

**LEARNING**

**TEACHING**



What should my students be able to do with what they learn?

What should I teach?

**Educational  
Literacy**

*Developed by*

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## UNIT – I : DEVELOPMENT OF LEARNER AND LEARNING

**Unit 1: Development of learner and learning :** *Learning –Domains of learning for holistic development – Phases of learning – influence of peer group, group cohesion and group dynamics on learning – Development of learner as a resultant of interactions between individual potential (innate, acquired) and external environment (physical, socio-cultural, ecological, economic and technological) – Nature and nurture, continuity and discontinuity issues, growth and maturation – Implications for teachers to develop holistic understanding of the learner in context.*

### 1.1. LEARNING

#### Introduction

Learning occupies an important place in everybody life. Learner interacts with the environment at home and school and learns many things. Learning is a lifelong process by which the learner acquires knowledge attitudes, skills and other personality traits and social skills. Learning is essential for holistic development of an individual.

#### Definition of Learning

Learning is relatively a permanent change in the behaviour as a result of behaviour.

### 1.2.Domains of learning for holistic development

Learning is everywhere. We can learn mental skills, develop our attitudes and acquire new physical skills as we perform the activities of our daily living. These domains of learning can be categorized as

- **Cognitive:** mental skills (*knowledge*)
- **Affective:** growth in feelings or emotional areas (*attitude or self*)
- **Psychomotor:** manual or physical skills (*skills*)

These three domains are not isolated entities or watertight compartments. Any achievement in one domain of a learner largely depends on the other domains. For e.g. interests and attitudes (affective domain) affect the quality of performance in both cognitive and psychomotor domain. Desirable changes

in the psychomotor domain, to a greater extent, depend on the cognitive and affective domains. A learner who is intellectually sound, emotionally stable and physically good in performing the activities is said to have holistic development.

### **Cognitive domain**

The cognitive domain involves the development of mental skills and the acquisition of knowledge. In this domain changes occur at the 'thinking' level. Learning belongs to this domain is essential for making the learner intellectually sound which is prerequisite for the holistic development of the learner. The six categories under this domain are:

**Knowledge:** the ability to recall data and/or information.

Knowledge is inclusive of Knowledge of terminology, Knowledge of specific facts and knowledge of ways of organising, studying, judging and criticising ideas and phenomena, knowledge of the universals and abstractions in a field,

**1. Comprehension:** The ability to understand the meaning of what is known.

Three types comprehensive behaviour are considered here. They are translation, interpretation and extrapolation.

**2. Application:** the ability to utilize a method, theory, principle or an abstraction or to use knowledge in a new situation. The fact that most of what we learn is intended for application to problem situations in real life.

**3. Analysis:** Analysis emphasizes the breakdown of the material into its constituent parts and detection of the relationship of the parts and of the way they are organised. Analysis behaviour are- analysis of elements, analysis of relationships, analysis of organisational principles. **(the ability to differentiate facts and opinions.)**

**4. Synthesis:** It is defined as the putting together of elements and parts so as to form a whole This is a process of working with elements, parts, etc., and

combining them in such a way as to constitute a pattern or structure not clearly there before Synthesis behaviours- production of a unique communication, production of a plan, or proposed set of operations, derivation of a set of abstract relations. **(the ability to integrate different elements or concepts in order to form a sound pattern or structure so a new meaning can be established.)**

- 5. Evaluation:** Man is apparently so constituted that he can not refrain from evaluating, judging, appraising, or valuing almost everything which comes within his purview. It involves the use of criteria as well as standards for appraising the extent to which particulars are accurate, effective, economical or satisfying.

### **Affective domain**

The affective domain involves our feelings, emotions and attitudes. Learning in the affective domain pertains to changes in interest, attitudes, values and development of appreciation and adequate judgement. This a higher level of learning at a different level which is required for holistic development of a learner. This domain is categorized into 5 subdomains, which include:

- 1. Receiving:** It refers to the learner's willingness to attend to particular phenomenon or stimuli. That is **the learner shows sensitivity to the stimuli.** It is inclusive of i) awareness of the stimuli ii) willingness to receive and iii) continue to attend.
- 2. Responding:** It refers to a tendency to respond to a particular object or stimuli. **(active participation of the learner.)** It is inclusive of i) acquiescence in responding, ii) willingness to respond and iii) satisfaction in response.
- 3. Valuing:** Valuing is concerned with the worth or value a learner attaches to a particular object , phenomenon or behaviour. This ranges in degree from the more simple acceptance of a value to the more complex level of commitment. It is inclusive of i) acceptance of a value, ii) preference of a value and iii) commitment.

**4. Organization:** It refers to the ability to prioritize a value over another and create a unique value system. Thus the emphasis is on comparing, relating, and synthesising values.

It is inclusive of i) conceptualisation of a value and ii) organisation of a value system.

**5. Characterization:** It refers to the ability to internalize values and let them control the person's behaviour.

It is inclusive of i) generalised set and ii) characterisation

### **Psychomotor domain**

Psychomotor behaviors are performed actions that are neuromuscular in nature and demand certain levels of physical dexterity. It is comprised of utilizing motor skills and coordinating them. The seven categories under this include:

#### **Imitation**

The learner observes and then imitates an action. These behaviors may be crude and imperfect. The expectation is that the individual is able to watch and then repeat an action. It is inclusive of impulsion and overt repetition.

#### **Manipulation**

It refers to Performance of an action with written or verbal directions but without a visual model or direct observation. The action may be performed crudely or without neuromuscular coordination at this stage. Notice that the action verbs are the same as those for the imitation stage. The difference is that these actions are performed with the aid of written and verbal instruction, not visual demonstration. It is inclusive of following direction, selection and fixation.

#### **Precision**

It refers to performance of some action independent of either written instructions or a visual model. (refining, becoming more exact). One is expected to reproduce an action with control and to reduce errors to a minimum. It is inclusive of reproduction and control.

#### **Articulation**

It refers to the display of coordination of a series of related acts by establishing the appropriate sequence and performing the acts accurately, with control as well as with speed and timing. (Coordinating a series of actions, achieving harmony and internal consistency.). It is inclusive of sequence and harmony.

### **Naturalization**

High level of proficiency is necessary. The behavior is performed with the least expenditure of energy, becomes routine, automatic, and spontaneous. It is inclusive of automatism and interiorisation.

### **1.3. PHASES OF LEARNING**

1. **Motivation phase** – The learner must be motivated to learn by expectation that learning will be rewarding
2. **Apprehending phase** – Learner pays attention if learning has to take place. The learner must attend to essential features or main key points of what is to be learnt. Teacher can help the learner by emphasizing the main points.
3. **Acquisition phase** – While learner is paying attention, the stage is set and the information is presented. Information being learnt is not directly stored in the memory; it needs to be transformed into meaningful form that relates to information already in learner's memory.
4. **Retention phase** – Newly acquired information must be transferred from short term to long term memory.
5. **Recall phase** – recall learned information; to learn to gain access to what has been learned is a critical phase in learning.
6. **Generalization phase** – transferring and applying the knowledge or skill to new situations.
7. **Feedback phase** – Students must receive feedback on their performance – **assessment**. This acts as a reinforce for future successful learning.

### **1.4. INFLUENCE OF PEER GROUP, GROUP COHESION AND GROUP DYNAMICS ON LEARNING**

#### **Introduction**

Peer groups allow children to form relationships and learn without the direction of adults.

Peer Group : Meaning

A peer group is a social group whose members have interests, social positions and age in common.

### **1.5. INFLUENCE OF PEER GROUP ON LEARNING :**

While peers working together they can accomplish many functions on learning. Those as follows :

1. It gives a platform to develop social skills and friendship.
2. A child can capable to make “give and take relationship”.
3. The child can learn another person’s perspectives, use effective communication skills, listen, observe body language, compromise, negotiate, and effectively balance the needs of himself/ herself and another person.
4. The child can able to get feedback to monitors and adjust their behaviour.
5. Peers can give some of most effective and clear feedback.
6. Our values and morals are developed through the interactions with other peers.
7. Peers offer another source of learning, about what is right and what is wrong and what aspects of life are most important.
8. They learn cooperation, social expectations, career choices, personality, character traits and socialization.
9. They mutually transfer physical support, social support, intellectual support and emotional support.

### **1.6.GROUP COHESION ON LEARNING**

#### **Definition**

According to **Stephen P.Robbins**, “ Group Cohesiveness is the degree to which members are attracted to each other and are motivated to stay in the group”.

#### **Dimensions of Group Cohesion**

- Group unity
- Attraction
- Team work

#### **Ways and means to increase Cohesion**

- Induce agreement on group goals.

- Increase membership homogeneity and interactions among members.
- Decrease group size.
- Introduce competition.
- Allocate rewards to the group rather than individuals.
- Provide physical isolation from other groups.

