)

1. Adjusting to deteriorating health and physical strength
2. Adjusting to retirement
3. Meeting social and civil obligations
4. Adjusting to death or loss of spouse

Application of this theory

- The assertions and principles presented by Havighurst are quite easily understandable and clear.
- The applications of the theory extend to the field of education and have asserted influence over educators and psychologists worldwide. Although the theory has its roots in the 1930s, it continues to stimulate the insights of contemporary psychologists, prompting the publication of new manuscripts and books based on the concepts of the developmental task theory.
- Over the years, the reception and interpretation of Havighurst's theory of developmental tasks have evolved with the increase of new findings. Nevertheless, this theory has remained strong in its proof that development is continuous throughout the entire lifespan.

Erikson: Neo-Freudian Psychoanalytic Theory

Erikson's Stages of Psychosocial Development

Approximate Age	Psycho Social Crisis
Infant - 18 months	Trust vs. Mistrust
18 months - 3 years	Autonomy vs. Shame & Doubt
3 - 5 years	Initiative vs. Guilt
5 -13 years	Industry vs. Inferiority
13 -21 years	Identity vs. Role Confusion
21- 39 years	Intimacy vs. Isolation
40 - 65 years	Generativity vs. Stagnation
65 and older	Ego Integrity vs. Despair

Psychosocial Stages of Personality Development

- 8 successive stages over the lifespan
- **Addresses bio, social, situational, personal influences**
- **Crisis:** must adaptively or maladaptively cope with task in each developmental stage
    - **Respond adaptively:** acquire strengths needed for next developmental stage
    - **Respond maladaptively:** less likely to be able to adapt to later problems
- **Basic strengths:** Motivating characteristics and beliefs that derive from successful resolution of crisis in each stage

Stage 1: Basic Trust vs. Mistrust

- Birth to age 1
- Totally dependent on others
- Caregiver meets needs: child develops trust
- Caregiver does not meet needs: child develops mistrust
- **Basic strength: Hope**
    - Belief our desires will be satisfied
    - Feeling of confidence

Stage 2: Autonomy vs. Shame and Doubt

- **Ages 1-3**
- Child able to exercise some degree of choice
- Child's independence is thwarted: child develops feelings of self-doubt, shame in dealing with others
- **Basic Strength: Will**
    - Determination to exercise freedom of choice in face of society's demands

Stage 3: Initiative vs. Guilt

- **Ages 3-5**
- Child expresses desire to take initiative in activities
- Parents punish child for initiative: child develops feelings of guilt that will affect self-directed activity throughout life
- **Basic strength: Purpose**
    - Courage to envision and pursue goals

Stage 4: Industriousness vs. Inferiority

- **Ages 6-11**
- Child develops cognitive abilities to enable in task completion (school work, play)
- Parents/teachers do not support child's efforts: child develops feelings of inferiority and inadequacy
- **Basic strength: Competence**
    - Exertion of skill and intelligence in pursuing and completing tasks
- **Stages 1-4**
    - Largely determined by others (parents, teachers) – child develops a competent ego
- **Stages 5-8**
    - Individual has more control over environment
    - Individual responsibility for crisis resolution in each stage
    - An individual develops self-realization

Stage 5: Identity vs. Role Confusion

- **Ages 12-18**
- Form ego identity: self-image
- Strong sense of identity: face adulthood with certainty and confidence
- Identity crisis: confusion of ego identity
- **Basic strength: Fidelity - faithfulness**
    - Emerges from cohesive ego identity
    - Sincerity, genuineness, sense of duty in relationships with others

Stage 6: Intimacy vs. Isolation

- **Ages 18-35 (approximately)**
- Undertake productive work and establish intimate relationships
- Inability to establish intimacy leads to social isolation
- **Basic strength: Love**
    - Mutual devotion in a shared identity

Stage 7: Generativity vs. Stagnation

- **Ages 35-55 (approximately)**
- Generativity: Active involvement in teaching/guiding the next generation
- Stagnation involves not seeking outlets for generativity
- **Basic strength: Care**
    - Broad concern for others
    - Need to teach others

Stage 8: Ego Integrity vs. Despair

- **Ages 55+**
- Evaluation of entire life

- Integrity: Look back with satisfaction
- Despair: Review with anger, frustration
- **Basic strength: Wisdom**
    - Detached concern with the whole of life

Contributions of Erikson

- ❖ Personality develops throughout the lifetime
- ❖ Identity crisis in adolescence
- ❖ Impact of social, cultural, personal and situational forces in forming personality

Criticisms of Erikson

- Ambiguous terms and concepts
- Lack of precision
    - Some terms are not easily measured empirically
- Experiences in stage may only apply to males
- Stages are not mutually exclusive, neither do they fit in neatly packaged age intervals
- The order of the stages may not be same for every one e.g., gender difference etc.
- Identity crisis may only apply to those affluent enough to explore identities

Lecture 5
Learning Theories

Learning objectives

After this lecture you will be able to:
1. Operationally define terms relevant to theories of learning.
2. Examine learning theories that are currently important.

What is Learning?

" A persisting *change* in human performance or performance potential . . . (brought) about as a result of the learner's interaction with the environment" (Driscoll, 1994, pp. 8-9).

"The relatively permanent *change* in a person's knowledge or behavior due to experience" (Mayer, 1982, p. 1040).

LEARNING THEORY

Q: How do people learn?

A: Nobody really knows.

But there are 3 main theories:

- ✓ Behaviorism
- ✓ Social Learning Theory
- ✓ Cognitivism

1. Behaviourism

- **Behaviorism**, which originated with the work of the American psychologist John B. Watson. In 1913, Watson published an article also known as **"The Behaviorist Manifesto,"** which argued that psychology should be concerned with the study of human behavior rather than with the study of the human mind; therefore, the name behaviorism.
- According to behaviorism, learning is a relatively enduring change in observable behavior that results from experience.
- According to the behaviorists, changes in people's mental states cannot be observed objectively, behaviorists claimed that the only scientific evidence for learning was the observable changes in behavior. Consequently, they did not consider changes in people's thoughts or beliefs in their definition of learning.
- The focus on behavior and neglecting mental processes directed behaviorists to use animals other than humans in their research. Behaviorists assumed that the learning principles derived from observing changes in animal behaviors would apply to humans, even when humans were not the subjects of their experiments. This method and assumption, however, have been strongly criticized.

Confined to observable and measurable behavior

- Classical Conditioning - Pavlov
- Operant Conditioning - Skinner

● CLASSICAL CONDITIONING

A behaviorist learning theory in which individuals learn by association, pairing automatic responses to new stimuli.

A simultaneous presentation of TWO events

- A stimulus is presented
- in order to get a response

BEHAVIORISM

- **Classical Conditioning** – Pavlo
- **Operant Conditioning** - Skinner
  The study of how animals learn to operate on their environment.

Operant Conditioning

Operant Conditioning is a type of learning in which a behavior is strengthened (meaning, it will occur more frequently) when it's followed by reinforcement, and weakened (will happen less frequently) when followed by punishment.

Operant conditioning is based on a simple idea - that behavior is influenced by the consequences that follow. When you are reinforced for doing something, you're more likely to do it again. When you are punished for doing something, you are less likely to do it again.

Behaviorism in the Classroom

- Rewards and punishments
- Responsibility for student learning rests squarely with the teacher
- Lecture-based, highly structured

Critiques of Behaviorism

- Does not account for processes taking place in the mind that cannot be observed
- Advocates for passive student learning in a teacher-centric environment
- One size fits all
- Knowledge itself is given and absolute
- Programmed instruction & teacher-proofing\

SOCIAL LEARNING THEORY

Social Learning Theory:

Bandura's Social Learning Theory postulates that people learn from one another, via observation, imitation, and modeling; people learn through observing others' behavior, attitudes, and outcomes of those behaviors. (Grusec, 1992) .

Origin of Learning Theory

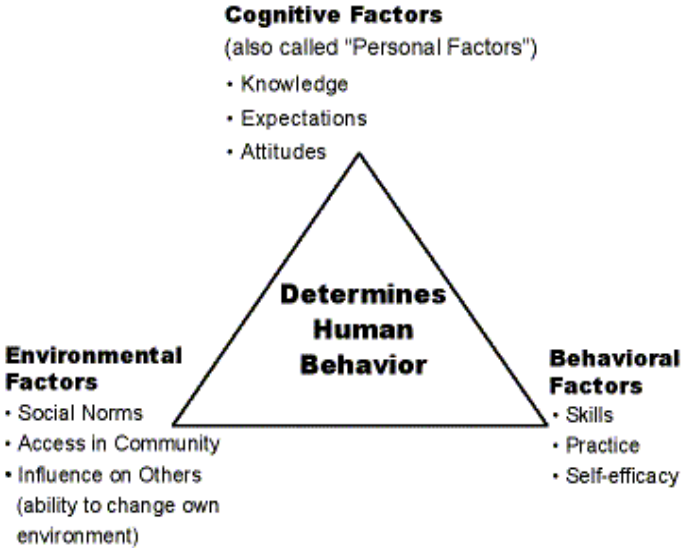
- In collaboration with his first doctoral student Richard Walters, Bandura conducted research into the role of modeling and observational learning in child behavior.
- In 1963, they published Social Learning and Personality Development, in which they stated that an individual could model behavior by just observing the behavior of another.
- Bandura later developed a comprehensive social cognitive theory of human functioning. In this theory, self-regulatory and self-reflective processes enable the individual to adapt to various situations. This interest in self-efficacy is a central aspect to his theoretical position.
- This work led to his publication of Social Foundations of Thought and Action: A Social Cognitive Theory in 1986 and Self-Efficacy: The Exercise of Control in 1997

Social Learning Theory

- "Most human behavior is learned observationally through modeling: from observing others, one forms an idea of how new behaviors are performed, and on later occasions this coded information serves as a guide for action." (Bandura).
- Social learning theory explains human behavior in terms of continuous reciprocal interaction between cognitive, behavioral, and environmental influences. (Grusec, 1992)
- Bandura believed in "**reciprocal determinism"**

- The world and a person's behavior cause each other
- One's environment causes one's behavior
- Behavior causes environment (Ormrod, 1999)

According to Bandura, personality is shaped by an interaction among cognitive factors, behaviors and environmental factors. This interaction is termed **reciprocal determinism**.



➢ Cognitive factors

Our ***dispositional* factors:** beliefs, expectations, values, intentions, social roles, emotional makeup and biological and genetic influences

➢ Behavioural factors

Our skills, practice and self efficacy

- **Self efficacy:** Similar to confidence. The belief that one is capable of performing a certain behaviour to attain a certain goal

➢ Environmental factors

- Our social, political and cultural influences and personal learning experiences

Explanation of learning

Learning comes from observing other's behaviour and observing the consequences of the behaviour

1. **Attention.** The learner must attend the behaviour
2. **Retention.** The learner must remember the behaviour
3. **Motor reproduction.** The learner must be able to act what she has seen
4. **Motivation.** The learner must feel motivated to demonstrate what he/she has learned

Factors that may influence learning

- **Consistency.** The model (*the person the learner is imitating*) behaves in a way that is consistent across situations
- **Identification:** The learner can identify with the model
- **Rewards/punishment.** We can learn from the consequences of the models' behaviour. (*vicarious learning*)
- **Liking:** The more we like the model, the more likely we are to imitate his or her behaviour

Example:
Social Learning Theory

- The most common (and pervasive) examples of social learning situations are television commercials.
- Commercials suggest that drinking a certain beverage or using a particular hair shampoo will make us popular and win the admiration of attractive people.
- Depending upon the component processes involved (such as attention or motivation), we may model the behavior shown in the commercial and buy the product being advertised. (Social Learning Theory: Bandura, 2010)

Evaluation of theory – strengths

- Empirical support (*e.g. studies, mirror neuron research, animal observations of social learning*)
- Application (*education, therapy*)
- To understand learning, aggression, depression, to predict behaviour
- Interactionistic – emphasizes dispositional (a person's inherent qualities of mind and character.), situational and sociocultural factors

Evaluation of theory – limitations

- Empirical challenges (e.g.Kimball and Zabrack 1986)
- Methodological problems of studies
- Not all behaviour is learned through social learning. There are other types of learning (*operant conditioning, classical conditioning, direct instruction*) There is a hereditary factor for many behaviours

Social learning activity

- Teach a partner a simple skill that you know how to do
- Your partner must be unable to do the skill
- You must be able to teach the skill within a short time span (5-10 minutes) and without harming anyone
- At the end of the activity your partner should be able to perform the skill. It is voluntary if he/she wants to show it to the rest of the class

Examples of skills that you can teach

- A simple nursery rhyme
- Recitation of Holy Quran
- Poem
- Some vocabulary from another language
- Namaz
- Computer game or program
- A simple motor movement

SLT in the Classroom

- Collaborative learning and group work
- Modeling responses and expectations
- Opportunities to observe experts in action

Critiques of Social Learning Theory

- Does not take into account individuality, context, and experience as mediating factors
- Suggests students learn best as passive receivers of sensory stimuli, as opposed to being active learners

- Emotions and motivation not considered important or connected to learning

LECTURE 5 (PART 2)

PIAGET'S THEORY OF COGNITIVE DEVELOPMENT

The 4 Stages of Cognitive Development

- Jean Piaget's theory of cognitive development suggests that children move through four different stages of mental development. His theory focuses not only on understanding how children acquire knowledge, but also on understanding the nature of intelligence.
- Piaget believed that children took at active role in the learning process, acting much like little scientists as they perform experiments, make observations, and learn about the world.
- As kids interact with the world around them, they continually add new knowledge, build upon existing knowledge, and adapt previously held ideas to accommodate new information.

HOW DID PIAGET DEVELOP HIS THEORY?

- Piaget was born in Switzerland in the late 1800s and was a precocious student, publishing his first scientific paper when he was just 11 years old. His early exposure to the intellectual development of children came when he worked as an assistant to Albert Binet and Theodore Simon as they worked to standardize their famous IQ test.
- Much of Piaget's interest in the cognitive development of children was inspired by his observations of his own nephew and daughter. These observations reinforced his budding hypothesis that children's minds were not merely smaller versions of adult minds**.**
- Instead, he proposed, intelligence is something that grows and develops through a series of stages. Older children do not just think more quickly than younger children, he suggested.
- Instead, there are both qualitative and quantitative differences between the thinking of young children versus older children.
- Based on his observations, he concluded that children were not less intelligent than adults, they simply think differently. Albert Einstein called Piaget's discovery "so simple only a genius could have thought of it.“
- Piaget's stage theory describes the cognitive development of children. Cognitive development involves changes in cognitive process and abilities. In Piaget's view, early cognitive development involves processes based upon actions and later progresses to changes in mental operations.