#### **Factors contributing to group cohesiveness**

- Threat and competition.
- Difficulty in entry.
- Time together.
- Group size.
- Previous success.
- Similarity of attitudes and values.

#### **Importance of group cohesion on learning**

- ✓ Increased morale
- ✓ Increased productivity
- ✓ Improved communication
- ✓ Conformity and influences

### **1.7.GROUP DYNAMICS**

#### **Definition**

“Group Dynamics is a field of inquiry dedicated to advancing knowledge about the nature of the groups, the laws of their development and their interrelations with individuals, other groups and larger institutions.”

#### **Educational significance of Group Dynamics**

According to A.I.Gates, Group Dynamics offers the best means available for the development of social skills essential for democratic living, better social understanding and preparing the individual members of the group for democratic citizenship.

- The aim of using Group Dynamics in schools as educational method is neither to produce leaders nor to find ways in which a person can get work done by a group.

- In schools we find qualitative as well as quantitative individual differences in the abilities of persons present in a class.
- By making the students to function in small groups, sympathy for others and sense of “we feeling” will get increased among pupils, which ultimately lead to conducive social climate in the classroom.
- Students and teachers should have clear cut ideas about the objectives and goals of the schools so as to change the school into the ideal community.
- Tone and tradition of the school helps to establish effective community life in the school.

### 1.8. NATURE AND NURTURE IN DEVELOPMENT OF A LEARNER

#### **Nature and Nurture**

Both nature and nurture played a vital role in learning of human being. So as a teacher we should have the knowledge of nature and nurture of the students.

#### **The Meaning of Nature:**

Man's behaviour is influenced by two forces: nature and nurture. The biological or psychological characteristics which are transmitted by the parents to their offsprings are known by the name of nature. Nature 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. Nature traits are innate; they are present at birth.

#### **Nature:**

Nature refers to the genetic inheritance received by every individual at the time of conception. The origin of every human life can be traced to a single cell called zygote. It is formed by the union of sperm and ovum.

The sperm and ovum will contain 23 pairs of chromosomes out of which one will be sex determining chromosome. Female will have 23 pairs of XX chromosomes. Male will have 22 pairs of XX and 2 single, represented as XY. X chromosome from mother and Y chromosome from father will lead to male offspring, XX from both parents give rise to female. In each chromosome there are innumerable genes.

These genes are the real determiners of hereditary characteristics—which pass on from one generation to the other. At the time of conception, the genes from chromosomes of both the father and the mother fuse together and determine the traits of the offspring to be born.

The physical characteristics such as height, weight, colour of eye and skin, social and intellectual behaviour are determined by nature. Differences in these characteristics are due to the change in the genes transmitted. Fraternal twins also differ from each other, because they are born out of different genes. However, we find more resemblances in identical twins because they are born out of monozygotic.

**Nurture:**

In simple terms nurture means the society, the fields of society and even the whole world. But here, the word nurture is restricted to mean the nurture within mother's womb and just born, as well as the nurture around the individual.

Like nature, nurture also has been found to play a very important role in determining the behaviour and personality development of an individual. The nurtural influences are those which act upon the organism at the earlier stages of development, i.e., before and also after birth.

Nurture includes all the extrinsic forces, influences and conditions which affect the life, nature, behaviour, the growth, development and maturation of living organism (Douglass and Holland).

Hence, we can say that nurture means all that is found around the individual. The zygote is surrounded by a jelly like substance known as 'cytoplasm'. The cytoplasm is an intracellular nurture which influences the development. Though the life begins with single cell, in the process of cell division several new cells are formed and a new internal nurture comes into existence.

## 1.9.GROWTH AND MATURATION

### Growth

In psychology, though, growth and maturation are a little different. **Growth** is the physical process of development, particularly the process of becoming physically larger. It is quantifiable, meaning that it can be measured, and it is mostly influenced by genetics. For example, the year that she was 11, Keisha got taller by two inches. This is an example of growth because it involves her getting physically taller and is quantifiable (two inches).

### Maturation

**Maturation** is the process by which we change, grow, and develop throughout life. Developmental psychologists look at many different types of maturation throughout the lifespan. The types of maturation that we'll focus on in this lesson are physical maturation and cognitive maturation.

### Learning

Learning is the process of understanding, clarifying, and applying the meaning of the knowledge acquired. Furthermore, it can also be an exploration, discovery, refinement, and extension of the learner's meaning of knowledge. Overall, learning occurs when an individual's behavior or knowledge changes.

## 1.11.RELATION BETWEEN MATURATION AND LEARNING

### Definitions of Maturation and Learning:

- Learning is a process that results in a behavioral change in the individual.
- Maturation is a process where the individual learns to react to situations in an appropriate manner.

### Processes:

- Learning is through practice and experience.
- Maturation is through individual growth and development.

### External Stimuli:

- Learning is a response to external stimuli that result in individual change.
- Maturation does not need external stimuli.

**Maturation and Learning:**

- Maturation influences the process of learning. If an individual has not achieved the necessary level of maturity, a particular learning behavior cannot be expected.

**1.10. IMPLICATIONS FOR TEACHERS TO DEVELOP HOLISTIC UNDERSTANDING OF THE LEARNER**

Every individual moulded with unique heredity and different environment. So, individual differences are greatly showing among the individuals. Hence as a teacher you should understand the individual differences of the pupil, accordingly methodology, approaches and styles should be modified by satisfying all the students. Then only we can understand the students holistically.

**1.11. CONTINUITY AND DISCONTINUITY IN DEVELOPMENT OF A LEARNER**

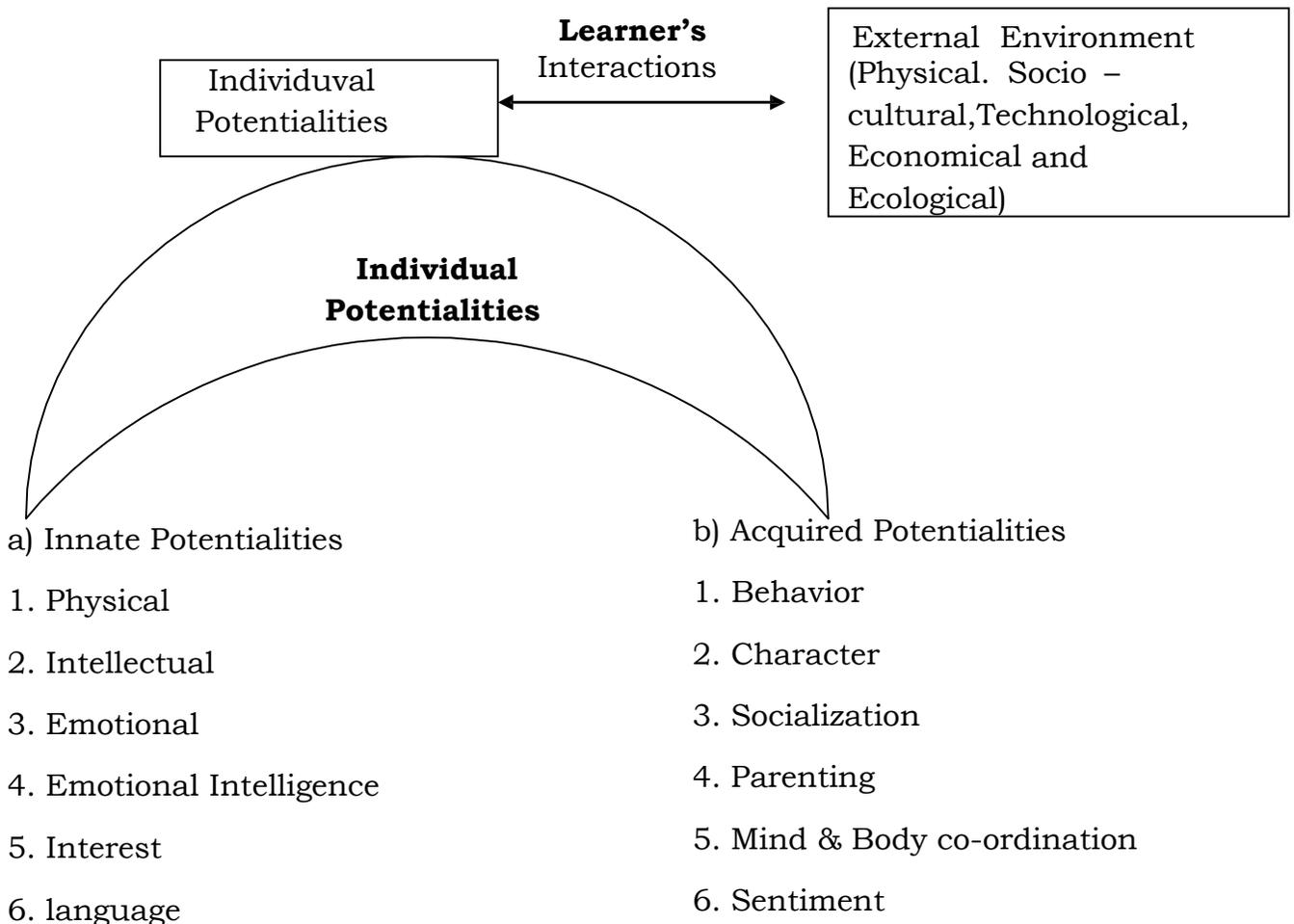
One of the major controversies in developmental psychology centres whether development is continuous or discontinuous. Developmental psychologists who support the continuity view suggest that development is a continuous process that is gradual, cumulative and ongoing changes throughout the life span, with behaviour in the earlier stages of development providing the basis of skills and abilities required for the next stages.. For example, a child learns to crawl, and then to stand and then to walk. They are gradually learning how to walk. It's just like hiking up the mountain path: a slow, steady ascent that leads to the top.

On the other hand, some people see development as consisting of different stages. They believe development involves distinct and separate stages with different kinds of behaviour occurring in each stage. This suggests that the development of certain abilities in each stage, such as specific emotions or ways of thinking, have a definite starting and ending point. However, there is no exact time at which an ability suddenly appears or disappears. The discontinuity view of development believes that people pass through stages of life that are qualitatively different from each other. For example, children go from only being able to think in very literal terms to being able to think abstractly. They have moved into the 'abstract thinking' phase of their lives. As you can imagine, discontinuous development is like walking up the stairs: a

series of stages, or steps, that get you to the top of the mountain. Both continuous and discontinuous developments are essential for overall development of a learner.

### Learner's interactions between individuals potentialities (innate and acquired) and external environment

While learners leaning a concept, they must interact effectively with external environment along with their inborn and acquired potentialities. So that learners can develop as a holistic learner and the learning will be fulfilled.



## External Environment

The following are termed as external environmental factors. Those are:

### 1. *Physical environment*

In schools as well as in homes, the following facilities have to provide for the learners to earn holistic learning through effective interactions. Those are:

1. Reading corner	6. Learning centre
2. Music area	7. Individual work areas
3. Discussion centre	8. Library
4. Huge project tables	9. Sports and games and
5. Multimedia facilities	10. Subject clubs

### 2. *Socio – cultural environment*

Socio – cultural environmental factors like

a) attitude	j) face
b) parenting	k) family structure
c) cross cultural differences	l) relatives
d) cultural deprivation	m) power
e) cultural identity	n) tradition
f) cultural change	o) racial groups
g) discrimination	p) regional differences
h) ethnic identity	q) religious beliefs and practices and
i) ethnic values	r) rituals and taboos also play a vital role to mould a holistic learner.

### **3. Technological Environment**

Generally if a learner interact with technological environment, it provides collaboration, co-operation and positive learning experience to the learners.

Moreover it also provides previous experience, knowledge, motivational level, achievement motivation, attitude, interest, intellectual abilities, emotional, social development, technical skills and acquire new knowledge to the learners through effective interaction between individual potentials and technological environment.

### **4. Economical Environment**

A learning occur based on the economical status of the learner significantly in care of the childrens and their education.

Moreover economical status of the learner influences the following :

- a) providing basic needs
- b) reading room
- c) food
- d) clothing
- e) health
- f) providing educational toys, games and books
- g) community resources
- h) guidance and
- i) socio – emotional development

### **5. Ecological environment**

If a learner wants to become a holistic learner, he must interact with living and non – living environment. So that learning become more effective.

### **Conclusion**

Thus a learner must interact with his individual potentials along with external environment to seek holistic learning.



## UNIT – 2 : THEORETICAL PERSPECTIVES ON LEARNING

**Unit 2: Theoretical perspectives on learning** *Perspectives on human learning: Behaviourist (conditioning paradigm in brief), cognitivist, information-processing view, humanist, social-constructivist (drawing selectively on the ideas of Skinner, Piaget, Rogers, Vygotsky). – Concepts and principles, applicability and Relevance, Role of learner in various learning situations, Role of teacher in teaching-learning situations:*

### PERSPECTIVES ON HUMAN LEARNING

#### Definition

#### 2.1.BEHAVIOURIST

Behaviorism (or behaviourism) is a systematic approach to the understanding of human and animal behavior. It assumes that the behavior of a human or an animal is a consequence of that individual's history, including especially reinforcement and punishment, together with the individual's current motivational state and controlling stimuli. Thus, although behaviorists generally accept the important role of inheritance in determining behavior, they focus primarily on environmental factors.

#### EXAMPLES FOR BEHAVIOURIST THEORIES :

##### 1.Classical conditioning:

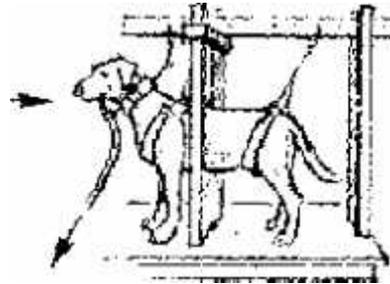
Classical conditioning is the process of reflex learning—investigated by Pavlov—through which an *unconditioned stimulus* (e.g. food) which produces an *unconditioned response* (salivation) is presented together with a *conditioned stimulus* (a bell), such that the salivation is eventually produced on the presentation of the *conditioned stimulus* alone, thus becoming a *conditioned response*.

### Classical Conditioning (Pavlov)

Unconditioned Stimulus  
(food) → Unconditioned  
Response (salivation)

Unconditioned Stimulus  
(food) together with  
Conditioned Stimulus  
(bell) → Unconditioned  
Response

Conditioned Stimulus  
(bell) → Conditioned  
Response (salivation)



This is a disciplined account of our common-sense experience of learning by association (or "contiguity", in the jargon), although that is often much more complex than a reflex process, and is much exploited in advertising. Note that it does not depend on us *doing* anything.

Such associations can be chained and generalised (for better or for worse): thus "smell of baking" associates with "kitchen at home in childhood" associates with "love and care". (Smell creates potent conditioning because of the way it is perceived by the brain.) But "sitting at a desk" associates with "classroom at school" and hence perhaps with "humiliation and failure"...

#### Educational implications

- The implications of classical conditioning in the classroom are less important than those of operant conditioning, but there is a still need for teachers to try to make sure that students associate positive emotional experiences with learning.
- If a student associates negative emotional experiences with school, then this can obviously have bad results, such as creating a school phobia.

- For example, if a student is bullied at school they may learn to associate the school with fear. It could also explain why some students show a particular dislike of certain subjects that continue throughout their academic career. This could happen if a student is humiliated or punished in class by a teacher.

## **2. Operant Conditioning**

The theory of B.F. Skinner is based upon the idea that learning is a function of change in overt behaviour. Changes in behaviour are the result of an individual's response to events (stimuli) that occur in the environment. A response produces a consequence such as defining a word, hitting a ball, or solving a math problem. When a particular Stimulus-Response (S-R) pattern is reinforced (rewarded), the individual is conditioned to respond. The distinctive characteristic of operant conditioning relative to previous forms of behaviorism (e.g., connectionism, drive reduction) is that the organism can emit responses instead of only eliciting response due to an external stimulus.

Reinforcement is the key element in Skinner's S-R theory. A reinforcer is anything that strengthens the desired response. It could be verbal praise, a good grade or a feeling of increased accomplishment or satisfaction. The theory also covers negative reinforcers — any stimulus that results in the increased frequency of a response when it is withdrawn (different from aversive stimuli — punishment — which result in reduced responses). A great deal of attention was given to schedules of reinforcement (e.g. interval versus ratio) and their effects on establishing and maintaining behavior.

One of the distinctive aspects of Skinner's theory is that it attempted to provide behavioral explanations for a broad range of cognitive phenomena. For example, Skinner explained drive (motivation) in terms of deprivation and reinforcement schedules. Skinner (1957) tried to account for verbal learning and language within the operant conditioning paradigm, although

this effort was strongly rejected by linguists and psycholinguists. Skinner (1971) deals with the issue of free will and social control.

### ***Educational Implications***

- Operant conditioning has been widely applied in clinical settings (i.e., behavior modification)
- Facilitates in teaching (i.e., classroom management)
- It helps to instructional development (e.g., programmed instruction).