The Sensorimotor Stage
Ages: Birth to 2 Years

Major Characteristics and Developmental Changes:

- The infant knows the world through their movements and sensations.
- Children learn about the world through basic actions such as sucking, grasping, looking, and listening.
- Infants learn that things continue to exist even though they cannot be seen (object permanence).
- They are separate beings from the people and objects around them.
- They realize that their actions can cause things to happen in the world around them.
- During this earliest stage of cognitive development, infants and toddlers acquire knowledge through sensory experiences and manipulating objects. Children go through a period of dramatic growth and learning. As kids interact with their environment, they are continually making new discoveries about how the world works.
- The cognitive development that occurs during this period takes place over a relatively short period of time and involves a great deal of growth. Children not only learn how to perform physical actions such as crawling and walking, they also learn a great deal about language from the people with whom they interact. Piaget also broke this stage down into a number of different sub-stages. It is during the final part of the sensorimotor stage that early representational thought emerges.
- Piaget believed that developing object permanence or object constancy, the understanding that objects continue to exist even when they cannot be seen, was an important element at this point of development.
- By learning that objects are separate and distinct entities and that they have an existence of their own outside of individual perception, children are then able to begin to attach names and words to objects.

The Preoperational Stage
Ages: 2 to 7 Years

Major Characteristics and Developmental Changes:

- Children begin to think symbolically and learn to use words and pictures to represent objects.
- Children at this stage tend to be egocentric and struggle to see things from the perspective of others.
- While they are getting better with language and thinking, they still tend to think about things in very concrete terms.
- The foundations of language development may have been laid during the previous stage, but it is the emergence of language that is one of the major hallmarks of the

preoperational stage of development. Children become much more skilled at pretend play during this stage of development, yet still think very concretely about the world around them.

- At this stage, kids learn through pretend play but still struggle with logic and taking the point of view of other people. They also often struggle with understanding the idea of constancy.
- **For example,** a researcher might take a lump of clay, divide it into two equal pieces, and then give a child the choice between two pieces of clay to play with. One piece of clay is rolled into a compact ball while the other is smashed into a flat pancake shape. Since the flat shape *looks* larger, the preoperational child will likely choose that piece even though the two pieces are exactly the same size.

The Concrete Operational Stage
Ages: 7 to 11 Years

Major Characteristics and Developmental Changes

- During this stage, children begin to thinking logically about concrete events.
- They begin to understand the concept of conservation; that the amount of liquid in a short, wide cup is equal to that in a tall, skinny glass, for example.
- Their thinking becomes more logical and organized, but still very concrete.
- Children begin using inductive logic, or reasoning from specific information to a general principle.
- While children are still very concrete and literal in their thinking at this point in development, they become much more adept and using logic. The egocentrism of the previous stage begins to disappear as kids become better at thinking about how other people might view a situation.
- While thinking becomes much more logical during the concrete operational state, it can also be very rigid. Kids at this point in development tend to struggle with abstract and hypothetical concepts.
- During this stage, children also become less egocentric and begin to think about how other people might think and feel. Kids in the concrete operational stage also begin to understand that their thoughts are unique to them and that not everyone else necessarily shares their thoughts, feelings, and opinions.

The Formal Operational Stage
Ages: 12 and Up

Major Characteristics and Developmental Changes:

- At this stage, the adolescent or young adult begins to think abstractly and reason about hypothetical problems.
- Abstract thought emerges.

- Teens begin to think more about moral, philosophical, ethical, social, and political issues that require theoretical and abstract reasoning.
- Begin to use deductive logic, or reasoning from a general principle to specific information.
- The final stage of Piaget's theory involves an increase in logic, the ability to use deductive reasoning, and an understanding of abstract ideas. At this point, people become capable of seeing multiple potential solutions to problems and think more scientifically about the world around them.
- The ability to thinking about abstract ideas and situations is the key hallmark of the formal operational stage of cognitive development. The ability to systematically plan for the future and reason about hypothetical situations are also critical abilities that emerge during this stage.
- It is important to note that Piaget did not view children's intellectual development as a quantitative process; that is, kids do not just add more information and knowledge to their existing knowledge as they get older. Instead, Piaget suggested that there is a *qualitative* change in how children think as they gradually process through these four stages. A child at age 7 doesn't just have more information about the world than he did at age 2; there is a fundamental change in *how* he thinks about the world.

IMPORTANT CONCEPTS IN COGNITIVE DEVELOPMENT

❖ SCHEMAS

A schema describes both the mental and physical actions involved in understanding and knowing. Schemas are categories of knowledge that help us to interpret and understand the world.

In Piaget's view, a schema includes both a category of knowledge and the process of obtaining that knowledge. As experiences happen, this new information is used to modify, add to, or change previously existing schemas.

For example, a child may have a schema about a type of animal, such as a dog. If the child's sole experience has been with small dogs, a child might believe that all dogs are small, furry, and have four legs. Suppose then that the child encounters an enormous dog. The child will take in this new information, modifying the previously existing schema to include these new observations.

ASSIMILATION

The process of taking in new information into our already existing schemas is known as assimilation. The process is somewhat subjective because we tend to modify experiences and information slightly to fit in with our preexisting beliefs. In the example above, seeing a dog and labeling it "dog" is a case of assimilating the animal into the child's dog schema.

ACCOMMODATION

Another part of adaptation involves changing or altering our existing schemas in light of new information, a process known as accommodation. Accommodation involves modifying existing schemas, or ideas, as a result of new information or new experiences. New schemas may also be developed during this process.

EQUILIBRATION

Piaget believed that all children try to strike a balance between assimilation and accommodation, which is achieved through a mechanism Piaget called equilibration. As children progress through the stages of cognitive development, it is important to maintain a balance between applying previous knowledge (assimilation) and changing behavior to account for new knowledge (accommodation). Equilibration helps explain how children can move from one stage of thought into the next.

A Word From Very well

- One of the most important elements to remember of Piaget's theory is that it takes the view that creating knowledge and intelligence is an inherently *active* process.
- "I find myself opposed to the view of knowledge as a passive copy of reality," Piaget explained. "I believe that knowing an object means acting upon it, constructing systems of transformations that can be carried out on or with this object. Knowing reality means constructing systems of transformations that correspond, more or less adequately, to reality."
- Piaget's theory of cognitive development helped add to our understanding of children's intellectual growth. It also stressed that children were not merely passive recipients of knowledge. Instead, kids are constantly investigating and experimenting as they build their understanding of how the world works.

REFERENCES

- Fancher, RE & Rutherford, A. Pioneers of Psychology: A History. New York: W.W. Norton; 2012.
- Santrock, JW. A Topical Approach to Lifespan Development (8th ed.). New York: McGraw-Hill; 2016.
- Piaget, J. The Essential Piaget. Gruber, HE; Voneche, JJ. eds. New York: Basic Books; 1977.
- https://www.verywell.com/support-and-criticism-of-piagets-stage-theory-2795460

Lecture 6
Sociocultural View of Development and Humanistic Approach

Constructivism

- Is an approach to teaching and learning based on the idea that cognition is the result of "mental construction". In other words, students learn by fitting new information together with what they already know.
- Constructivists believe that learning is affected by the context in which an idea is taught as well as by students' beliefs and attitudes.
- The learner actively imposes organization and meaning on the surrounding environment and constructs knowledge in the process.
- The teacher's role is not only to observe and assess but to also engage with the students while they are completing activities, wondering aloud and posing questions to the students for promotion of reasoning.

Lev Semonovich Vygotsky Background

Vygotsky was called **"The Mozart of Psychology".** He was born in 1896- same year as Piaget - in the small Russian town of Orsha. Belong to Middle-class Jewish family.He entered into a private all boys secondary school known as a **gymnasium**—a secondary school that prepared students for the university. In **1913** entered Moscow University through lottery. In December of **1917**, he graduated from Moscow University with a degree in **law**.

Lev Semonovich Vygotsky Background

Vygotsky completed 270 scientific articles, numerous lectures, and ten books based on a wide range of Marxist-based psychological and teaching theories. He died on June 10, 1934, at the young age of thirty-seven after long battle with TB. Vygotsky's work did not become known in the West until 1958, and was not published there until 1962.

INTRODUCTION

The sociocultural theory:

- Did NOT focus on the individual child but on the child as a product of social interaction, especially with adults (parents, teachers).
- Focus on DYADIC INTERACTIONS (e.g., child being taught by a parent how to perform some culturally specific action), rather than child by himself.
- Social world facilitates children's cognitive development. Cognitive development occurs as child's thinking is molded by society in the form of parents, teachers, and peers. This leads to peer tutoring as a strategy in classrooms.
- People's thinking differs dramatically between cultures because different cultures stress different things.

Theory's Principles and Concepts

- **Children construct their knowledge.**

Knowledge is not transferred passively, but is personally constructed.

- **The learning is mediated.**

Cognitive development is not a direct result of activity, but it is indirect; other people must interact with the learner, use mediatory tools to facilitate the learning process, and then cognitive development may occur.

- **Language plays a central role in mental development.**

The most significant sociocultural tool is language, as it is used to teach tool use and is vital in the process of developing higher psychological functions.

- **Learning appears twice.**

First on the social level, and later, on the individual level; first *between* people (*interpsychology*), and then *inside* the child (*intrapsychology*).

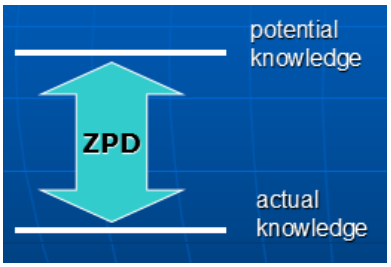
- **Development cannot be separated from its social context.**

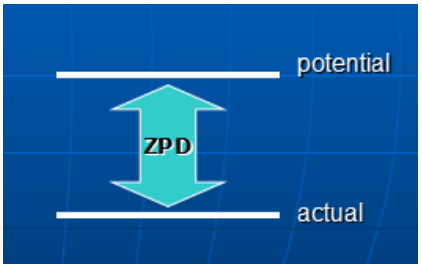
The context needed for learning is that where the learners can interact with each other and use the new tools. This means that the learning environment must be authentic, that is, it must contain the type of people who would use these types of tools such as concepts, language, symbols in a natural way.

- **Zone of Proximal Development (ZPD).**

The difference between what a child can do independently and what the child needs help from a more knowledgeable person to do.

Distance Between Actual and Potential Knowledge





Two children with the same actual knowledge travel different distances to their potential knowledge; therefore different ZPDs.

This is an example of how ZPD can work in the life of a child

Like all children, Mo'men is constantly learning and exploring the world around him.

- **Scaffolding**

" role of teachers and others in supporting the learner's development and providing support structures to get to the next stage or level" Vygotsky.

a knowledgeable participant can create by means of speech and supportive conditions in which the student (novice) can participate in and extend current skills and knowledge to a high level of competence.

In an educational context, however, scaffolding is an instructional structure whereby the teacher models the desired learning strategy or task then gradually shifts responsibility to the students.

- Provides support

- Extends the range of what a learner can do.
- Allows the learner to accomplish tasks otherwise impossible
- Used only when needed

Example:

An example of scaffolding in the classroom setting could include a teacher first instructing her children on how to write a sentence using commas and conjunctions. As the week goes on, she has her students practice writing these sentences with peers, gives students feedback and eventually has the kids to complete this skill without her guidance.

Vygotsky and Piaget

Both agree children are active learners who actively construct knowledge

Piaget

- Thinking develops in recognisable stages which depend on natural maturation
- Role of teacher important but use of "more-expert other" not central
- Readiness is a central concept in education – children need to be ready to progress in their learning

Vygotsky

- Development of thinking is dependent upon language and culture
- Use of "more-expert other" seen as fundamental part of cognitive development
- Children should be actively encouraged to move through ZPD – do not need to be ready but should be given opportunity to engage in problems which are beyond current level of ability but within ZPD

Implementation

- A clear application of sociocultural theory principles in second language classroom is obvious in the task-based approach. This approach emphasises the importance of social and collaborative aspects of learning. sociocultural theory focuses on how the learner accomplishes a task and how the interaction between learners can scaffold and assist in the second language acquisition process (Turuk, 2008).
- Recent technologic advances have affected the application of constructivist theory in practice. Innovative interactive computer software programs allow students to synthesize the course material through active learning. Despite some minor disadvantages, this use of technology allows interaction with others that would normally be inaccessible through distance-education and Web-based courses.

Conclusion

- Sociocultural theory considers learning as a semiotic process where participation in socially-mediated activities is essential.
- The theory regards instruction as crucial to cognitive development in the classroom. Instruction should be geared to the ZPD that is beyond the learner's actual development level.
- Social instruction actually produces new, elaborate, advanced psychological processes that are unavailable to the organism working in isolation

References

- Constructivism (learning theory). Retrieved on 28/08/2010 http://en.wikipedia.org/wiki/Constructivism_(learning_theory)

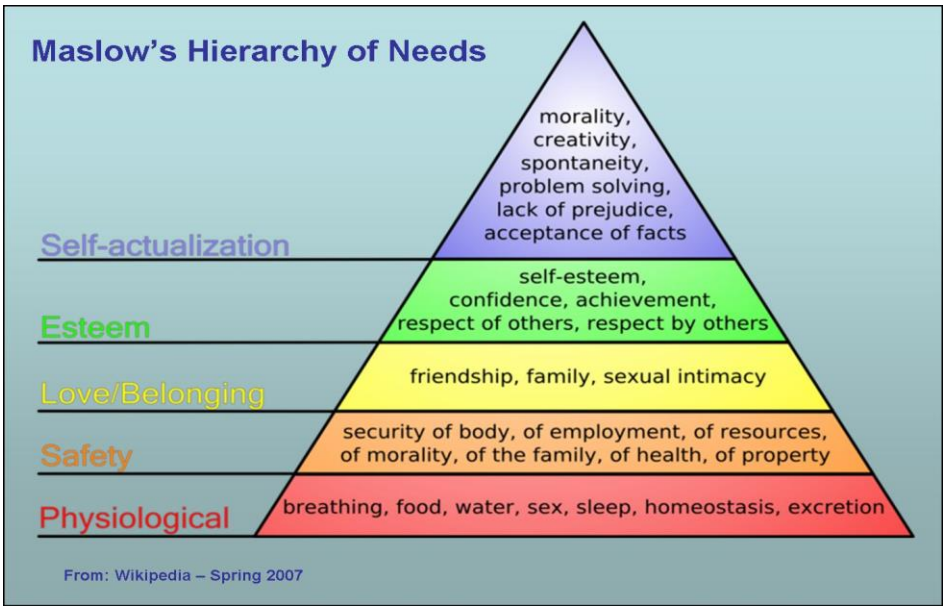
- Hall. A. (2007).Learning and Socio-cultural Theory:Exploring Modern Vygotskian Perspectives International Workshop, Vol 1,1.
- Kincheloe, J. L. and R. A. H. Jr. (2007). *The Praeger handbook of education and psychology*. Westport, An imprint of Greenwood Publishing Group, Inc.
- Peer, K. & McClendon, R. (2002). Sociocultural Learning Theory in Practice: Implications for Athletic Training Educators, *JAthl Train*. 37(4 suppl): S-136–S-140. Retrieved on 27/08/2010 from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC164414/.
- Reiser, R., & Dempsey, J. (2002). *Trends and Issues in Instructional Design and Technology*. Upper saddle River, New Jersey, Pearson Education.
- Turuk, M. (2008). The Relevance and Implications of Vygotsky's Sociocultural Theory in the Second Language Classroom . *ARECLS*, Vol. 5, p244-262.
- Wang, L. (2006). Sociocultural Learning Theories and Information Literacy Teaching Activities in Higher Education, Reference & User Services Quarterly, vol. 47, no. 2, pp. 149–158.

HUMANISTIC APPROACH

Maslow's Hierarchy of Needs

Maslow's hierarchy of needs is a theory in psychology proposed by Abraham Maslow in his 1943 paper "A Theory of Human Motivation" in Psychological Review. Maslow subsequently extended the idea to include his observations of humans' innate curiosity. His theories parallel many other theories of human developmental psychology, some of which focus on describing the stages of growth in humans. Maslow used the terms "physiological", "safety", "belongingness" and "love", "esteem", "self-actualization", to describe the pattern that human motivations generally move through.

Hierarchy of Needs



1. Physiological Needs

- Notice that the physiological needs are the foundation of the pyramid. Why do you suppose these needs occupy this position?

- Maslow suggested that the first and most basic need people have is the **need for survival**: their physiological requirements for food, water, and shelter. People must have food to eat, water to drink, and a place to call home before they can think about anything else. If any of these physiological necessities is missing, people are motivated above all else to meet the missing need. Have you ever had a hard time paying attention to what the professor is saying when you are hungry? Some of your future students may not have had breakfast—or even dinner the night before. Free and reduced breakfast and lunch programs have been implemented in schools to help students meet some of their physiological needs.

2. Safety and Security Needs

- After their physiological needs have been satisfied, people can work to meet their needs for safety and security. (But the physiological needs must be met first.)
- Safety is the feeling people get when they know no harm will befall them, physically, mentally, or emotionally; security is the feeling people get when their fears and anxieties are low.
- How does this relate to students in school? What threats to their physical, mental, or emotional security might students perceive in school?

3. Love and Belongingness Needs

- After the physiological needs and the needs for survival and for safety and security have been met, an individual can be motivated to meet the needs represented at higher levels of the pyramid. The third level of the pyramid are needs associated with love and belonging. These needs are met through satisfactory relationships— relationships with family members, friends, peers, classmates, teachers, and other people with whom individuals interact. Satisfactory relationships imply acceptance by others. Having satisfied their physiological and security needs, people can venture out and seek relationships from which their need for love and belonging can be met.
- *Think about students of the age that you desire to teach. What do they need from their teacher and the people with whom they establish relationships that will assure them they are accepted?*

4. Esteem Needs

- All humans have a need to feel respected; this includes the need to have self-esteem and self-respect. Esteem presents the typical human desire to be accepted and valued by others. People often engage in a profession or hobby to gain recognition. These activities give the person a sense of contribution or value. Low self-esteem or an inferiority complex may result from imbalances during this level in the hierarchy. People with low self-esteem often need respect from others; they may feel the need to seek fame or glory. However, fame or glory will not help the person to build their self-esteem until they accept who they are internally. Psychological imbalances such as depression can hinder the person from obtaining a higher level of self-esteem or self-respect.
- Most people have a need for stable self-respect and self-esteem. Maslow noted two versions of esteem needs: a "lower" version and a "higher" version. The "lower" version of esteem is the need for respect from others. This may include a need for status, recognition, fame, prestige, and attention. The "higher" version manifests itself as the need for self-respect.

  For example, the person may have a need for strength, competence, mastery, self-confidence, independence, and freedom. This "higher" version takes precedence over the

"lower" version because it relies on an inner competence established through experience. Deprivation of these needs may lead to an inferiority complex, weakness, and helplessness.

- Maslow states that while he originally thought the needs of humans had strict guidelines, the "hierarchies are interrelated rather than sharply separated".
- This means that esteem and the subsequent levels are not strictly separated; instead, the levels are closely related.

5. Self-actualization

- "What a man can be, he must be."[3]:91 This quotation forms the basis of the perceived need for self-actualization. This level of need refers to what a person's full potential is and the realization of that potential. Maslow describes this level as the desire to accomplish everything that one can, to become the most that one can be.[3]:92 Individuals may perceive or focus on this need very specifically.
  For example, one individual may have the strong desire to become an ideal parent. In another, the desire may be expressed athletically. For others, it may be expressed in paintings, pictures, or inventions.[3]:93 As previously mentioned, Maslow believed that to understand this level of need, the person must not only achieve the previous needs, but master them.

Applications

- Rogers applied his ideas into a system of therapy that emphasizes the creation of the right conditions to allow the client to accept him/herself, and to achieve personal growth. Extending to the client “unconditional positive regard” facilitates this goal.
- Maslow’s hierarchy of needs has been applied into understanding job satisfaction and vocational choices.

Current Status

- Though the Humanistic Approach was quite popular when it first came out, and though it introduced therapeutic strategies that are still applied today, its popularity had waned.
- The positive tone of the approach, that is seen as the forerunner of Positive Psychology, is certainly a plus.

Limitations of the Humanistic Approach

- Many of the concepts do not lend themselves for operational definitions and for scientific study.
- A great deal of the studies conducted by Maslow and Rogers to support their ideas were based on their own subjective impressions and intuition.
- The concept of free will has been challenged.
- Some researchers questioned the effectiveness of the Rogerian therapy (how do you measure success in therapy?). It may be more appropriate for people in “life transitions” than for deep-seated psychological disorders
- The appropriateness of relying on the client to make accurate appraisals of themselves has been questioned.
- The naïve assumptions about the goodness of individuals.

Lecture 7
Theories of Human Development

Learning Outcomes

- After this lecture students will be able to:
- Understand the theory of Kohlberg
- Differentiate between Kohlberg and Gilligan's theory
- Explore key concepts of these moral development theories

Moral Development

Moral development is the gradual development of an individuals concept of right or wrong – conscious, religious values, social attitudes and certain behaviour.

Kohlberg's Theory

- This theory is a stage theory. In other words, everyone goes through the stages sequentially without skipping any stage.
- However, movement through these stages are not natural, that is people do not automatically move from one stage to the next as they mature. In stage development, movement occurs when a person notices inadequacies in his or her present way of coping with a given moral dilemma.
- According to stage theory, people cannot understand moral reasoning more than one stage ahead of their own. For example, a person in Stage 1 can understand Stage 2 reasoning but nothing beyond that.

Kohlberg's Six Stages

Pre-Conventional Moral Development

- Stage 1
- Stage 2

Conventional Moral Development

- Stage 3
- Stage 4

Post-Conventional Moral Development

- Stage 5
- Stage 6

Level 1: Preconventional Morality 0-9 years

Stage 1 - Obedience and Punishment

Especially common in young children, but adults are capable of expressing this type of reasoning. At this stage, children see rules as fixed and absolute.

- Obeys rules in order to avoid punishment
- Determines a sense of right and wrong by what is punished and what is not punished
- Obeys superior authority and allows that authority to make the rules, especially if that authority has the power to inflict pain
- Is responsive to rules that will affect his/her physical well-being

Stage 2 – Naively egotistical

At this stage of moral development, children account for individual points of view and judge actions based on how they serve individual needs. Reciprocity is possible, but only *if it serves one's own interests*.

- Is motivated by vengeance or "an eye for an eye" philosophy
- Is self-absorbed while assuming that he/she is generous
- Believes in equal sharing in that everyone gets the same, regardless of need
- Believes that the end justifies the means
- Will do a favor only to get a favor
- Expects to be rewarded for every non-selfish deed he/she does

Stage 3 - "good boy-good girl" orientation,

This stage of moral development is focused on living up to social expectations and roles. There is an emphasis on conformity, being "nice," and consideration of how choices influence relationships.

- Finds peer approval very important
- Feels that intensions are as important as deeds and expects others to accept intentions or promises in place of deeds
- Begins to put himself/herself in another's shoes and think from another perspective

Stage 4 – Law and Social Order

At this stage of moral development, people begin to consider society as a whole when making judgments. The focus is on maintaining law and order by following the rules, doing one's duty, and respecting authority.

- Is a duty doer who believes in rigid rules that should not be changed

- Respects authority and obeys it without question
- Supports the rights of the majority without concern for those in the minority
- Is part of about 80% of the population that does not progress past stage 4

Stage 5 - Legalistic Social Contract

At this stage, people begin to account for the differing values, opinions, and beliefs of other people. Rules of law are important for maintaining a society, but members of the society should agree upon these standards.

- Is motivated by the belief in the greatest amount of good for the greatest number of people
- Believes in consensus (everyone agrees), rather than in majority rule
- Respects the rights of the minority especially the rights of the individual
- Believes that change in the law is possible but only through the system

Stage 6 – Universal ethical Principles

Kolhberg's final level of moral reasoning is based upon universal ethical principles and abstract reasoning. At this stage, people follow these internalized principles of justice, even if they conflict with laws and rules.

- Believes that there are high moral principles than those represented by social rules and customs
- Is willing to accept the consequences for disobedience of the social rule he/she has rejected
- Believes that the dignity of humanity is sacred and that all humans have value

ACTIVITY

MORAL DILEMMA

- A woman was near death from a special kind of cancer. There was one drug that the doctors thought might save her. It was a form of radium that a druggist in the same town had recently discovered. The drug was expensive to make, but the druggist was charging ten times what the drug cost him to produce. He paid $200 for the radium and charged $2,000 for a small dose of the drug. The sick woman's husband, Heinz, went to everyone he knew to borrow the money, but he could only get together about $1,000 which is half of what it cost. He told the druggist that his wife was dying and asked him to sell it cheaper or let him pay later. But the druggist said: "No, I discovered the drug and I'm going to make money from it." So Heinz got desperate and broke into the man's store to steal the drug for his wife.

QUESTIONS

- Was Heinz right to steal the drug?
- Is it the husband's duty to steal the drug for his wife?
- Did the druggist have the right to charge as much for the drug? Why or why not?

Gilligan's Theory of Moral Development

PIONEER OF GENDER STUDIES

- Born in 1936
- Student of Lawrence Kohlberg
- Worked with Erik Erikson
- Did research with Lawrence Kohlberg
- Criticized Kohlberg's Theory of Moral Development
- Famous for her work in psychological and moral development of girls
- Taught at Harvard for 30 years; was first professor of gender studies there

Gilligan's View of Kohlberg

- *Justice orientation/perspective*

  "draws attention to problems of inequality and oppression and holds up an ideal of reciprocity and equal respect."

- *Care orientation/perspective*

"draws attention to problems of detachment or abandonment and holds up an ideal of attention and response to need."

- Gilligan states that "Two moral injunctions – not to treat others unfairly and not to turn away from someone in need – capture these different concerns."

MORALITY AND GENDER

- Male approach is that individuals have basic rights and one must respect the rights of others
- Female approach is that people have responsibilities towards others
- Morality imposes restrictions on what once can do
- Morality is an imperative to care for others
- Justice orientation
- Responsibility orientation

STAGES OF MORAL DEVELOPMENT

1. Selfish Stage
2. Belief in Conventional Morality
3. Post-Conventional Stage

MORE ABOUT STAGES

- Young girls start out with a selfish orientation; then learn to care for others
- Women learn that it is wrong to act in their own interests; others' interests are more important
- Learn that it is just as wrong to ignore their own interests as it is to ignore others' interests; learn this through connecting with others

Moral Development in Girls

Carol Gilligan's theory of moral development

- Carol Gilligan suggests that the way boys and girls are raised in our own society leads to differences in moral reasoning.
- Kohlberg's theory is inadequate and places girls' moral reasoning at a lower level than boys'.
- Boys view morality primarily in terms of justice and fairness.
- Girls see morality in terms of responsibility and compassion toward individuals and a willingness to sacrifice for relationships.

→ Gilligan sees morality in girls developing in 3 stages.

- ***Orientation toward individual survival*** **-** where females concentrate on what is practical and best for them.

- ***Goodness as self-sacrifice*** **-** where females think they must sacrifice their own wishes to what others want.
- ***Morality of nonviolence*** **-** women come to see hurting anyone as immoral, including themselves.

~The highest levels of morality are represented by compassionate concern for the welfare of others

CRITICISMS OF GILLIGAN'S THEORY

- Theory is based on moral decisions in an actual real life situation. Findings may not apply in ALL situations.
- Data was collected on women ONLY.
- Gilligan also never published her data in peer-reviewed journals.

MORALITY AS THE ADOPTION OF SOCIAL NORM

- lt as a matter of internalization: adopting societal standards for right action as one's own. In other words, focus is on how morality moves from society to individual-how children acquire norms, or prescriptions for good conduct, widely held by members of their social group.
- Our examination of these theories will reveal that several factors jointly affect the child's willingness to adopt societal standards:
- Parental style of discipline, which varies with the type of misdeed o 'The child's characteristics, including age and temperament
- The parent's characteristics
- The child's view of both the misdeed and the reasonableness of parental demands
- As this-list indicates, internalization results from a combination of influences within the child and the rearing environment. When the process goes well, external forces foster the child's positive inclinations and counteract the child's negative inclinations (Turiel, 1998).

LECTURE 8
DEVELOPMENTAL CHARACTERISTICS

Objectives

After this lecture students will be able to:

1. Understand the characteristics of every age level
2. Teach students according to the requirements of all ages

Stages of Development (According to School Level)

- Preschool and kindergarten (3-6 years)
- Primary grades: 1,2, and 3 (6-9 years)
- Elementary grades: 4, 5 and 6 (9-12 years)
- Junior high school: 7,8, and 9 (12-14 years)
- Senior high school: 10,11 and 12 (15-18 years)

Preschool & Kindergarten (3-6 years)

Children have the first exposure with school routine whereby they interact with more than a few peers. They get opportunities to prepare for initial academic experiences in group settings. It is important for them to learn to follow directions and get along with others.