## **2.2. COGNITIVIST**

### **Definition**

Cognitivism is "the psychology of learning which emphasizes human cognition or intelligence as a special endowment enabling man to form hypotheses and develop intellectually" (Cognitivism) and is also known as cognitive development. The underlying concepts of cognitivism involve how we think and gain knowledge. Cognitivism involves examining learning, memory, problem solving skills, and intelligence. Cognitive theorists may want to understand how problem solving changes throughout childhood, how cultural differences affect the way we view our own academic achievements, language development, and much more. (Feldman, Cognitivism)

### **i) Information Processing View**

**Cognitive information processing (CIP) theory** is often referred to as simply "information processing." Information processing is not really the name of a single theory; it is a generic name applied to various theoretical perspectives dealing with the *sequence* and *execution* of cognitive events.

Information processing theories focus on how people:

1. **attend** to environmental events,
2. **encode** information to be learned and **relate** it to knowledge in memory,

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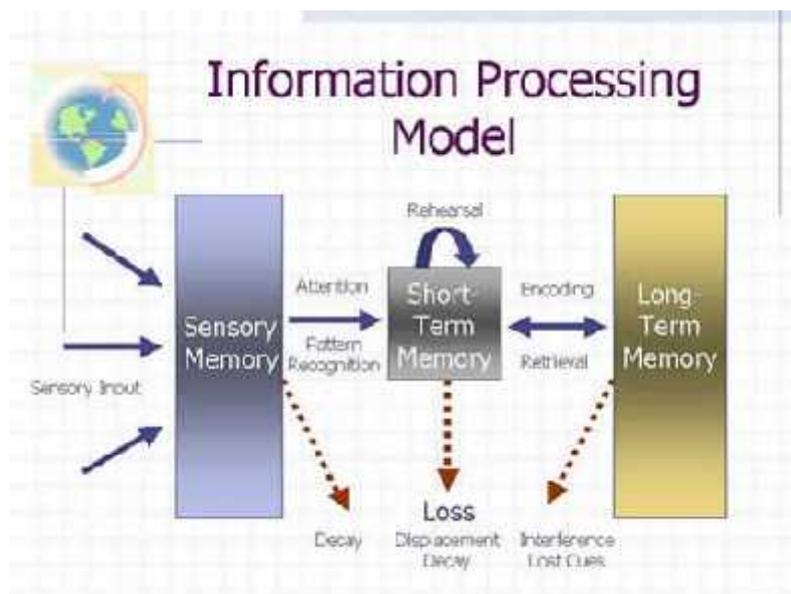
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3. **store** new knowledge in memory, and
4. **retrieve** it as needed.

At the heart of CIP theory is its proposed **memory system**. This theory uses the computer metaphor with its inputs and outputs. CIP theory focuses on what happens *in between input and output*, i.e., on *information processing*. Get familiar with Figure 1 and think deeply about the flow of information it represents.

Pay attention not only to the basic components or memory stages:

- sensory memory;
- short-term memory (STM); and
- long-term memory (LTM),  
but also to the processes that keep information "alive" or help transfer it from one memory stage to the next:
  - attention;
  - rehearsal;
  - chunking;
  - encoding; and
  - retrieval.



### ***The Components of Memory***

Figure 1 above displays the three basic components of CIP's proposed memory system—sensory memory, short-term memory (STM), and long-term memory (LTM)—along with the processes assumed to be responsible for transferring information from one stage to the next.

Brief descriptions of the three stages of memory follow:

- **Sensory memory** holds information associated with the senses (e.g., vision, hearing) just long enough for the information to be processed further (mere seconds).
- **STM** functions as a temporary working memory, whereby further processing is carried out to make information ready for long-term storage or for a response. Working memory holds information for a limited amount of time and holds a limited amount of information.
- **LTM** represents our permanent storehouse of information, capable of retaining an unlimited amount and variety of information.

### **Examples for Information processing view of cognitivist :**

#### **1. Piaget's Cognitive Development Theory**

**The Stages**

Through his observations of his children, Piaget developed a stage theory of intellectual development that included four distinct stages:

***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.

***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 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.

### ***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.

### **Educational Implications**

- The implications of classical conditioning in the classroom are less important than those of operant conditioning, but there is a still need for teachers to try to make sure that students associate positive emotional experiences with learning.
- If a student associates negative emotional experiences with school, then this can obviously have bad results, such as creating a school phobia.

- For example, if a student is bullied at school they may learn to associate the school with fear. It could also explain why some students show a particular dislike of certain subjects that continue throughout their academic career. This could happen if a student is humiliated or punished in class by a teacher.

## **2. Cognitive Development theory – Lev. Vygotsky**

Lev Vygotsky, the Russian psychologist, died young at 37 in 1934, but is as influential as any living educational psychologist. In '*Thought and Language*' and '*Mind in Society*', along with several other texts, he presents a psychology rooted in Marxist social theory and dialectical materialism. Development is a result two phenomena and their interaction, the 'natural' and the 'social', a sort of early nature and nurture theory.

### **Cognitive development through Social interaction :**

Ultimately the strength of Vygotsky's learning theory stands or falls on his social constructivism, the idea that learning is fundamentally a socially mediated and constructed activity. This is a detailed recasting of Marxist theory of social consciousness applied to education. Psychology becomes sociology as all psychological phenomena are seen as social constructs. In one sense he pre-empts the rigidity of Piaget's bad science by positing a theory of development that is more flexible in terms of how and when child development takes place and less dependent on internal natural development and more on mediation.

### **Mediation**

This is the cardinal idea in his psychology of education, that knowledge is constructed through mediation, yet it is not entirely clear what mediation entails and what he means by the 'tools' that we use in mediation.

### **Language and learning**

In particular, it was his focus on the role of language, and the way it shapes our learning and thought, that defined his social psychology and learning theory. Behaviour is shaped by the context of a culture and schools reflect that culture. He goes further driving social influence right down to the level of interpersonal interactions. Then even further, as these interpersonal interactions mediate the development of children's higher mental functions, such as thinking, reasoning, problem solving, memory, and language. Here he took larger dialectical themes and applied them to interpersonal communication and learning.

### **Zone of Proximal Development (ZPD)**

He prescribes a method of instruction that keeps the learner in the Zone of Proximal Development (ZPD), an idea that was neither original to him nor even fully developed in his work. The ZPD is the difference between what the learner knows and what the learner is capable of knowing or doing with mediated assistance. To progress, one must interact with peers who are ahead of the game through social interaction, a dialectical process between learner and peer.

### **Special needs**

He had a specific interest in what we now call 'special needs' and was sympathetic to most of these students being taught in mainstream education but not necessarily with the same curriculum and in the same classes. However, his simplistic identification of 'primary' and 'secondary' defects is crude and the use the term 'defectology' and the 'defect' or 'deficit' model it entails, is way out of line with modern language and thinking.

### **Play**

At around 3, when the faculty of imagination develops, children use imaginative play to deal with acts they cannot physically perform. Objects can be mentally transformed into concepts, a doll a real person, the stick a rifle. They internalise these 'pivots' so that the imagination can 'play' and

therefore learn how to deal with the world through thought and thought experiments. Rules and roles are also rehearsed through play, so that behaviour becomes self-regulated. This is interesting but by no means original.

### **Educational implications**

- Instruction can be planned to provide practice in the zone of proximal development for individual children or for groups of children. For example, hints and prompts that helped children during the assessment could form the basis of instructional activities.
- Cooperative learning activities can be planned with groups of children at different levels who can help each other learn.
- Scaffolding (Wood, Bruner, & Ross, 1976) is a tactic for helping the child in his or her zone of proximal development in which the adult provides hints and prompts at different levels. In scaffolding, the adult does not simplify the task, but the role of the learner is simplified “through the graduated intervention of the teacher”

### **2.3. HUMANIST**

#### **Meaning**

The meaning of the term *humanism* has fluctuated according to the successive intellectual movements which have identified with it. Generally, however, humanism refers to a perspective that affirms some notion of human freedom and progress. In modern times, humanist movements are typically aligned with secularism, and today humanism typically refers to a non-theistic life stance centred on human agency and looking to science rather than revelation from a supernatural source to understand the world.

**Definition**

Humanism is a philosophical and ethical stance that emphasizes the value and agency of human beings, individually and collectively, and generally prefers critical thinking and evidence (rationalism, empiricism) over acceptance of dogma or superstition.

**Principles****Choice and Control**

The humanistic approach places a great deal of emphasis on students' choice and control over the course of their education.

**Felt Concern**

Humanistic education tends to focus on the felt concerns and interests of the students intertwining with the intellect. It is believed that the overall mood and feeling of the students can either hinder or foster the process of learning.

**The Whole Person**

Humanistic educators believe that both feelings and knowledge are important to the learning process. Unlike traditional educators, humanistic teachers do not separate the cognitive and affective domains. This aspect also relates to the curriculum in the sense that lessons and activities provide focus on various aspects of the student and not just rote memorization through note taking and lecturing.