1. Physical characteristics

1. Preschool children are very active. They have good control of their bodies and enjoy activity for its own sake. Teachers should provide them many opportunities to run, climb and jump but keep them under control. Instead of allowing these children complete freedom in choice of activities, some specific games and activities could be used to achieve semi controlled play.
2. As they are inclined toward a lot of activity, they need frequent rest periods after physical exertion. These children do not know to slow down. They may literally run till they drop. Strenuous activities should be followed by quiet activities. Use some signals to stop them and shift to another activity.
3. Large muscles of preschoolers are more developed than their small muscles. Their gross motor skills involving large muscles improve greatly from ages 2 to 5. As a result, their balance improves and their center of gravity moves lower. So they are able to run, jump, paper climb* and hop. Their fine motor skills involving control of small muscles greatly improves but they can't control fingers and hands as effectively as control of arms and legs. Teachers should avoid too many detailed and specific activities like pasting paper chains. King-size brushes, scissors, drawing materials and pencils be provided that are appropriate to their level of muscular development.
4. These children can't focus their eyes on small objects. Therefore, they may have imperfect eye-hand coordination. Teachers should demand looking at small things less.

The words should be written in bold, big letters for them to read. Textbooks should also contain big characters.

5. Bodies of preschoolers are flexible and elastic but bones protecting their brain are still soft. Therefore blows to heads in games or fights between children must be avoided. Warn the class of some dangerous activity. Intervene immediately when some fight occurs and explain to the children the dangers involved.
6. Although boys are bigger than girls during this stage, girls are practically ahead of boys in all areas of development especially in fine, motor sills. Therefore, teachers should not be surprised if boys are poorer than girls in handling small objects. Competitions or comparisons between boys and girls involving these finer skills may be avoided.
7. During this stage, children begin to show their preference for right or left hand. About 85 to 90% children prefer the use of their right hand. Others are left-handed who should not be forced to change while writing. Trying to persuade left-handed children for switch-over in writing, may make their feel guilty, nervous and upset.

2. Social characteristics

1. Most children have one or two best friends but their friendships may change rapidly. They are socially flexible and are usually willing to play with most of their class fellows. Favourite friends are generally of the same gender. In some cases, a child may prefer to be an observer rather than a participant. But when a child appears to join others but lacks initiative, he may be paired on some activity with the child of his choice.

2. Younger children may play besides others but older children play with others. A few stages in their play activities have been observed. Very young children of about 2 years typically indulge in parallel play but not really with others. At a later age, they engage in associative play without formal rules. Finally, most children play cooperatively sharing a common goal by the time they enter kindergarten. This knowledge may help teachers determine whether a child prefers playing alone due to shyness or he lacks skills to join in associative or cooperative play.

3. Quarrels and disputes over shared objects are common in a restricted classroom. Boys are likely to be more aggressive than girls. Teachers should allow children to settle the differences and intervene only when quarrel gets out of hand. They may either suggest another equally attractive activity or impose rules to take turns.

4. Children of this age group enjoy dramatic play. Teachers should encourage desirable forms of dramatic play and decide on their own what restrictions should be imposed in order to discourage aggressive behaviour.

5. Most children become aware of gender roles by time they reach kindergarten age. Boys prefer to play outdoor action .games. Girls prefer doll play and art activities. Gender role differences are often encouraged by parents and peers. If girls really need teacher's assistance, it may be supplied but they should be urged to carry out the task on their own. Girls should be encouraged to become more achievement oriented and boys more sensitive to the needs of others.

3. Emotional Characteristics

1. Preschool children express their emotional outbursts freely, openly and frequently. It may be desirable to allow them express emotions openly within broad limits so that they recognize and face their feelings. Encourage the angry child analyze his behaviour and become aware of its consequences. This awareness may help him accept and control his feelings. Encourage the angry child analyze his behaviour and become aware of its results. This approach, however, may not succeed with all children because during this age, they may not reflect upon their thought and thought of others. Anger outbursts are more likely to occur when children are tired, hungry and exposed to much adult interference. Teachers should try to remove these conditions. By the time children enter elementary school, they should begin learning to control their anger.
2. Jealousy among these children is likely to be common because, they have much affection for the' teacher and seek his approval. Teachers should try to give attention as equally and equitably as possible. They should also avoid giving public praise lavishly that is resented by other students. Praising the child in private may be appropriate. Other techniques to minimize jealously may also be considered.

4. Intellectual Characteristics

1. Language of kindergarten children is quite developed. Therefore, they like to talk, especially in front of a group. They should be provided such opportunities but should also be helped to become good listeners. Some rotation scheme is necessary to afford talking opportunities to all children including less confident and shy children.
2. Preschoolers tend to use their own rules of grammar. Direct and systematic teaching of grammar should be delayed till second or third grade. Instead, modeling should be used to teach grammar. Too much emphasis and criticism on adult forms of grammar may inhibit spontaneous use of language.
3. Competence is encouraged in these children by frequent interaction with them, showing interest in what they say and do, providing opportunities for exploring and experiencing many things, urging them to achieve skills, establishing firm and consistent limits regarding unacceptable forms of behaviour, explaining these as soon as they are able to understand, listening to their complaints and giving additional reasons, admiring their advancements and communicating warmth and affection. Authoritative style of parenting and teaching promotes competence in children; This style, unlike authoritarian, provides a model of competence for children to follow, encourages children to set their own standards and establishes limits that are enforced calmly and fairly. Authoritarian teachers, as good managers, create an environment conducive for learning and development.
4. Preschoolers are egocentric in their thinking who can't understand that other people may hate, different points of view about certain things. They are often deceived by appearances of things and can't use logic to decide, for example, that water contained in two different sized containers has the same amount. Logical mathematical concepts and operations such as addition, subtraction etc must not be taught till the child's

thinking becomes logical in primary classes. Counting through rhymes and songs may, however, be taught at this level.

Primary Grades
1, 2 & 3 (6-9 years)

This age is the age of first experiences with school learning. Children are eager to learn reading and writing who are likely to be upset due to lack of progress in academics. They learn initial attitudes toward schooling. Initial roles in a group setting are formed. These roles may establish a lasting pattern, for instance as a leader, follower, athlete, underachiever etc.

1. Physical Characteristics

1. Primary grade children still remain active. As they are frequently required to participate in activities while sitting at one place; energy is often released in the form of nervous habits such as pencil chewing, fingernail biting etc. Teachers should decide appropriate noise level and activity level in the class. Absolute quietness should not be insisted because working hard to remain quiet shall divert their efforts from their lessons. Certain amount of movement in the class may also be allowed. Moderate degree of control should prevail. Frequent breaks, lessons of short duration and building activity into the lessons can also help in reducing fidgeting.
2. Children in these grades still need rest periods after physical and mental exertion. Therefore, quiet activities after hard activities and relaxing activities after activities involving mental concentration should be scheduled.
3. Large-muscle control is still superior to fine-muscle control—and coordination. Drill periods and writing periods should not be too long in order to avoid development of negative attitude toward these tasks and toward school.
4. Many primary grade children may have difficulty in focussing on small print or objects. Too much reading at one stretch may not be desirable. The blackboard writing should be in large letters.
5. At this age, children are extreme in their physical activities, have excellent control of their bodies and develop considerable confidence in skills and underestimate dangers involved in physical activities. Therefore, accident rate is high. During the recess period, wild but safe games should be encouraged.
6. Bone growth is not yet complete, therefore bones can't still bear heavy pressure. Children should not be put to strenuous tests of strength like punching. Instead, competition involving coordinated skill should be encouraged. In team games, rotation should be observed.

2. Social Characteristics

1. The following characteristics are typical for both primary and elementary grade students that underlie the social characteristics of elementary level children described in the next section.

2. At this level, children become a bit more selective in choosing more or less permanent friends and may also select more or less permanent enemies. Teachers should provide assistance to students who have difficulty in attracting friends. They should also be alert for feuds that go beyond normal quarrels.
3. These children often like organized games in small groups. They are much serious about rigidity of rules or become very emotional about team spirit. The amount of rivalry and the noise level generated is amazing when a class is divided into teams. In order to reduce rivalry and noise, the idea that games are fun should be promoted. Such team games should be considered that are not overly competitive and emphasize cooperation among students.
4. Quarrels are still frequent. Words are more often used than physical aggression but many boys, in particular, may indulge in physical aggression. Occasional fights can be expected but if the same children or same pair of children seem involved in a long battle, teachers should intervene to affect a truce. Discovering the cause of animosity would be much better for restoring peace.

3. Emotional Characteristics

1. At this level, children are sensitive to criticism. It should be scrupulously avoided because it is crushing for children who admire or even worship their teachers. Frequent praise and recognition should be provided for academic behaviour and negative reactions may be reserved only for non-academic misbehaviours.
2. These children like to help, enjoy responsibility and do well in schoolwork. They may be assigned jobs like paper distributor, wastebasket emptier and the like on a rotational basis. Most of primary grade children are also eager to please their teacher.
3. Children of this age are becoming sensitive to the feelings of others. Unfortunately, this enables them to hurt others deeply by attacking a sensitive spot without realizing how harmful their attack can be. Teasing a particular child who has reacted to the teaser becomes a good pastime for the class. Teachers should be vigilant to such situations. This may make tremendous difference upon the attitude of the victim about school.

4. Intellectual Characteristics

1. Primary grade children are generally very eager to learn. They are intrinsically motivated for learning. Teachers should exploit it maximally.
2. These children like to talk who have more facility in speech than in writing. They voluntarily participate in class. The problem for the primary teacher is more to control participation than to stimulate class participation. These children need to be reminded frequently to take turns and be good listeners. They may also give wrong answers when called upon to speak. Teachers should develop some phrases to indicate gently and humorously that the answer is wrong or irrelevant.
3. Due to their literal interpretation of rules, primary grade children tend telling the teacher, that someone has broken class rule. The complaint may sometimes be due to

jealousy or dislike or it may be a way to get teacher's attention or recognition. If the child calls teachers attention to the misbehaviour of others, teacher should tell the informant that he is already aware of it and intends to do something about it. Criticizing the informing child may hurt her. On the other hand, thanking the child and proceeding to punish the defaulter may encourage most of the class children to start informing on others.

4. These primary class children, by and large, start thinking logically. The can now classify objects on more than one characteristics simultaneously, arrange things in logical order, mentally reverse their actions without physically doing so, can understand that the characteristics of objects do not change when their shapes are changed and can learn basic mathematical operations. But their thinking is limited to concrete, actual things. They are literal minded who can't understand metaphors and idiomatic language. Teachers should, therefore, use visual aids and concrete examples during teaching and avoid teaching metaphors, idioms and proverbs. The lessons should be brief, involving much student activity.

LECTURE 9

DEVELOPMENTAL CHARACTERISTICS

Elementary Grades

4, 5 and 6 (9-12 years)

- During these grades, the initial enthusiasm and natural curiosity and eagerness for learning may generally fade away due to lack of success in perfecting more difficult academic skills. Differences in knowledge and skills of fastest and slowest learners become more visible. Automatic respect for teachers tends to decrease. Physical growth spurt and puberty lead to greater awareness in gender roles.

1. Physical Characteristics

1. A growth spurt occurs in most girls. It also starts in early-maturing boys. On the average, girls are taller and heavier than the boys of the same age. Sudden physical superiority of girls over boys may create feelings of guilt and confusion in both. If pupils are noticed to be upset about sudden growth or lack of it, teachers might help them to accept the temporary gender reversal of physical strength by explaining that differences will even out very soon.
2. While approaching puberty, children, especially girls, are universally concerned and curious about gender. The range of puberty age for girls is from eight to eighteen years,- the average age being about 11 or 12 years. For boys, the range is from ten to eighteen years, the average age being about 14 or 15 years. Since in both genders maturation involves drastic biological and psychological adjustments, children; especially females, are concerned and curious. Some female teacher might be considered for providing this information to girls.
3. Fine motor coordination at this age level is quite good. Most children in elementary classes can easily and joyfully handle small objects. As a result, art and craft activities are popular among most of them. Teachers should encourage active participation of children in drawing, painting, model making, ceramics etc in order to take advantage of their newly developed manipulative skills. Such activities should ideally center on originality and creativity. The students should be allowed to perform by using their skills in creative ways.

2. Social Characteristics

1. These children, like primary grades children remain more selective in choosing more or less permanent friends and foes. They like organized games in small groups and follow rules rigidly. The quarrels are still frequent and mostly verbal.
2. The peer group becomes powerful which starts replacing adults as a major source of behaviour and achievement standards. By the end of elementary schooling, children may be more eager to impress their friends than pleasing their parents and teachers. They may try to ignore or disobey their teachers. in order to impress their classmates. They sometimes organize themselves into all-boy and all-girl cliques that operate most actively outside schools. Occasionally, battles between two groups may lead to trench warfare in the form of cutting remarks in class. If this happens, teachers should place members of

opposing groups on cooperative tasks. Such cooperative activities must be closely supervised during early days. This strategy may ultimately enforce truce among them.

3. Between the age of six to twelve years, interpersonal reasoning develops, leading to greater understanding of feelings of others. Interpersonal reasoning is the ability to understand the relationship between intentions and actions of people. During elementary school years, children gradually understand the fact that a person's visible actions or words do not, always reflect his inner feelings. Toward the end of elementary school years and increasingly during adolescent years, children become capable of taking; a detached and objective view of their own behaviour and the behaviour of others. In-fact, a child's interpersonal sensitivity and maturity affects relationship with others. If a child of this age group is not sensitive to the feelings of others and, like most of the children of younger age group is egocentric, he may fail to properly interpret the behaviour of his class mates and become, socially isolated. Encouraging such a child to think continuously about the reasons behind his own social actions and those of others may help him acquire social sensitivity to get well along with others. If, for example, a boy is physically or verbally abusive, when hit by a playmate, teacher might' say to him that people do not always intentionally strike others. Unless one is absolutely sure that one has been hurt intentionally, it is more pleasant to forgive and forget.

3. Emotional Characteristics

Behaviour disorders or emotional disturbance is more frequent at ten and eleven year age years age level than those at other age levels. Though these children are intellectually mature and sensitive enough to recognize academic, family and other psychosocial development problems and social pressures, they are not independent enough to cope with them completely on their own. They need adult tolerance and referral to guidance clinics. However, most of the children find their own ways to adapt through two types of behaviour disorders, that is, aggressiveness and social withdrawal.

4. Intellectual Characteristics

1. There are gender differences in specific abilities and in overall academic performance.
2. Research on gender differences in intellectual functioning found that during elementary school years, girls, on the average, are superior in language and mathematical computation. Boys, on the average, are superior in mathematical reasoning and space relations.
3. Females earn higher grades in school but males are more likely to achieve at a higher level in many activities later in life. It has been suggested that girls school achievements are partly due to their desire to please their parents and teachers. Boys, on the other hand, appear more interested in tasks that interest them and they are less concerned to please others. If a particular subject is not liked by a boy, he will not make much effort to learn it. This tendency to study something for its own sake may pay off later in life when prolonged self-study is required.
4. It has also be speculated that girls are motivated by the desire to please others because they are not encouraged to be independent in early life. If this explanation sound,

plausible, girls should be encouraged to be independent so that they develop confidence in their ability to do things on their own.

5. In addition to gender differences in general and specific learning abilities, differences- in cognitive style also become apparent during elementary grades. Cognitive styles are the tendencies to respond to a variety of intellectual tasks in a particular fashion.

6. Some children seem to be characteristically impulsive, others are characteristically reflective. Impulsive children give quick and often incorrect responses. Reflective children take time before they speak, evaluate alternative answers and give mostly correct responses.

7. Similarly, some students are thematic while others are analytic.. Thematic students respond to a pattern as a whole while analytic students tend to note details when exposed to a complex situation.

8. Thematic students perform better on tasks requiring wholistic interpretations. Impulsive children are often thematic thinkers and reflective children are often analytic. Impulsive children are not necessarily inferior to reflective children in problem solving ability but they may do less well in many school and test situations requiring analysis of details. Impulsive children should therefore be advised' to think about a question analytically for some time before answering. Another cognitive style is convergent thinking and divergent thinking. Convergent children respond to what they read and observe in typical traditional ways.

9. Others are divergent thinkers because they respond in totally unexpected or original ways. Convergent thinkers are good memorizers of information. Divergent children are more capable than others in understanding ideas and evaluating their accuracy in a particular situation. In order to accommodate differences in students cognitive styles, teachers should present a variety of instructional activities so that every student is occasionally asked to do school work that matches with his way of thinking.

10. Children of elementary grades are mostly at the level of concrete thinking. Some of them however may have entered in the phase of abstract thought. The same teaching strategies as recommended for children of primary classes may be continued at this level.

Junior High School
7, 8 and 9 (12-15 years)

During their grades, growth spurt and puberty influence, many aspects of student's behaviour. Peers (age-follows) begin to influence them more than parents and teachers. Acceptance by peers becomes extremely important to them. Students showing poor school performance have feelings -of bitterness, resentment and restlessness.

1. Physical Characteristics

1. Most girls complete their growth spurt by the end of this period. Growth spurt, however, is not yet complete in boys. It may be very large because some boys add as much as six inches and 25 pounds in a single yew. The period of accelerated growth beginning in late elementary classes continues at this stage involving almost all students at this level.

2. Puberty is reached practically by all girls and by many boys by the end of this stage. Boys replace fat with muscle tissues. Body hairs appear in both genders and their voice changes. The texture of the skin changes often with a temporary malfunctioning of- oil producing glands which leads to acne. All these developments have profound effect on the appearance, biological functioning and psychological functioning of the young person.

3. Although this stage is marked by generally good health, the diet and sleeping habits of many students are poor. Therefore, they may exhibit a certain amount of inattention during the class. Frequent changes in pace and breaks for relaxation may be allowed to reduce drowsiness (sleepiness), to some extent.

2. Social Characteristics

1. The peer group becomes a general source of rules of behaviour. Developing a code of behaviour which is more toward independence must be encouraged. In addition to forming their rules of behaviour in out-of-school situations, the junior high school students are eager to participate in school decisions. Teachers are likely to get favorable response from these students if they are invited to participate in formulating class rules and routines.

2. The-desire- to conform—the peer norms reaches its peak during, this age. Young adolescents find it pleasant 'to dress and act like others and they are likely to change their opinion to coincide with the group opinion. If controversial issues are discussed, the students may be invited to write their opinions anonymously rather than expressing them openly in front of the class.

3. Students are greatly concerned about what others think of them. Both quarrels and friendships become intense. Though teachers have little control over most of the social interactions between them but, at times, they may be able to function as a sympathetic listener. If a student seems depressed and preoccupied, he may be asked if he would like to talk about what bothers him.

3. Emotional Characteristics

1. Many young adolescents may pass through a period of storm and stress. Adolescent, process is an interruption of normal, peaceful growth and is usually attended by anxiety, worry and concerns about self-esteem, physical appearance and body image. They have to make a number of adjustments all at once, adjustments in self-identity, puberty and intellectual development. Many students may be expected to be moody, depressed or preoccupied when they come to the classroom. Teachers should do their best to accept such behaviour rather than intensify it by unsympathetic or harsh treatment.

2. Tendencies toward delinquent behaviour involving criminal acts among adolescents may appear.

3. The causes of delinquency are complex and often beyond control by the school. Teachers may reduce these tendencies, ' however, by using effective class management techniques such as making classroom pleasant and comfortable,

involving students to participate in decision making, emphasizing academic achievement, serving as a role model, being well prepared, arranging smooth transitions from one activity to another, keeping the attention of the entire class through group activities and by dealing with disruptive acts quickly and efficiently.

4. Intellectual Characteristics

1. This is a transition period between concrete thinking and abstract thinking. Some students reach the stage of abstract thought earlier than others.
2. In addition, students who sometimes show characteristics of abstract thought do not always think that way in all subjects.
3. Accordingly, it is wise to check how completely the students understand abstract concepts and ideas.
4. It is better to give a brief, ungraded and anonymous test before introducing a topic. If the students explain concepts in concrete terms, teachers should use many concrete examples during teaching.
5. Political thinking also becomes more abstract, less authoritarian and more knowledgeable. This is due to shift from concrete to abstract thinking in general.
6. When 13 years old students are asked, "what is the purpose of laws?" The typical answer may be, "so that people do not steal or kill." A 16 years old student, on the other hand, is likely to say, "To ensure safety and enforce government".
7. The young adolescent thinks in concrete terms and concentrates on individuals. The older adolescent takes into account society as a whole. Concrete thinker concentrates on the present because he is unable to analyze past events or project into future. The thinking of children by the end of the stage also becomes less authoritarian.
8. When 12 years olds are asked how prisoners should be treated, most of them may recommend that they should be punished and taught a lesson. A 16 years old may recommend their rehabilitation, rather than punishment. This information may be useful for planning and teaching social studies. This may also help teachers understand why students respond differently while discussing political or other abstract matters.

LECTURE 10

DEVELOPMENTAL CHARACTERISTICS

Concrete vs Abstract Thinking

- People always think differently. Some may think in concrete terms and some in abstract terms. Concrete thinking refers to the thinking on the surface whereas abstract thinking is related to thinking in depth.

Senior High School; 10, 11, 12 (16-18 Years)

- During this stage, physical maturity is, by and large, achieved which influences many aspects of students' behaviour. Peer group and reactions of friends become extremely important for the adolescents. They are concerned about what will happen after they complete this stage, especially those not intending to pursue further education. They become aware of the importance of academic ability and grades for certain career patterns. They have to make certain value decisions about morality and ethics.

Senior High School (16-18 years)

1. Physical Characteristics

- Most students reach physical maturity and almost all have attained puberty. All girls have reached their ultimate height yet some boys may continue growing after this stage. There are tremendous variations in height and weight and rate of maturation. Late maturing boys seem to have considerable difficulties in adjustment due to their slow rate of growth. They are still concerned about physical appearance.
- Glandular changes leading to red pimples (acne) especially on face may be a source of worry and self-conscious to some students. The most significant change accompanying puberty is attraction toward apposite gender.

2. Social Characteristics

- Parents are likely to influence their long-range plans and peers tend to influence their immediate status.
- Research indicates that high school and college students are probably influenced in the areas of political thought, moral development and occupational choice more by parents than by peers.
- But influence of peer group on hairstyle, interests, social relationships is extremely greater.
- Parents and peers influence different aspects of adolescent behaviour. Parental influence is greater on future decisions and peer influence is greater on present status and identity needs such as choice of friends.
- Parents are likely to influence 'the values, moral and political beliefs and long-term plans and peers influence current sense of identity and status.

- Girls seem to experience greater anxiety, jealousy and conflict about friendships than boys.
- Adolescent girls seem to be stimulated to seek closeness in friendships due to their dependency on others.
- Boys, on the other hand, often stress skills and interests in friendships. Due to their tendencies to be competitive and self-reliant, boys may not form close friendships with male companions.
- Teachers should not be surprised if they find adolescent girls more preoccupied than adolescent boys with positive and negative aspects of friendships.

3. Emotional Characteristics

- Toward the end of the intermediate classes, girls may be more likely than boys to experience emotional disorders. As indicated earlier, boys are more likely to have adjustment problems during, nine to fifteen years. Toward the end of their secondary years, girls may display more emotional disorders particularly depression.
- The explanations for this change include greater tendency in girls, to express emotional disturbance through .depression, the disadvantaged status of females in society and growing realization among adolescent girls that they have little control over their destiny, 'referred to as "learnt helpless". Expose them to women guest speakers and prominent models of prominent women from the past and the present.
- Depression is the most common type of emotional disorder during adolescence. If it becomes- severe, suicide may also be seriously thought about.
- Depression is a mental set, which is made up of negative views about oneself, the world and the future. The common symptoms are crying spells, suicidal thoughts, self-devaluation and suicidal attempts.
- Depression normally involves a sense of loss which may be caused by abrupt -end of personal relationship through death or other reasons, feelings of guilt, incapacitation, disfigurement, insurmountable worries and domestic problems. If depression. is mainly due to failure in the examinations, school can help. In other cases, the patients can be referred to the psychiatrist or the psychologist. The extremely depressed youth may fall prey to internal aggression (suicide) and aggression toward others. These students are at risk who need teacher comfort and support, in addition to immediate medical/psychological help.

4. Intellectual Characteristics

- High school and college students become increasingly capable of abstract thinking but they may not use this capability. These students are more likely than younger students to understand ideas and relationships among ideas. They may mentally plan a course of action before implementing it and .test hypotheses systematically. With-out supervision and guidance, they may not use these capabilities consistently.

- Teachers should, consequently, call their attention to relationships between ideas and the ways to apply their previously acquired knowledge to new situations. Specific instruction in the techniques of problem solving may also be provided. In order to help these students understand abstract ideas, concrete examples be used if many of them appear to be thinking at concrete level.

LECTURE 11

TRANSFER OF LEANING AND INSTRUCTION

Learning Objectives

1. Define transfer of learning and its educational significance
2. Describe theories of transfer of learning
3. Explain various kinds of transfer
4. Describe specific strategies used in teaching for transfer

Definition

- Transfer of learning has been defined by Mayer and Wittrock as "whenever something previously learnt influences current learning or when solving an earlier problem affects how you solve a new problem."

Significance

- Teaching should be organized in such a way that students can independently apply their knowledge, skills and attitudes learnt in schools to similar but new situations in schools and out of school.
- The aim of education is to make students independent and autonomous learners and problem solvers. It is a valuable goal cherished by almost all educators and educational philosophers.
- **Jerome Bruner** in his 'Process of Education' observes that learning should not only take us somewhere but also should allow us later to go further more easily .... it should serve us in future.
- Generally, students assume that the only reason for classroom learning is to pass exams and earn good grades. Teachers sometimes unintentionally create this understanding in students.
- Resultantly, the student forgets what was learnt after receiving a grade but also avoids anything to do with what was learnt in schools. This is highly unfortunate.
- Teachers should, therefore, make a conscious effort to emphasize the value of each lesson and reveal its importance in further student learning and living.
- Teacher should also ensure while teaching that learning is not tied to the specific context but is generalized and applied to other similar situation situations.
- He should enable the students 'see' that new knowledge is not welded to a given situation but applicable to a variety of situations. He must also plan for transfer while planning for instruction.
- Before giving a few concrete teaching suggestions for transfer of learning, the nature of transfer has to be explained in the light of available psychological knowledge about this phenomenon.

Theories of Transfer of Learning

(1) The Doctrine of Formal Discipline

- During early 1900s, such subjects as Latin, Greek and Geometry were taught because these were considered difficult to learn; It was expected that by learning these subjects, students would improve ability to memorize, think and reason.
- These enhanced abilities were then expected to facilitates learning less difficult subjects.
- The rationale behind this practice was that human mind could be made stronger with mental exercise like body muscles that are made stronger with physical exercise.
- The researchers lent limited support to this early explanation of transfer of learning. Studying Latin and Greek results in better subsequent learning in Latin and Greek (specific transfer) but does not contribute to learning other subjects (general transfer) which was claimed by it.

(2) The Theory of Identical Elements

- In early 1900s, **Thorndike** and **Woodworth** proposed an ***alternative behavioral explanation*** of how transfer occurs.
- They argued that the degree to which **knowledge and skills acquired in learning one task can help** depends on **how similar the two tasks are**.
- If the learner recognizes the similarities between task's stimulus and response elements as in ***riding a bicycle and a motorcycle***, the greater will be the amount of transfer. This idea is known as the theory of ***identical. elements.***

Types of Transfer of Learning

- **Thorndike** and other psychologists have also identified different types of transfer and the conditions under which each type occurs. A useful distinction is made between positive transfer, negative transfer and zero transfer.

POSITIVE TRANSFER

- **Positive transfer is defined as a situation in which previous learning helps subsequent learning.**
- Positive transfer occurs when a new learning task calls for essentially the same response that was made to a similar, earlier learnt task stimulus.
- The person who is fluent in French, for instance, is likely to learn Spanish more easily.

Types of Positive Transfer

- The description of positive transfer, through useful, is somewhat limiting because it is not clear whether the transfer from one task to the other is due to specific or general factors.
- Positive transfer may, therefore, be **specific** or **general.**

- **Specific Transfer:** Specific transfer is that positive transfer which is due to specific similarities between the two tasks, for example, similarities in French and Spanish language in vocabulary,- structure sentence, etc. Specific positive transfer occurs when two tasks are similar in nature.

➢ General Transfer

- General transfer is that positive transfer which is due to ***use of some learning strategies such as elaboration, imagery and mnemonic devices***.
- **For example**, learning a foreign language helps learning another foreign language because the general learning strategies are the same.
- Still another useful distinction is made by Gagne, that is, vertical transfer and lateral transfer.