**Self Evaluation**

Humanistic educators believe that grades are irrelevant and that only self-evaluation is meaningful. Grading encourages students to work for a grade and not for intrinsic satisfaction. Humanistic educators disagree with routine testing because they teach students rote memorization as opposed to meaningful learning. They also believe testing doesn't provide sufficient educational feedback to the teacher.

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**Teacher as a Facilitator**

"The tutor or lecturer tends to be more supportive than critical, more understanding than judgmental, more genuine than playing a role." [9] Their job is to foster an engaging environment for the students and ask inquiry-based questions that promote meaningful learning.

**Contributors of Humanistic theories**

- Carl Rogers, and
- Abraham Maslow (psychologists),
- John Holt (child education) and
- Malcolm Knowles (adult education and proponent of andragogy).

**Examples for Humanist theories****1. Carl Roger's theory*****Foundations of Roger's Theory***

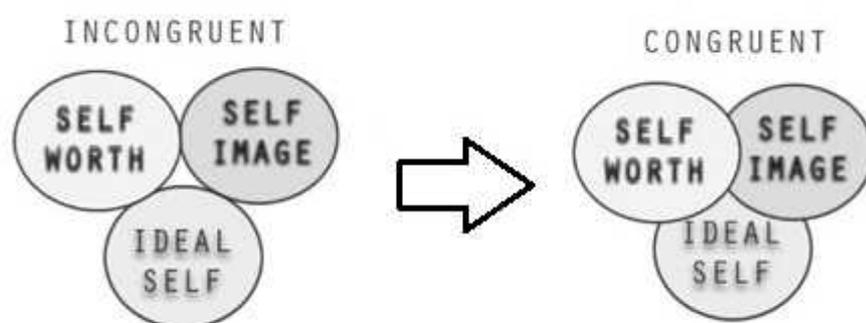
Carl Rogers was a prominent psychologist and one of the founding members of the humanist movement. Along with Abraham Maslow, he focused on the growth potential of healthy individuals and greatly contributed to our understanding of the self and personality. Both Rogers' and Maslow's theories focus on individual choices and do not hold that biology is deterministic. They emphasized free will and self-determination, with each individual desiring to become the best person they can become.

Humanistic psychology emphasized the active role of the individual in shaping their internal and external worlds. Rogers advanced the field by stressing that the human person is an active, creative, experiencing being who lives in the present and subjectively responds to current perceptions,

relationships, and encounters. He coined the term *actualizing tendency*, which refers to a person's basic instinct to succeed at his or her highest possible capacity. Through person-centered counseling and scientific therapy research, Rogers formed his theory of personality development, which highlighted free will and the great reservoir of human potential for goodness.

### **Development of the Personality**

Not unlike Freud's reference to the soul, Rogers identified one's self-concept as the frame upon which personality is developed. It is the purpose of each person to seek congruence (balance) in three areas of their lives. This balance is achieved with self-actualization. As illustrated below, self-actualization deals with three areas such as ***self-worth***, ***self-image***, and ***ideal self***.



Self-actualization is impossible if these images (especially self-image and ideal-self) don't overlap. This is so called "incongruent" view and the role of therapist is to transform this view to a congruent one, both by adjusting person's perception of self-image and self-worth as well as making an "ideal self" more realistic. The self-actualization process will lead to increasing overlap between these areas and will contribute to person's satisfaction with life. Within Rogers' schema each of the three areas has specific tasks. Until a person succeeds in self-actualization, they will have issues and remain out of balance in how they relate to their world.

Rogers emphasized that with regard to self-actualization the personality of each person is very unique. There are few “cookie cutter” personalities. It also brings into the therapeutic discussion *the idea of a holistic view of the person.*

### **The Principles for Good Life**

A goal that most people seek to attain, the **good life** as described by Rogers is achieved by the person fulfilling certain principles. In his studies Rogers found that there are commonalities among those people who are fully functional. These are:

- An acceptance of all experiences including those that are new.
- An existential lifestyle, in which each moment is appreciated and lived to its fullest.
- A trust level with one’s own decisions.
- Increasing freedom of choice
- Creativity and adaptability without necessarily conforming.
- Reliability and constructiveness in their dealings with others.
- A preference for living a rich, full life.

These traits are fluid in their expression with the person being capable of self-actualizing them.

### **Educational implications**

- This approach believes in child-centered-education.
- According to this approach every individual has his own individuality. Teacher should respect and develop this individuality through education.
- According to this approach, we should understand the child first of all, and then teach him.

- In this approach teacher should use methods of teaching which are based on psychological principles. Teacher should not use teacher centered and traditional methods of teaching in it.
- Teacher should not force student to be disciplined. He/she should encourage self discipline and self-control among students. Students should be given the responsibility of to be disciplined.
- According to this approach student plays a central role in teaching learning process. Teacher acts as a guide, friend or helper of the students.
- According to this approach students should be taught in democratic environment. He/she should provide a rich environment with a view to have their around development.
- The humanistic approach places a great deal of emphasis on students' choice and control over the course of their education.
- Humanistic educators believe that both feelings and knowledge are important to the learning process.
- Humanistic educators believe that grades are irrelevant and that only self-evaluation is meaningful. Grading encourages students to work for a grade and not for intrinsic satisfaction.
- The environment in a school which focuses their practice on humanistic education tends to have a very different setting than a traditional school.
- Students are often in competition with each other or have to work individually towards achieving their personal goals.

## 2.Maslow's Humanistic theory

Abraham Maslow is well renowned for proposing the Hierarchy of Needs Theory in 1943. This theory is a classical depiction of human motivation. This theory is based on the assumption that there is a hierarchy of five needs within each individual. The urgency of these needs varies. These five needs are as follows-

1. **Physiological needs-** These are the basic needs of air, water, food, clothing and shelter. In other words, physiological needs are the needs for basic amenities of life.
2. **Safety needs-** Safety needs include physical, environmental and emotional safety and protection. For instance- Job security, financial security, protection from animals, family security, health security, etc.
3. **Social needs-** Social needs include the need for love, affection, care, belongingness, and friendship.
4. **Esteem needs-** Esteem needs are of two types: internal esteem needs (self- respect, confidence, competence, achievement and freedom) and external esteem needs (recognition, power, status, attention and admiration).
5. **Self-actualization need-** This include the urge to become what you are capable of becoming / what you have the potential to become. It includes the need for growth and self-contentment. It also includes desire for gaining more knowledge, social- service, creativity and being aesthetic. The self- actualization needs are never fully satiable. As an individual grows psychologically, opportunities keep cropping up to continue growing.

### Conclusion

According to Maslow, individuals are motivated by unsatisfied needs. As each of these needs is significantly satisfied, it drives and forces the next

need to emerge. Maslow grouped the five needs into two categories - **Higher-order needs** and **Lower-order needs**. The physiological and the safety needs constituted the lower-order needs. These lower-order needs are mainly satisfied externally. The social, esteem, and self-actualization needs constituted the higher-order needs. These higher-order needs are generally satisfied internally, i.e., within an individual. Thus, we can conclude that during boom period, the employees lower-order needs are significantly met.

### **Educational implications**

- Obviously, students who are very hungry or in physical danger will have little psychological energy to put into learning
- Schools and government agencies recognize that if students' basic needs are not met, learning will suffer
- They have responded by providing free breakfast and lunch programs. The most important deficiency needs, however, are those for love and self-esteem.
- Students who do not feel that they are loved and that they are capable are unlikely to have a strong motivation to achieve the higher-level growth objectives, such as the search for knowledge and understanding for their own sake or the creativity and openness to new ideas that are characteristic of the self-actualizing person.
- A teacher who can put students at ease and make them feel accepted and respected as individuals is more likely (in Maslow's view) to help them become eager to learn for the sake of learning and willing to risk being creative and open to new ideas.

### **2.4.SOCIAL CONSTRUCTIVISM**

Social constructivism is a variety of cognitive constructivism that emphasizes the collaborative nature of much learning. Social constructivism was developed by post-revolutionary Soviet psychologist Lev Vygotsky. Vygotsky was a cognitivist, but

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rejected the assumption made by cognitivists such as Piaget and Perry that it was possible to separate learning from its social context. He argued that all cognitive functions originate in (and must therefore be explained as products of) social interactions and that learning did not simply comprise the assimilation and accommodation of new knowledge by learners; it was the process by which learners were integrated into a knowledge community. According to Vygotsky (1978, 57),

### **General Implications of Social Constructivism**

- Learning and development is a social, collaborative activity.
- The Zone of Proximal Development can serve as a guide for curricular and lesson planning.
- School learning should occur in a meaningful context and not be separated from learning and knowledge children develop in the "real world."
- Out-of-school experiences should be related to the child's school experience.