➢ Vertical Transfer

- **Vertical transfer is that positive transfer which occurs when previously learnt capability helps in learning more complex material in the same area.**
- For example, learning to determine different types of triangles helps in forming the concept of equilateral triangle, right angled triangle, etc.

➢ Lateral Transfer

- **Lateral transfer is that positive transfer when a previous learnt capability is used in solving a similar problem in a different context.**
- For example, previously learnt rules and procedures for conducting experiments in Physics are used to conduct experiments in Biology. Lateral transfer is essentially the same as general transfer. Both involve using the cognitive strategies.

➢ Negative Transfer

- **Negative transfer is defined as a situation in which prior learning interferes with subsequent learning.**
- Negative transfer occurs when two tasks are highly similar but require different responses, for example, pronouncing the words that spell alike but are pronounced differently.

➢ Zero Transfer

- **Zero transfer is defined as a situation is which previous learning has no effect on subsequent, new learning.**
- Zero transfer occurs when two tasks have different stimuli and different responses.

(3) The Cognitive View of Transfer

- This view of transfer emphasizes the role of **comprehension** and **memory** in transfer of learning and **is based on information' processing theory of learning**.

- According to information processing theory, we store and retrieve information in memory in a highly systematic fashion. The storage and retrieval processes are strongly influenced by comprehension.
- Comprehension is learner's ability to relate new information to previously acquired knowledge.
- Previously acquired knowledge exists in memory in the form of schemata (mental representations of relationships among objects and events).
- A schema is a structure with many slots for people, objects and events. In the cognitive view, transfer of learning involves activation of previously acquired schema when one encounters a new learning situation. If the activated schema is appropriate for the new task, learning could .occur more readily. If the new information does not match one of slots in the schema, learning becomes difficult.

(4) A Contemporary View of Transfer of Learning

Saloman and **Perkins** describe two kinds of transfer, that is **low-road** and **high-road transfer**.

➢ Low-Road Transfer

- Low-road transfer is the—automatic transfer of highly practiced skills with little need of reflection. The performance becomes automatic.
- For example, practice with many machines allows one to transfer that skill automatically to a new situation.

➢ High-Road Transfer

- High-road transfer, on the other hand, is the **conscious application of knowledge in one situation to different situations**. High-road transfer may be forward reaching or backward-reaching transfer.
- In **forward-reaching transfer**, one looks forward to applying the knowledge gained.
- **Backward-reaching transfer** occurs when facing a problem, one looks back on what was learned in other situations to help solve the new problem.

Teaching for Transfer

- For positive transfer to occur, students must see similar elements in both situations and must grasp the original material fully. If algebra is intended to be used in Physics and Chemistry, the students should demonstrate this transfer in science classes.
- Here are few general teaching suggestions to help students appreciate the value of transfer:

1. **Teach to Overlearning:**
   - Overlearning means practicing a skill above the point of mastery.

- Many basic facts and skills are learnt in elementary classes by students such as multiplication tables past the point of mastery which help them in using the information quickly and automatically when needed.

2. **Be certain that the material taught is well organized.**

- Meaningful material is more easily transferred.
- If the students recognize the organization and structure of the material and if teachers can make them realize it, students will discover principles and generalizations, which they can—use in many different situations.
- For example, the Social Studies teacher can select an episode in freedom movement and encourage them to seek a contemporary example.

3. Used advanced organizers

- When a teacher is about to teach abstract material, it may be useful to provide the students with advanced organizers.
- An advanced organizer is an abstract, general overview of new information to be learnt that is presented by the teacher as introduction in advance of actual teaching.
- It serves as a bridge between what the students already know and what they need to know.
- For example, the students already know the idea of loyalty to their friends in order to understand the abstract notion of loyalty given in the reading material. The introduction in the form of advanced organizer is intended to provide the hooks and prepare the students' mind to incorporate and learn the new material. The new material, thus, becomes potentially.. meaningful to them.

4. Emphasize the similarities between classroom work and transfer situation, between learning in schools and life outside

- While teaching reading, for instance, teachers must be sure that letters and words they teach them same have the form that youngsters will see in their books.
- Similarly, while teaching word problems in mathematics, terms from Physics and Chemistry may be used. Show how the skills learned in school will be used in hobbies and jobs outside schools.

5. Specify what is important in the task

- Identifying the important features of a task helps students transfer these elements or the guide them against potential difficulties.
- For example, students frequently confuse b and d. Teachers should stress the distinction and give them considerable experience with words containing these letters. Students mostly forget to change the signs (+,-) while transposing terms in equations. Call attention of the students to the required change of sign.

6. Teach learning and comprehension strategies to combat forgetting and promote transfer

- Summarization, relating the new materials with the known, forming visual representation of the textual content, helping students to analyze questions carefully in order to answer and asking the students to formulate questions and to integrate the content are a few

comprehension strategies that also help in transfer of learning. To have something to transfer, students must first. learn and thoroughly understand it.

- Periodic reviews (soon after learning and at short intervals, gradually widening the length of time between reviews) and distributed practice sessions (initially short practice periods, followed by longer practice periods) and by individualizing practice sessions also help in overlearning, comprehension and transfer.

7. Try to understand how students perceive the importance of transfer

- Make every effort to keep students understand the importance of transfer. Is it meaningful to them? Do they see how they can use the material in different circumstances? Teachers should see their teaching and the subject matter from students point of view and offer more practical possibilities for transfer.
- From the above, it is evident that positive transfer of learning does not occur automatically. It requires conscious efforts by teachers in order to ensure transfer of principles, attitudes, thinking ability, learning and problem solving strategies.' Teachers should promote positive transfer and overcome negative transfer. They must deliberately ensure different kinds of positive transfer: specific and--general; vertical and lateral, low-road and high-road and overcome negative transfer by using over learning, improving understanding, emphasizing similarities and differences, teaching comprehensive strategies and increasing the value of transfer in student minds.

LECTURE 12

FACILITATING COMPLEX THINKING

Learning Objectives

1. Understand forms of thinking

2. Measure creativity in classroom

3. Explore the concept of creativity in classroom

4. Select some strategies that can stimulate complex thinking in students

Forms of Thinking

The forms have distinctive educational purposes, even though they sometimes overlap, in the sense that one form may contribute to success with another form. Consider three somewhat complex forms of thinking that are commonly pursued in classroom learning:

(1) Critical Thinking,

(2) Creative Thinking,

(3) Problem-solving.

Critical Thinking

- Critical thinking requires skill at analyzing the reliability and validity of information, as well as the attitude or temperament to do so.
- The skill and attitude may be displayed with regard to a particular subject matter or topic, but in principle it can occur in any realm of knowledge (Halpern, 2003; Williams, Oliver, & Stockade, 2004).
- A critical thinker does not necessarily have a negative attitude in the everyday sense of constantly criticizing someone or something. Instead, he or she can be thought of as astute (smart, intelligent): the critical thinker asks key questions, evaluates the evidence for ideas, reasons for problems both logically and objectively, and expresses ideas and conclusions clearly and precisely. Last (but not least), the critical thinker can apply these habits of mind in more than one realm of life or knowledge.

Creative Thinking

- Creativity is the ability to make or do something new that is also useful or valued by others (Gardner, 1993).
- The “something” can be an object (like an essay or painting), a skill (like playing an instrument), or an action (like using a familiar tool in a new way).
- To be creative, the object, skill, or action cannot simply be strange; it cannot be new without also being useful or valued, and not simply be the result of accident.

- If a person types letters at random that form a poem by chance, the result may be beautiful, but it would not be creative by the definition above.
- Viewed this way, creativity includes a wide range of human experience that many people, if not everyone, have had at some time or other (Kaufman & Baer, 2006). The experience is not restricted to a few geniuses, nor exclusive to specific fields or activities like art or the composing of music.
- Especially important for teachers are two facts. The FIRST is that an important form of creativity is creative thinking, the generation of ideas that are new as well as useful, productive, and appropriate. The SECOND is that creative thinking can be stimulated by teachers' efforts.
- Teachers can, for example, encourage students' divergent thinking—ideas that are open-ended and that lead in many directions (Torrance, 1992; Kim, 2006).
- Divergent thinking is stimulated by open-ended questions—questions with many possible answers, such as the following:
- How many uses can you think of for a cup?
- Draw a picture that somehow incorporates all of these words: cat, fire engine, and banana.
- What is the most unusual use you can think of for a shoe?
- Note that answering these questions creatively *depends partly on* having already acquired knowledge about the objects to which the questions refer.
- In this sense divergent thinking depends partly on its converse, convergent thinking, which is *focused, logical reasoning about ideas and experiences that lead to specific answers*.

Problem Solving

- Somewhat less open-ended than creative thinking is problem solving, the analysis and solution of tasks or situations that are complex or ambiguous and that pose difficulties or obstacles of some kind (Mayer & Wittrock, 2006).
- Problem solving is needed, for example, when a physician analyzes a X-ray: a photograph of the foot is far from clear and requires skill, experience, and resourcefulness to decide which foggy-looking blobs to ignore, and which to interpret as real physical structures (and therefore real medical concerns).
- Problem solving is also needed when a grocery store manager has to decide how to improve the sales of a product: should she put it on sale at a lower price, or increase publicity for it, or both? Will these actions actually increase sales enough to pay for their costs?

Measurement of Creativity

Torrance has developed TWO types of creativity tests: verbal and graphic

- **Verbal Test**

  In verbal tests, a child is asked how, for example, a toy can be changed to make it more fun to play with or think of many uses of a tin as possible.

- **Graphic Test**

In the graphic test, a person may be given a number of circles and asked to create a different drawing from reach circle. The responses are then scored for originality (new responses), fluency (number opf responses) and flexibility (different responses).

LECTURE 13
FACILITATING COMPLEX THINKING

Learning Objectives

1. Understand forms of thinking

2. Measure creativity in classroom

3. Explore the concept of creativity in classroom

4. Select some strategies that can stimulate complex thinking in students

Creativity in Classroom

- According to social psychologists, creativity is a function of social and psychological environment. Creativity must be fostered because many social, environmental and economic problems require creative solutions.
- Teacher can promote creative thinking in their students by creating classroom environment for creative thinking.
- Often teachers consciously or unconsciously discourage creative ideas of students without realizing that they are doing so.
- Teachers are in excellent position to encourage or discourage creativity through acceptance or rejection of the unusual and the imaginative ideas of students.

Here are some ways to foster creativity in the classroom:

1. Accept and encourage divergent thinking. Expect and demand creativity from students. For instance, during class discussion, ask, "Can any one suggest a different way of looking at this problem?" Reward attempts are imperfect.
2. Tolerate disagreement. Ask students to support their dissenting (rebel) option. Make sure non-conforming students receive equal privileges and rewards. Find out something positive even in apparently stupid and irrelevant answers. Follow-up bad answers with questions to help student think through the problem.
3. Encourage students to trust their judgment. If students questions can be answered by them, rephrase the question and direct it back to the class. Strange and odd questions from students should not be discouraged.
4. Expose the class to creative models. Model creative thinking and creative problem solving by suggesting unusual solutions for class problems.
5. Provide opportunities for students to solve problems through brainstorming. The basic principle of brainstorming is to allow the students to give as many solutions to the problem as possible. Delay evaluation of those solutions till maximum number of solutions are given. Separate the processes of creating ideas and evaluating them. Simultaneous evaluation inhibits creative production.

6. Encourage students to think around the problem and give them time to produce divergent or lateral thinking solutions.
7. Minimize use of extrinsic rewards and stimulate students to find intrinsic satisfaction in their efforts.
8. When possible, allow students choices in writing stories, in science projects and other areas of interest. Use all curriculum areas to encourage creative thinking. Help them not only in seeking new solutions but also in finding new problems.

Instructional Strategies that Stimulate Complex Thinking

Teacher-directed Instruction

- As the name indicates, teacher-directed instruction includes any strategies initiated and guided primarily by the teacher.
- A classic example is exposition or lecturing (simply telling or explaining important information to students) combined with assigning reading from texts.
- But teacher-directed instruction also includes strategies that involve more active response from students, such as encouraging students to elaborate on new knowledge or to explain how new information relates to prior knowledge.

Lectures and Readings

- Lectures and readings are traditional staples of educators, particularly with older students (including university students). At their best, they pre-organize information so that (at least in theory) the student only has to remember what was said in the lecture or written in the text in order to begin understanding it (Exley & Dennick, 2004).
- Their limitation is the ambiguity of the responses they require: listening and reading are by nature quiet and stationary, and do not in themselves indicate whether a student is comprehending or even attending to the material.
- Educators sometimes complain that "students are too passive" during lectures or when reading. But physical quietness is intrinsic to these activities, not to the students who do them. A book just sits still, after all, unless a student makes an effort to read it, and a lecture may not be heard unless a student makes the effort to listen to it.

Advance Organizers

- In spite of these problems, there are strategies for making lectures and readings effective.
- A teacher can be especially careful about organizing information *for* students, and she can turn part of the mental work over to students themselves.
- An example of the first approach is the use of **advance organizers**—brief overviews or introductions to new material before the material itself is presented (Ausubel, 1978).
- Textbook authors often try deliberately to insert periodic advance organizers to introduce new sections or chapters in the text. When used in a lecture, advance organizers are

usually statements in the form of brief introductory remarks, though sometimes diagrams showing relationships among key ideas can also serve the same purpose (Robinson, et al., 2003). Whatever their form, advance organizers partially organize the material on behalf of the students, so that they know where to put it all, as they learn them in more detail.

Recalling and Relating Prior Knowledge

- Another strategy for improving teacher-directed instruction is to encourage students to relate the new material to prior familiar knowledge. When one of us (Ali) first learned a foreign language (in his case French), for example, he often noticed similarities between French and English vocabulary. A French word for picture, for example, was *image*, spelled exactly as it is in English. The French word for *splendid* was *splendide*, spelled almost the same as in English, though not quite. Relating the French vocabulary to English vocabulary helped in learning and remembering the French.

Elaborating Information

- Elaborating new information means asking questions about the new material, inferring ideas and relationships among the new concepts.
- Such strategies are closely related to the strategy of recalling prior knowledge as discussed above: elaboration enriches the new information and connects it to other knowledge. In this sense elaboration makes the new learning more meaningful and less arbitrary or random.