## **CONTRIBUTORS OF SOCIAL CONSTRUCTIVIST PERSPECTIVES**

### **A. Lev Vygotsky's theory**

#### **1. Language, Culture, & Knowledge**

Vygotsky (1934) emphasized the role of language and culture in cognitive development and in how we perceive the world, and claimed that they provide frameworks through which we experience, communicate, and understand reality.

He demonstrated the importance of language in learning by demonstrating that in infants, communication is a pre-requisite to the child's acquisition of concepts and language. But, he suggests that people learn with meaning and personal significance in mind, not just through attention to the facts:

Language and the conceptual schemes that are transmitted by means of language are essentially social phenomena. Knowledge is not simply constructed, it is co-constructed.

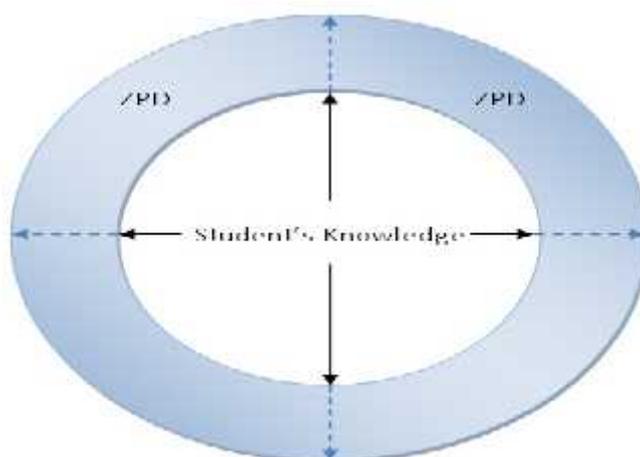
## 2. The Zone of Proximal Development

Vygotsky believed that learning takes place within the Zone of Proximal Development. In this, students can, with help from adults or children who are more advanced, master concepts and ideas that they cannot understand on their own. This model has two developmental levels:

- The level of actual development – point the learner has already reached & can problem-solve independently.
- The level of potential development (ZDP) – point the learner is capable of reaching under the guidance of teachers or in collaboration with peers.

The ZDP is the level at which learning takes place. It comprises cognitive structures that are still in the process of maturing, but which can only mature under the guidance of or in collaboration with others.

### The Zone of Proximal Development



**White circle:** what the student can learn unaided

**Blue circle:** what student can learn with help

**ZDP:** area of 'potential' where learning takes place

- To ensure development in the ZDP, the assistance/guidance received must have certain features:

- **Intersubjectivity** – the process whereby two participants who begin a task with different understandings arrive at a shared understanding (Newson & Newson, 1975). This creates a common ground for communication as each partner adjusts to the perspective of the other.
- **Scaffolding** – adjusting the support offered during a teaching session to fit the child's current level of performance. This captures the form of teaching interaction that occurs as individuals work on tasks such as puzzles and academic assignments.
- **Guided participation** – a broader concept than scaffolding that refers to shared endeavours between expert and less expert participants

### **B.Social – constructivism : Piaget**

Piaget (1970) proposed that children progress through a sequence of four stages, assumed to reflect qualitative differences in children's cognitive abilities. Limited by the logical structures in the different developmental stages, learners cannot be taught key cognitive tasks if they have not reached a particular stage of development.

He later (1985) expanded this theory to explain how new information is shaped to fit with the learner's existing knowledge, and existing knowledge is itself modified to accommodate the new information. The major concepts in this cognitive process include:

- **Assimilation:** it occurs when a learner perceives new objects or events in terms of existing schemes or operations. This information is compared with existing cognitive structures
- **Accommodation:** it has occurred when existing schemes or operations must be modified to account for a new experience.
- **Equilibration:** it is the master developmental process, encompassing both assimilation and accommodation. Anomalies of experience create a state of disequilibrium which can be only resolved when a more adaptive, more sophisticated mode of thought is adopted.

While the brain activities adjust, accommodate and adapt with the society socialization takes place. Through his observations of his children, Piaget developed a stage theory of intellectual development that included four distinct stages:

### ***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.

### ***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 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.

### ***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.

### **Educational Implications**

- The implications of classical conditioning in the classroom are less important than those of operant conditioning, but there is a still need for teachers to try to make sure that students associate positive emotional experiences with learning.
- If a student associates negative emotional experiences with school, then this can obviously have bad results, such as creating a school phobia.

For example, if a student is bullied at school they may learn to associate the school with fear. It could also explain why some students show a particular dislike of certain subjects that continue throughout their academic career. This could happen if a student is humiliated or punished in class by a teacher.

### **C.Social – constructivism : Roger**

Through his following theories an individual can make effective social interaction and construct the better society. The theories are :

#### **Self-Actualization**

Rogers believed that all people possess an inherent need to grow and achieve their potential. This need to achieve self-actualization, he believed, was one of the primary motives driving behavior.

#### **Unconditional Positive Regard**

For psychotherapy to be successful, Rogers suggested, it was imperative for the therapist to provide unconditional positive regard to the client. This means offering support and a lack of judgment, no matter what the client feels, does, or experiences. The therapist accepts the client as they are and allows them to express both positive and negative feelings without judgment or reproach.

#### **Development of the Self**

Rogers believed that the formation of a healthy self-concept was an ongoing process shaped by a person's life experiences. People with a stable sense of self tend to have greater confidence and cope more effectively with life's challenges.

Rogers suggested that self-concept begins to develop during childhood and is heavily influenced by parenting. Parents who offer their children unconditional love and regard are more likely to foster a healthy self-

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concept. Children who feel that they have to “earn” their parents love may end of with low self-esteem and feelings of unworthiness.

### **Congruence**

Rogers also suggests that people tend to have a concept of their “ideal self.” The problem is that our image of who we think we should be does not always match up with our perceptions of who we are today. When our self-image does not line up with our ideal self, we are in a state of incongruence. By receiving unconditional positive regard and by pursuing the actualizing tendency, however, people can come close to reaching a state of congruence.

### **The Fully-Functioning Person**

Rogers suggested that people who continually strive to fulfill their actualizing tendency could become what he referred to as fully-functioning. A fully-functioning person is one who is completely congruent and living in the moment. Like many other aspects of his theory, unconditional positive regard plays a critical role in the development of full functioning. Those who receive nonjudgmental support and love can develop the self-esteem and confidence to be the best person they can be and live up to their full potential.

Some of the key characteristics of a fully-functioning person include:

- Openness to experience
- A flexible self-concept
- Unconditional regard for the self
- The ability to live in harmony with others.

**D.Social constructivist - Skinner**

Through stimulus and response interaction takes place. When the students provide right response, a teacher has to appreciate through rewards. Through which we can construct better society.

The theory of B.F. Skinner is based upon the idea that learning is a function of change in overt behaviour. Changes in behaviour are the result of an individual's response to events (stimuli) that occur in the environment. A response produces a consequence such as defining a word, hitting a ball, or solving a math problem. When a particular Stimulus-Response (S-R) pattern is reinforced (rewarded), the individual is conditioned to respond. The distinctive characteristic of operant conditioning relative to previous forms of behaviorism (e.g., connectionism, drive reduction) is that the organism can emit responses instead of only eliciting response due to an external stimulus.

Reinforcement is the key element in Skinner's S-R theory. A reinforcer is anything that strengthens the desired response. It could be verbal praise, a good grade or a feeling of increased accomplishment or satisfaction. The theory also covers negative reinforcers — any stimulus that results in the increased frequency of a response when it is withdrawn (different from aversive stimuli — punishment — which result in reduced responses). A great deal of attention was given to schedules of reinforcement (e.g. interval versus ratio) and their effects on establishing and maintaining behavior.

One of the distinctive aspects of Skinner's theory is that it attempted to provide behavioral explanations for a broad range of cognitive phenomena. For example, Skinner explained drive (motivation) in terms of deprivation and reinforcement schedules. Skinner (1957) tried to account for verbal learning and language within the operant conditioning paradigm, although this effort was strongly rejected by linguists and psycholinguists. Skinner (1971) deals with the issue of free will and social control.

**Educational implications of Social constructivism**

- Encouraging student autonomy and initiative
- Discussion even in lectures, promoted by the educator asking open questions and allowing time for responses
- Encouraging the connection of ideas via analysis, prediction, and justification of new ideas
- Peer collaboration and group project work
- Study groups for peer learning
- Promoting the use of technology to provide simulations of real activities, networked writing and communications
- Allocating a proportion of grades to peer assessment and training students in the process
- Showing students models of good practice in essay writing and project work

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## UNIT –III : LEARNING IN ‘CONSTRUCTIVIST’ PERSPECTIVE

**UNIT – 3** : *learning in 'constructivist' perspective Distinctions between learning as 'construction of knowledge' and learning as 'transmission and reception of knowledge' – Social-constructivist perspective and applications of Vygotsky's ideas in teaching – processes of construction of knowledge: Experiential learning and reflection, Social mediation, Cognitive negotiability, Situated learning and cognitive apprenticeship, Meta-cognition – Creating facilitative learning environments, teachers' attitudes, expectations – enhancing motivation, positive emotions, self-efficacy, collaborative and self-regulated learning.*

### **3.1. LEARNING AS CONSTRUCTION OF KNOWLEDGE AS DIFFERENT FROM LEARNING AS TRANSMISSION AND RECEPTION OF KNOWLEDGE:**

**Reception** is model of learning where there is transmission of knowledge from the external source (for example, teacher) to the receiver (students). So, learning here is being taught. The teacher gives students the concept and knowledge while students are only receiving it purely.