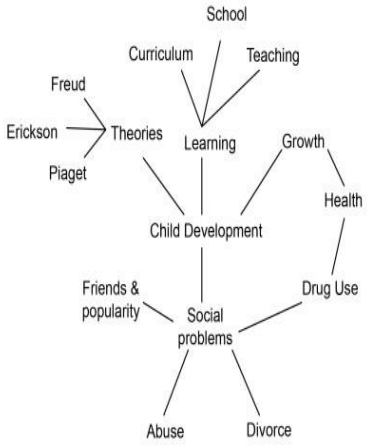
Organizing New Information

- There are many ways to organize new information that are especially well-suited to teacher-directed instruction. A common way is simply to ask students to outline information read in a text or heard in a lecture.
- Outlining works especially well when the information is already organized somewhat hierarchically into a series of main topics, each with supporting subtopics or sub points.
- Outlining is basically a form of the more general strategy of taking notes, or writing down key ideas and terms from a reading or lecture.

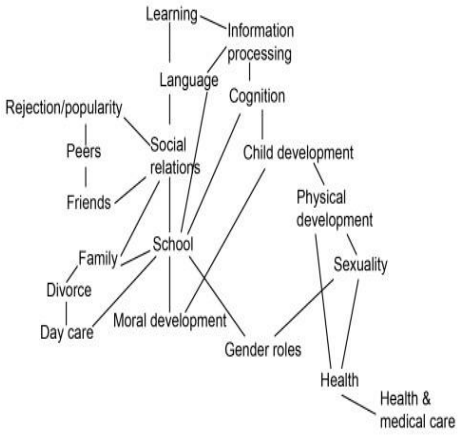
Concept Maps

- Graphic depiction of relationships among a set of concepts, terms, or ideas; usually organized by the student, but not always.
- A concept map or conceptual diagram is a diagram that depicts suggested relationships between concepts. It is a graphical tool that instructional designers, engineers, technical writers, and others use to organize and structure knowledge.

Concept Map by a Teacher



Concept Map by a University Professor



Benefits of Concept Maps

- Aids in Creating a Presentation
- Concept mapping can help someone creating a presentation to organize it in a logical format.
- Allows for Quick Interpretation
- With a concept map, people can often grasp ideas much more quickly than by reading them in an article or book
- Illustrates the Hierarchy of Ideas
- A concept map helps people to understand the hierarchy of ideas, understanding how each component relates to the others.
- Aides in Visualizing Outcomes
- It can also help people to understand the possible indirect results of an action or program.

Definitions of Terms

Lecture	Telling or explaining previously organized information—usually to a group
Assigned Reading	Reading, usually individually, of previously organized information
Advance Organizers	Brief overview, either verbally or graphically, of material about to be covered in a lecture or text
Outlining	Writing important points of a lecture or reading, usually in a hierarchical format
Taking Notes	Writing important points of a lecture or reading, often organized according to the learning needs of an individual student
Concept Maps	Graphic depiction of relationships among a set of concepts, terms, or ideas; usually organized by the student, but not always

LECTURE 14
INDIVIDUAL DIFFERENCES

Learning Objectives

- After taking this lecture students will be able to:
- Study characteristics of students with mental retardation and techniques of teaching them.
- Describe characteristics and classification of students with emotional disturbance.
- Summarize techniques of teaching aggressive and withdrawn children.
- Explore factors leading to the disadvantaged status of students. Give suggestions to teach them
- Discuss students with attention deficit hyperactivity disorder and the ways to help them learn.
- Discuss the characteristics of students with learning disabilities and techniques of teaching them.
- Describe ways to identify gifted children and methods of teaching them.
- Explain how computer can help teaching the exceptional child.

DEFINITION OF INDIVIDUAL DIFFERENCES

According to the dictionary of education

- Individual differences stand for the variation or deviations among individuals in regard to a single characteristic or number of characteristics.
- It is stand for those differences which in their totality distinguish one individual from another.

  So, we can say that individual differences is the differences among humans that distinguish or separate them from one another and makes one as a single unique individual.

TYPES OF INDIVIDUAL DIFFERENCES

Following are the types of individual differences

- **Differences in Interest**

  Interest may refer as a motivating force that compels us to attend to a person, a thing, or an activity. So in educational field differences in interest means you observe some students like a particular subject, teacher, hobby or profession than other.

- **Difference in Attitude**

  Difference in attitude is psyche related to some thing. Few learners have positive attitude towards a specific topic, subject, and profession than other. The role of education in society is to develop positive attitude.

- **Difference in Values**

  Values are the things that are given importance by an individual. Some learners value materialist life style other moral or religious life style etc. So education must mould the mind of young generation to have a balance values between materialism and spiritualism.

- **Study Habits**

  It is clearly observable that some students markedly differ from other students in study habits. Some students are studious and study all the subjects with interest but other may not. Some study in isolation and some in group.

- **Difference in Psychomotor Skills**

  Psychomotor Skill is related to some skill acquisition. Some students differ in this area also. Some students like football, other cricket, etc. Some students easily learn operating a machine and some may not. A wise teacher should diagnose students' psychomotor skills abilities and encourage them in that direction.

- **Difference in Self Concept**

  Difference in self-concept is the totality of attitudes, judgment, and values of an individual relating to his behavior, abilities, and qualities. So some students have positive self-concept than boost their confidence level and perform better against those who have negative self-image.

CAUSES OF INDIVIDUAL DIFFERENCES

The followings are the main causes of individual differences:

1. Hereditary (Nature)

- Individuals have various abilities, and capacities provided by hereditary. Which decide the path of progress and development of an individual.
- Hereditary also put limits upon individuals' growth and development in various dimensions.
- Hereditary also contributes to both genders, intelligence, and other specific abilities.

2. Environment (Nurture)

- Environment also plays key role in individual differences. No person from birth to death gets the same environment. Individual differences occur on the basis of simulation received by individual from his or her internal and external environment. This may include family set up, peer group, economic statues, education etc.
- It is debatable that whether nature or nurture play vital or stronger role in development of an individual in specific direction. Both are strong contenders in order to distinguish one individual from other.

TYPES OF EXCEPTIONAL CHILDREN

The U.S. Federal Department of Health and Education has following types of children in the list of handicapped children:

(1) Deafness

(2) Hardness of hearing

(3) Blindness

(4) Visual impairments

(5) Speech impairments

(6) Physical and health impairments

(7) Mental retardation

(8) Learning disabilities

(9)Emotional disturbance

GIFTED AND TALENTED STUDENTS

- According to a recent definition, gifted and talented children and youth give evidence of high performance capability in such areas as intellectual, creative, artistic or leadership capacity or in specific academic fields who require services or activities not provided by the school; in order to fully develop their capabilities.
- Gallagher defined such individuals as those who possess the ability to absorb abstract concepts, to organize them more effectively and to apply them more appropriately than the average youngster.

IDENTIFYING THE GIFTED

Previously, IQ score of 140 and above was used to identify the gifted. But as traditional intelligence tests do not measure divergent or creative thinking, besides IQ, such characteristics as superior performance on achievement and aptitude tests, high level of motivation and evidence of creativity as measured by creativity tests and leadership ability as evidenced by observation are also used for identification purposes.

The following nine statements serve a useful guide to identify the characteristics of gifted children:

1. Who learn easily and rapidly.
2. Who use a lot of common sense and practical knowledge.
3. Who retain easily what has been heard.
4. Who know more about many things than other children.
5. Who use a large number of words easily and accurately.

6. Who recognize relationships and meanings.
7. Who are alert, keen observers and respond quickly.
8. Who are persistent and highly motivated on some tasks.
9. Who are creative, have often-unusual ideas or make interesting connections.

TEACHING GIFTED STUDENTS

1. Some educators believe that gifted students should be given accelerated promotions —

A. First form of acceleration is to move quickly through the classes or particular subjects. Class skipping (skipping one or more classes) in more often used. The

B. second form of acceleration is curriculum compression, allowing the gifted students to complete the work for more than one class during the regular school year.

C. The third way of acceleration is extending school year by the use of summer sessions. The fourth way is to allow the gifted to take college courses while still in high school.

2. Another method is providing enrichment, instead of acceleration.

- Enrichment means giving them additional, more sophisticated and more thought-provoking work while keeping them with their age fellows.
- Enrichment can be horizontal (giving more material at the same level of difficulty) or vertical (giving more advanced work of the same general type).

3. Encourage capable students to spend extra time in reading and writing, for example, writing book reviews with personal reactions, not a summary of the studied book reading biographies and autobiographies may also inspire these students to emulate great leaders.

STUDENTS WITH MENTAL RETARDATION

- The American Association on Mental Deficiency (AAMD) has defined mental retardation "as significantly below average intellectual functioning existing concurrently with defects in adaptive behavior, manifested during development period".
- Retardation was further divided into mild, moderate, severe and profound levels on the basis of IQ measurement.
- But, now, the classification of mental retardation is based on level of support needed by the mentally, retarded person.
- The levels in the increasing order of support are intermittent (short-term, low or high intensity support during life span transitions but not always required), limited (intense, consistent, over time support but not of intermittent nature), extensive (daily long-term support at least in some environments such as work or home) and pervasive (constant, intense support required in all environments).

CAUSES OF MENTAL RETARDATION

- The causes of mental retardation are physical (organic) or environmental.
- Fifty percent of all the cases of mental retardation can be prevented by better parental Care, improved nutrition, disease prevention for mothers and children and improved educational environment.

CHARACTERISTICS:

The children with mild mental retardation have the following common developmental characteristics:

1. They follow the same general pattern of development like normal children but differ in the rate and degree of development. Accordingly, they appear immature as compared to their age fellows.
2. They tend to oversimplify concepts.
3. They are unable to generalize from one situation to the other.
4. They have short memory and short attention span.
5. They have delayed language development.
6. They are inclined to concentrate on one aspect of learning institution and ignore nonessentials.
7. They tend to classify things on the basics of single feature only.
8. The mentally retarded adolescents may deal with concrete situations but may not be able to grasp abstract ideas, state and test hypothesis. In other words, they may go maximally upto the concrete operations stage of cognitive development.
9. They are more likely to experience frustration when they want to do but can't do the things their peer can do.
10. They tend to devaluate themselves, doubt their abilities and suffer from lack of confidence and low self-esteem.

LEARNING GOALS:

The, learning goals for students with mild mental retardation may be restricted to learning of 3Rs' (reading, writing and arithmetic) during elementary stage and-equipping them with useful vocational and domestic skills, literacy for living, health, self care and citizenship skills at secondary stage. The overall aim of educating them' should be to enable them live independently as a productive, self supporting members of society.

TECHNIQUES OF TEACHING:

The following guidelines for teaching are applicable to all those students, including the mentally retarded, who learn less rapidly than most of their classmates:

1. Determine the readiness for learning, no matter how little the child may previously know. The learner should be ready to learn the next step. Prepare the learner for new learning.
2. State and present the learning objective in simple words.
3. Base the specific learning objective on an analysis of the child's strengths and weaknesses.
4. Present the new learning material in small steps and provide the learner with enough practice in that step before moving to the next step. Make drill and practice as interesting and enjoyable as possible.
5. Do not skip steps. These children can't form conceptual bridge from one step to the other. They can't make connections between steps on their own. Make connections between steps explicit.
6. Present the same idea in many different ways.
7. Go back to simpler level if you see the student does not seem to follow, the next step.
8. As these students have short memory span, build over-learning into lessons. Periodically review the previously taught lesson.

9. As these children have small attention spans, deliver brief presentations.
10. Give them brief assignments that can be completed in short periods.
11. Present learning tasks with smaller number of elements, at least some of which are familiar to them.
12. Teach them practical concepts and skills which the students will need during adult life.
13. Be especially careful to motivate and maintain the attention of these students.
14. Focus on a few target behaviours and skills so that students have a chance to succeed.
15. Do everything possible to encourage a sense of self-esteem in these children.
16. Do not expect and demand less. Ask them questions, give them sufficient wait-time for answers, repeat questions, give clue and ask the same question in different ways.
17. Since these children are easily frustrated, avoid placing them in situations leading to frustration. When they seem to be close to their frustration limits, encourage them to participate in relaxing, change-of-pace pursuits or in physical activities.
18. Pay close attention to social relations so that they are accepted and can make and keep friends.

STUDENTS WITH PHYSICAL IMPAIRMENTS

Students with physical impairments may have deformities in bones and muscles who have to use such devices as special shoes, wheelchairs or crutches in order to participate in normal school programme. If the school building does not have such structural features which create difficulties for these children, there is no_ need to change the usual school activities for them.

Students with Hearing Impairments

The students with hearing problems show such symptoms as turning one ear toward the speaker, misunderstanding conversation especially when speaker's face can't be seen, inability to follow directions, looking confused or distracted at times, frequently asking for repetition, mispronouncing new words, complaining frequent earaches etc. There are two approaches, namely, the oral approach and the manual approach to help these children in communication and learning. Oral approach involves speech reading (lip reading) and training these students to use their limited hearing effectively. Manual approach includes sign language and finger spelling. Both approaches should be used in combination.

Students with Vision Impairment

The students with vision impairment show following signs:

They hold books either very close or very away from their eyes. They may roll their eyes frequently or complain eye burning or itching. Their eyes may be swollen or red. They may misread the board writing, describe their vision as blurred, may be sensitive to light or hold their heads at an odd angle. Any of these symptoms may be reported to the eye-specialist. Mild vision problems can be overcome with lenses. Students with low vision

must use hearing and touch as predominant learning channels. For students with visual problems, the quality of print is often more important than size of the print.

Students with Speech Impairment

- These students cannot produce sounds -for effective speech. Two common speech impairments are articulation disorders and stuttering.
- Articulation disorders include substituting one so\und for another (thunthirie for sunshine) distorting a sound (shoup for soup) and adding a sound (idea of idea). Most children successfully pronounce sound when they are six to eight years old. Stuttering appears by age three and four. Stuttering may lead to embarrassment and anxiety for the victim. In about 50% of cases, it disappears by adolescence. If it continues for longer than a year, speech therapist may be consulted. The earlier the treatment, the better.

LECTURE 15
INDIVIDUAL DIFFERENCES

Students with Emotional Impairments

Children with emotional disturbance are also termed as children with social maladjustment and children with behaviour disorders. These terms are interchangeably used.

Definition and characteristics:

Only children of serious emotional disorders have been defined in American Public Law (PL 94-142) for Handicapped children who possess one of the following characteristics:

1. Inability to learn is not due to mental retardation, visual and speech impairments and health problems.

2. Inability to build or maintain satisfactory relationships with peers and teachers.

3. A general mood of unhappiness or depression.

4. Inappropriate types of feelings and behaviours under normal conditions.

5. Tendency to develop fears about personal and school problems. In other words, serious emotional disturbance is characterized by learning difficulties, poor social relations, depression, fears and inappropriate behaviours.