**Transmission** is Sending & Receiving messages, knowledge, signals. Which includes no scope for creativity, Rigidity and Generally method of teaching is Lecture Method.

**Construction** is totally different with transmission and reception because in this model, students construct by their selves the meaning of concept of knowledge through discussion, discovery, openended learning, making connections, etc. Here, learning means an individual sense-making.

Construction is totally different from reception because in this model, students construct by themselves the meaning of concept of knowledge through discussion, discovery, open- ended learning, making connections, etc. Here, learning means an individual sense-making. The students or learners may interact with other learners to collaboratively build knowledge.

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**Constructivism implies....**

- Own meaning of concepts.
- Subjectivity in thinking.
- Learning outcomes vary.
- Creative outcomes.
- Flexibility and freedom in thinking.
- Students compare their own work with others.
- Learning while enjoying.
- Intrinsic motivation plays role.
- Generally methods of teaching are activity

Eggan & Kauchak (1997) “Constructivism is a view of learning that says learners use their experiences to actively construct understandings that makes sense to them, rather than have understanding delivered to them in already organized form”.

**In a Constructivist Classroom... Student autonomy and initiative are accepted and encouraged:**

By respecting students’ ideas and encouraging independent thinking, teachers help students attain their own intellectual identity. Students who frame questions and issues and then go about analyzing and answering them take responsibility for their own learning and become problem solvers.

**The teacher asks open-ended questions and allows wait time for responses:**

Reflective thought takes time and is often built on others’ ideas and comments. The ways teachers ask questions and the ways students respond will structure the success of student inquiry.

**Higher-level thinking is encouraged:**

The constructivist teacher challenges students to reach beyond the simple factual response. He encourages students to connect and summarize concepts by analyzing, predicting, justifying, and defending their ideas.

**Students are engaged in dialogue with the teacher and with each other:**

Social discourse helps students change or reinforce their ideas. If they have the chance to present what they think and hear others' ideas, students can build a personal knowledge base that they understand. Only when they feel comfortable enough to express their ideas will meaningful classroom dialogue occur.

**Students are engaged in experiences that challenge hypotheses and encourage discussion.**

When allowed to make predictions, students often generate varying hypotheses about natural phenomena. The constructivist teacher provides ample opportunities for students to test their hypotheses, especially through group discussion of concrete experiences.

**The class uses raw data, primary sources, manipulatives, and physical, interactive**

**materials.** The constructivist approach involves students in real-world possibilities, then helps them generate the abstractions that bind phenomena together.

**3.2. SOCIAL-CONSTRUCTIVIST PERSPECTIVE AND APPLICATIONS OF VYGOTKY'S IDEAS IN TEACHING:**

Lev Vygotsky, the Russian psychologist, died young at 37 in 1934, but is as influential as any living educational psychologist. In '*Thought and Language*' and '*Mind in Society*', along with several other texts, he presents a psychology rooted in Marxist social theory and dialectical materialism. Development is a result two phenomena and their interaction, the 'natural' and the 'social', a sort of early nature and nurture theory.

**Social constructivism**

Ultimately the strength of Vygotsky's learning theory stands or falls on his social constructivism, the idea that learning is fundamentally a socially mediated and constructed activity.

**Mediation**

This is the cardinal idea in his psychology of education, that knowledge is constructed through mediation, yet it is not entirely clear what mediation entails and what he means by the 'tools' that we use in mediation.

**Language and learning**

In particular, it was his focus on the role of language, and the way it shapes our learning and thought, that defined his social psychology and learning theory. Behaviour is shaped by the context of a culture and schools reflect that culture. He goes further driving social influence right down to the level of interpersonal interactions. Then even further, as these interpersonal interactions mediate the development of children's higher mental functions, such as thinking, reasoning, problem solving, memory, and language. Here he took larger dialectical themes and applied them to interpersonal communication and learning.

**Zone of Proximal Development (ZPD)**

The ZPD is the difference between what the learner knows and what the learner is capable of knowing or doing with mediated assistance. To progress, one must interact with peers who are ahead of the game through social interaction, a dialectical process between learner and peer.

**Special needs**

He had a specific interest in what we now call 'special needs' and was sympathetic to most of these students being taught in mainstream education but not necessarily with the same curriculum and in the same classes.

**Play**

At around 3, when the faculty of imagination develops, children use imaginative play to deal with acts they cannot physically perform. Objects

can be mentally transformed into concepts, a doll a real person, the stick a rifle.

### 3.3. PROCESS OF CONSTRUCTION OF KNOWLEDGE:

#### 1. Experiential learning and reflection

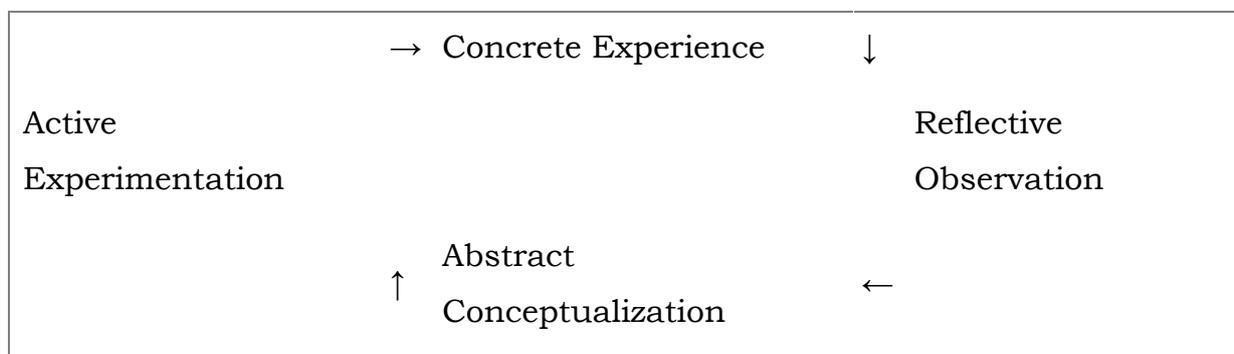
**Experiential learning** is the process of learning through experience, and is more specifically defined as "learning through reflection on doing". Experiential learning is distinct from rote or didactic learning, in which the learner plays a comparatively passive role. It is related to but not synonymous with other forms of active learning such as action learning, adventure learning, free choice learning, cooperative learning, and service learning.

Experiential learning

#### Kolb experiential learning model

Experiential learning focuses on the learning process for the individual.

**Figure 1 – David Kolb’s Experiential Learning Model (ELM)**



#### Elements of experiential learning

Kolb states that in order to gain genuine knowledge from an experience, the learner must have four abilities:

- The learner must be willing to be actively involved in the experience;
- The learner must be able to reflect on the experience;
- The learner must possess and use analytical skills to conceptualize the experience; and

- The learner must possess decision making and problem solving skills in order to use the new ideas gained from the experience.

### ***Importance of Experiential learning***

- Experiential learning teaches students the competencies they need for real-world success.
- Experiential learning motivates students.
- Experiential learning creates self-directed learners.

## **2.SOCIAL MEDIATION**

### **Definition**

Social mediation is a peaceful way of solving social conflicts by which the parties agree to end their dispute with the assistance of a neutral third party. Social mediation can cover all social conflicts such as function changes or working conditions, the atmosphere and understanding within the team or general welfare, discrimination, harassment and dismissal.

### **Objectives**

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- Develop a customised support plan for emergency socio-economic situations of the students.
- Provide technical advice in social resources within the University context.
- Minimize the impact of social inequalities by supporting family or personal situations affecting their studies.
- Offer financial support in basic services for students in emergency situations.
- Offer guidance in social resources external to the University that can alleviate the individual situation.
- Achieve a comprehensive care for the student in individual or family circumstances that are affecting their studies.
- Manage funding with public or private entities for students with social and economic difficulties.

- Promote the search for social community resources among students.
- Produce reports on the situation of the student when appropriate for the Scholarship service, Vice President Offices... or social entities external to the UA to improve their individual or family circumstances.

**Method**

- initiative of the parties
- starting mediation protocol
- mediation
- mutual agreement

**3. COGNITIVE NEGOTIABILITY**

A learner constructs meanings on the basis of his/her experiences and level of cognitive negotiability.