Classification:

- There are many classifications of emotionally disturbed children but the most popular one involves two basic patterns: aggressive behaviour and withdrawn behaviour.
- **Aggressive students** are often restless, uncooperative, negativistic and disobedient, sometimes cruel and full of hatred.
- **Withdrawn students**, by contrast, are generally shy, timid, anxious, often depressed, lack self-confidence, are more likely to develop various serious emotional problems like schizophrenia (being cut off from reality), depression and suicidal attempts during adolescence. Teachers are mostly unaware of withdrawn students because their behaviour, unlike the aggressive behaviour, does not force teachers' attention. If the emotionally disturbed pupil behviour becomes very severe, placement in separate, special class or special school might be seriously considered. Children with mild emotional disturbance may attend regular classes but regular teachers must know how to deal with and teach these children.

Techniques of Teaching:

The techniques of teaching each of the two types of children with behaviour disorders are suggested separately:

1. Teaching the Aggressive Students
2. Teaching the withdrawn students

1. Teaching the Aggressive Students

- Shape the classroom environment in order to reduce the chances of aggressive, disruptive or antisocial behaviour of the emotionally disturbed child. The best way is to nip the evil in the bud.
- In creating the appropriate environment for learning, seat the students who get along well with aggressive student close to him in the class and seat the students who do not get along with the aggressive student away from him. Formulate class rules and penalties for breaking the rules with student input and apply the rules consistently.
- To minimize frustration of the aggressive student with learning, use the same techniques of learning as those for children with mild retardation. Valuable materials be kept away, from the reach of aggressive child when these are not needed for use.
- Reinforce appropriate behaviour and, if necessary, punish undesirable behaviour. Reinforcement serves the dual purpose of teaching the aggressive child appropriate behaviour and reducing the frequency of inappropriate behaviour when it is replaced by desired behaviour.
- Even after rewarding the desired behaviour, disruptive behaviour may still occur. In that case, punishment in the forms of time-out; response cost and extinction are effective for suppressing inappropriate behaviour. In time-out, the aggressive student is made to sit alone for some time soon after aggression.
- In response-cost, a certain amount (say 5%) of previously earned tokens for appropriate behaviours are withdrawn (the punishment technique of response cost is used long with the reinforcement technique of token economy. In token economy, students earn prize tokens for appropriate behaviours to encash or exchange them later for some preferred object or activity).
- Use group contingency management techniques also in addition to the methods of dealing directly with the aggressive students. Through group management, teacher may want to reward the entire class when the aggressive student behaves. Such rewards may be free time, special classroom events or certain privileges that tend to make the aggressive student class 'hero' and foster good class relationships with the child.

2. Teaching the Withdrawn Students

- Design the classroom environment and plan lessons that encourage social interaction and cooperation between socially withdrawn child and his class fellows. Withdrawn child may stay away from others because he finds social contacts threatening or because he thinks others stay away from him due to his poor social skills. Whatever may be the reason, teachers should get the shy children closer to others.
- **For example,** preschool: and primary class teachers should urge the child to cooperative play instead of isolated play. Elementary class teachers should emphasize organized plays sports, games and team oriented learning activities like Team Accelerated Instruction.. The first step, for instance, in maths instruction is to form student groups of four or five members with varying ability levels and social backgrounds. Each group works

individually on problems at their own level of understanding. Tearnmates then check each others' work against correct answer sheets. Team scores are calculated on the basis of units successfully completed by the team members each week. The teams may be rewarded by the amount and quality of work completed by each team cooperative learning is also useful for normal children.

- Prompt and positively reinforce- social interactions. A prompt is a stimulus that draws a desired response. Positive reinforcement involves giving the student something that student wants after the desired response.
- The aim of prompting and positive reinforcement is to get the child behave that way again. The positive reinforces can be verbal praise, stickers like gold stars or smiley faces and small prizes like pencils, exercise books etc. To illustrate this suggestion, a cooperative tasks may be assigned to a student who is good in interaction skills to help two other withdrawn students paint a scenery for the classroom. The teacher can assign painting of trees in the scenery to one child, painting of grass to the second and painting people to the third: After sometime, the teacher may say something like this "that is good work. I am really pleased to see you all working well together." Similar comments can be made at intervals till completion of task.
- Train other students to initiate social interactions. Since it is difficult for the teacher himself to interact with a withdrawn child due to many other class responsibilities, it is better to train such children who are good at social interactions. Explain to the helping student the goal of working with the withdrawn child, prepare the helping child to expect initial rejection by the withdrawn child and emphasize the importance of making periodic attempts at interaction. Instruct the helping child to suggest games and activities that are appealing to withdrawn child and the helper's attempts to interact with the withdrawn child must be reinforced.

Student with Attention Deficit/Hyperactivity Disorder

- Some students have short attention span and are excessively restless whose main problem is directing and maintaining their restlessness and physical activity. The American Psychological Association has lately established this category called `attention deficit/hyperactivity disorders' (ADHD) to identify these children.. These children are mostly boys than girls whose disorder may even persist in adulthood. In our environment, children with ADHD are branded as naughty, non-serious and destructive. Due to this condition, despite -being intelligent, they have difficulty responding appropriately and working steadily towards even their own goals. They may not even be able to control their behaviour when ordered to do so, even for a brief period.
- Today, there is much reliance on drug therapy. Ritaline and Dexedrine have positive short-tern effects. There is improvement in such social behaviours of these children as attention, cooperation and compliance. Besides negative side effects on some children, the drug therapy does not seem to cure the problem permanently. The child still needs special help in learning because the drugs have not shown any improvement in academic and social learning of these children. These two areas are the great problem areas for these children. In addition to medication, they require special help in learning through behaviour modification techniques based upon behvioural and cognitive principles of

learning. One promising approach to help these children combines instruction in learning and memory strategies with motivational training. The goal is to give these students the 'skill' as well as the 'will' to improve their achievement. These students should learn- how and when to apply learning aria study skills. They must also encouraged to be persistent and see themselves as able to control their behaviour.

- Even if 'the medication improves the behaviour of these children, they still need to learn academic and social skills to show better academic performance.

Disadvantaged or Culturally Different Students

Those students in the classroom who come from poor cultural background are not properly equipped with experiences which are necessary to perform well in school. Let us review a few factors leading to disadvantaged status of the child. It will then be possible to derive general guidelines for teaching such pupils:

1. Many poor children are disadvantaged due to Untreated illnesses they bring with them to the. classroom. .These diseases may be due to inadequate prenatal care and absence of treatment facilities during postnatal period.
2. These children may belong to poor social and psychological. environment. Most lower-class parents use ways of child care that work against their success in school. For instance, mothers are inattentive and unresponsive to the child who use poor language when interacting with the child. Consequently, his language and intellectual development is inferior to other children of their age.
3. Children from poor families are not exposed to wide variety of experiences. Their parents do not tutor them, talk less and do not answer their questions. Due to lack of resources, they can't afford to provide them with educational toys and other reading material. They take them less on trips. Therefore, these children remain at a disadvantage in the competitive school environment.
4. These pupils may not be -strongly motivated to do well in school. They may not know the techniques of becoming successful in school. As their parents have not been successful as students, they might have developed negative attitude, toward school. The parents, therefore, are unable to motivate and inspire them for learning.
5. Lower class children generally have low career aspirations who expect petty jobs after schooling. Due to a history of failures, these children do not have challenging, long-term education plans. Nor do their parents encourage them to pursue higher education due to their own past negative experiences of having been dropped out of school.
6. The adolescents from poor homes tend to have to low need for achievement and role confusion of and negative self-concept. After obtaining a certificate or without it, when they experience unemployment, they are more likely to have low self-esteem which may contribute to role confusion and a tendency to form a negative identity leading to antisocial activities.

Suggestions for Teaching

- Avoid labeling the child. Instead of thinking that a disadvantaged child is beyond help, teacher might ask herself what kinds of disadvantages of the child are needed to be overcome, what kinds of strengths the child possesses. Concentrate on individuals in order to overcome the dangers of stereotyping or labeling. Once Samuel Jahnson was asked, "Are men more intelligent than women" He replied, "Which man? Which Women?" Thinking in this way helps avoid the error of assigning to individuals characteristics attributed to a group.
- Allow for the possibility that disadvantaged child may have inadequate diet and insufficient medical care. These causes might be creating learning difficulties for him. If so, search be made to contact philanthropic individuals or agencies for securing the necessary financial aid.
- Try to supply the experiences the disadvantaged students have missed. These children may not have the experience of every day objects and situations assumed in the textbook and instructional material. The urban child may not comprehend a simple rural scene and vice versa. This lack of experience can be met through a film or a field trip. Try to supply familiarity directly or in pictorial form, where necessary.
- Use all possible means to motivate the disadvantaged child. Lack of ability might not always be the cause of 'learning difficulties but lack of interest may be the reason. As already mentioned, a number of circumstances are, considered to prevent lower-class students from acquiring a desire to do well in school: lack of encouragement from parents, absence of models, low level of aspiration, low need for achievement.
- Teach these children learning and test taking skills. To earn good grades consistently, all students, irrespective of their background, must develop specialized learning skills. This will create and maintain a strong desire to achieve in school. Teacher must, therefore, give students many practice exams for answering questions. After each test, their satisfactory and unsatisfactory answers must be discussed. They may be given specific tips for writing good answers.
- Give them specific assignments, arrange, abundant practice, supply immediate feedback and emphasize over-learning. The disadvantaged students require direct and close supervision while they work individually or in small groups on specific assignments. Teachers should ask them specific questions that have specific answers and make all the decisions about what will be learnt. Over teach the disadvantaged and ask them to overlearn. First, have them study the material under your close supervision and then in small groups. Just before- exams, have them study in small groups.

Students with Learning Disabilities

- How will we explain what is wrong with a student who is not mentally retarded and educationally deprived, who has normal vision, hearing and language capabilities but who still can't learn to read, write and compute? One possible explanation would be that he has learning disability (he is learning disabled). This category is again relatively new

as well as controversial. There is no common1:- and fully agreed upon definition. There are many definitions (about 40). One widely used definition is as follows: -

- "Learning disabilities is a generic (general) term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning, and mathematical abilities. These disorders are intrinsic to the individual and presumed to be due to central nervous system dysfunction. Even though a learning disability may occur concomitantly with other handicapping conditions and environmental influences, it is not the direct result)of these conditions or influences."

Important points in the above definition of learning disabilities are repeated below:

1. Learning disability is a heterogeneous group of disorders. It includes many kinds of problems.
2. The disorders are intrinsic, that is, the disorders are due to internal and not external factors like environment or educational system.
3. The learning disability is believed to be due to biological malfunctioning in central nervous system.
4. The learning disability may exist along with other disabilities like mental retardation, emotional disturbance and external factors like poor teaching but these conditions don't seem to be the causes of learning disability. What are then the causes of mental disability? Psychologists do not agree on it.

Some educators were critical of this category who hold that it is rather an overused or misused label. These students, actually, are slow learners.

Characteristics

As with all categories of special children, all the learning disabled are not alike. The most common characteristics are:

1. Specific difficulties is one or more subjects. They are underachievers only in a few subjects.
2. Poor eye-hand coordination.
3. Problem in paying attention.
4. Hyperactivity in the form of excessive restlessness and., inattentiveness.
5. Impulsively, that is, working very quickly and incorrectly.
6. Problem in organizing and interpreting information.
7. Disorders in—hearing, speech, memory and thinking.
8. Difficulty in making and keeping friends.

Many normal children may have some . of the above characteristics. Not all the students with learning disabilities will have these characteristics. Some of them, however, may have all the above characteristics.

Difficulties

- Most of the learning disabled children have difficulties in reading and mathematics. They have difficulty in reading because they can't relate sounds to letters that make up words, thus learning spelling is hard as well. Math (both computation and reasoning) is the second most common area of difficulty.
- The writing of some learning disabled is virtually unreadable.
- Their spoken language can be halting and disorganized.

Many researchers trace these problems to using ineffective learning skills such as:

- Lacking effective ways to approach academic tasks that is, they do not know how to focus on relevant information, get organized change a learning approach when it is not working or evaluate their learning.
- Being passive learners due to being unaware of knowing; how to learn.
- Inability to work independently, resulting in poor class work and homework. .
- Early diagnosis and help of these children is necessary so that they may not fall victim to 'learnt helplessness' out of frustration and discouragement. Learnt helplessness is a very powerful belief- of the students that they can't learn despite hard work.

Causes of Learning Disability

- There are three deficits, causing difficulty in learning:
- **Attention Deficits.** They have difficulty in attending to relevant information and getting distracted by irrelevant information.
- **Perceptual Deficits.** There is no difficulty in seeing and. hearing but in interpreting what is seen and heard and lack of eye-hand coordination.
- **Rehearsal and Metacognitive Deficits.** They do not understand that actually trying to learn increases learning. They do not rehearse the material and do not possess metacognitive skills to monitor and improve their learning.

Teaching Techniques

1. As it is often difficult to find whether the learning problem is due to mild retardation or learning difficulty, use many of the techniques useful for mentally retarded children. They may experience more frustration and lack of self-esteem than mentally retarded children due to lagging behind. others in some area only. Therefore, they need learning tasks within their capability to experience success. Teach them lessons of short duration with immediate feedback as a tangible evidence of their progress.
2. Find out ways to help them compensate for their weakness in psychological processes, as they improve achievement in specific subject areas. Arrange classroom environment to

facilitate learning. Help them learn to reduce distractions, give attention and form right perceptions.

I. To increase their attention, classrooms be equipped with opaque or translucent windows, carpeting, soundproofing. In ordinary classrooms, reduce distracting sounds and sights with front side closed. When preparing written material for the' student, highlight relevant stimuli and eliminate competing irrelevant stimuli, use capital letters, underline in a different colour. In lessons, highlight important information and eliminate unnecessary talk. Tell them while you are giving important information, repeat information, stress importance, explain how the information relates to 'other aspects of the lesson and to what they already know. Suggest use of marker under each line while reading so that they evaluate one sentence at a time.

II. To those students who have short attention span, give short assignments and divide complex material into small segments.

III. For those students who have difficulty in writing legibly, use cut-out stencils so that students trace the form of a letter. Then ask the student to write the letter without stencil.

3. To overcome the deficiencies in specific areas, use direct instruction. For instance, if the student has difficulty in reading printed words, teach him how the read printed word. This method emphasizes mastery of specific skills and follow highly structured format. Teachers use Detailed written script of step-by-step instruction that emphasizes repetition student participation, and teacher feedback without correcting underlying cognitive deficits.

4. Teach them study skills, methods of processing information and principles of cognitive learning to improve their attention and memory. In fact, teaching learning disabled students, like all exceptional children, does not require a unique set of skills. It is combination of good teaching practices and sensitivity to all students.