Students tend to learn and understand things faster if they see it the practical way, rather than learn it from textbooks and listen to what the teacher teaches.

**Activities for cognitive negotiability**

Teaching sessions can be made more interesting through interactive activities like,

- discussions and debates,
- site visits,
- teaching through games and videos, and
- playway method

As these methods make a lasting impression on a pupil's mind and motivated him/her to learn more.

Activity is a tool through which a teacher can judge the pupil's strengths and weaknesses. The student's weakness can be converted strengths by making him/her learn things, which he/she finds difficult to understand.

#### 4.SITUATED LEARNING

**Situated learning** is a theory on how individuals acquire professional skills, extending research on apprenticeship into how legitimate peripheral participation leads to membership in a community of practice. Situated learning "takes as its focus the relationship between learning and the social situation in which it occurs".

##### Elements of situated learning

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**Content:** In situated learning no importance is given for the retention of the content but it is more stressed on the reflective and higher order of thinking where the results got are used in solving the problems faced in daily life. It is more of application based.

**Context:** It is the usage of the product or the result at the right time, place and situation in the social, psychological and at material environment .it creates a platform to examine the experiences.

**Community:** It helps the learner to create, interpret, reflect and form the meanings.It gives opportunity to share the experiences among the learners and also to interact.

**Participation:** It is where interchange of ideas,problem solving and engaging of the learners take place.This takes place in a social setting which includes reflecting,interpreting and negotiating among the participants of the community.

## **Implications**

**To provide authenticated tasks in the learning environment:**It is said that authenticated task involves two stages that is, an objective and data in the setting also to the level of which students are performing the tasks which are authenticated.

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- **Simulated apprenticeship:** Students can become apprentices in a given discipline by gaining knowledge and skills.
- **Anchored instructions:**It emphasizes the conditions laid by the situated learning. It gives a situated context to solve the problem
- **learning communities:** Change of the classroom culture from more of knowledge supplying to a learning community where students focus on knowledge building and solve problems that they are interested in.
- **Assessment in appropriate place:** It shows individual's performance at different situations and also focuses on the process and product .

## **5. COGNITIVE APPRENTICESHIP**

**Cognitive apprenticeship** is a theory of the process where a master of a skill teaches that skill to an apprentice.

## ***Teaching methods***

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### **Modeling**

Modeling is when an expert, usually a teacher, within the cognitive domain or subject area demonstrates a task explicitly so that novices, usually a student, can experience and build a conceptual model of the task at hand.

### **Coaching**

Coaching involves observing novice task performance and offering feedback and hints to sculpt the novice's performance to that of an expert's.

The expert oversees the novice's tasks and may structure the task accordingly to assist in the novice's development.

### **Scaffolding (Instructional Strategies)**

Instructional scaffolding is the act of putting into place strategies and methods to support the student's learning. These supports can be teaching manipulatives, activities, and group work.

### **Articulation (Communication)**

Articulation includes "any method of getting students to articulate their knowledge, reasoning, or problem-solving process in a domain" (p. 482). Three types of articulation are inquiry teaching, thinking aloud, and critical student role.

### **Reflection (Comparison)**

Reflection allows students to "compare their own problem-solving processes with those of an expert, another student, and ultimately, an internal cognitive model of expertise".

### **Exploration (Opportunities to solve problem)**

Exploration involves giving students room to problem solve on their own and teaching students exploration strategies.

## **6. METACOGNITION**

**Metacognition** is "cognition about cognition", "thinking about thinking", or "knowing about knowing". It comes from the root word "**meta**", meaning beyond. It can take many forms; it includes knowledge about when and how to use particular strategies for learning or for problem solving. There are generally two components of metacognition: knowledge about cognition, and regulation of cognition.

**Some types of metacognitive knowledge would include:**

- Person knowledge (declarative knowledge) which is understanding one's own capabilities,
- Task knowledge (procedural knowledge) which is how one perceives the difficulty of a task which is the content, length, and the type of assignment,
- Strategic knowledge (conditional knowledge) which is one's own capability for using strategies to learn information. Young children are not particularly good at this; it is not until upper elementary where students start to develop the understanding of strategies that will be effective.

**Components**

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Metacognition is classified into three components:

1. **Metacognitive knowledge** (also called metacognitive awareness) is what individuals know about themselves and others as cognitive processors.
2. **Metacognitive regulation** is the regulation of cognition and learning experiences through a set of activities that help people control their learning.
3. **Metacognitive experiences** are those experiences that have something to do with the current, on-going cognitive endeavor.

Metacognition includes at least three different types of metacognitive awareness when considering metacognitive knowledge:

1. **Declarative knowledge**: refers to knowledge about oneself as a learner and about what factors can influence one's performance. Declarative knowledge can also be referred to as "world knowledge".

2. **Procedural knowledge:** refers to knowledge about doing things. This type of knowledge is displayed as heuristics and strategies. A high degree of procedural knowledge can allow individuals to perform tasks more automatically. This is achieved through a large variety of strategies that can be accessed more efficiently.
3. **Conditional knowledge:** refers to knowing when and why to use declarative and procedural knowledge. It allows students to allocate their resources when using strategies. This in turn allows the strategies to become more effective.

Similar to metacognitive knowledge, metacognitive regulation or "regulation of cognition" contains three skills that are essential.

1. **Planning:** refers to the appropriate selection of strategies and the correct allocation of resources that affect task performance.
2. **Monitoring:** refers to one's awareness of comprehension and task performance
3. **Evaluating:** refers to appraising the final product of a task and the efficiency at which the task was performed. This can include re-evaluating strategies that were used.

### **Recommended Instructional Strategies**

Fogarty (1994) suggests that Metacognition is a process that spans three distinct phases, and that, to be successful thinkers, students must do the following:

1. Develop a **plan** before approaching a learning task, such as reading for comprehension or solving a math problem.
2. **Monitor** their understanding; use "fix-up" strategies when meaning breaks down.
3. **Evaluate** their thinking after completing the task.

### 3.4. CREATING A FACILITATIVE LEARNING ENVIRONMENT

Despite the fact that socio-economic conditions, gender and culture influence students' learning for good or bad, teachers can play a vital role in creating a positive classroom environment and enhancing the performance of students.

#### **Accessibility to resources:**

Given that there are only limited resource materials needed for instruction in a classroom, teachers must ensure that chalks, charts, models, equipment for demonstration etc are made available to students in every session.

#### **Dissuading biases:**

Researches show that teachers can create a positive difference in the lives of those students who are socio-culturally disadvantaged. Students who like their classrooms and perform well in their studies are those who experience their teachers to be caring and supportive.

#### **Inclusive setting:**

Disability is never a deficiency, it becomes so when society fails to create a favourable environment for them to learn and progress. Teachers must never put up an attitude of deficiency before the students, particularly to the disabled.

#### **Instructional techniques:**

Teachers should use adequate instructional techniques in line with the socio-cultural characteristics of learners, which in turn will influence their learning. Instructional strategies that favour the learning needs of children should be acquired and implemented as part of the

#### **Knowledge of sociolinguistics:**

Creating a conducive ambience for learning in classrooms necessarily demands a proper know-how of the sociolinguistics of students by the teacher. Lack of such an understanding may give way for misunderstanding and lack of communication.

**Supportive ambience:**

Numerous research studies sustain the fact that an affectionate, caring and empathetic approach from teachers impels the students to be serious about their lessons, cooperate wholeheartedly with their mentors in accomplishing the targets and work hard in achieving expectations.

**Sharing expectations:** It is also important that teachers, having known their students and established a positive one-to-one relationship, share their expectations with them on a regular basis and stick to those. Sharing one's expectations as to his/her ward's expected academic performance, routine conduct and overall discipline will play a vital role in setting a positive ambience in the classrooms.

**Acceptance and tolerance:**

It is important that the students are trained in the academy of acceptance and tolerance for one another.

**Social relationships:**

Another feature of a conducive classroom environment is proactive and encouraging social relationship.

**3.5. TEACHERS' ATTITUDES**

The word attitude (from Latin aptus) is defined within the framework of social psychology as a subjective or mental preparation for action. It defines outward and visible postures and human beliefs. Attitudes determine what each individual will see, hear, think and do. They are rooted in experience and *do not become automatic routine conduct*.

*Attitude* means the individual's prevailing tendency to respond favorably or unfavorably to an *object* (person or group of people, institutions or events). Attitudes can be positive (values) or negative (prejudice). Social psychologists distinguish and study three components of the responses: a) *cognitive component*, which is the knowledge about an attitude object, whether accurate or not; b) *affective component*: feelings towards the object

and c) *conative or behavioral component*, which is the action taken towards the object.

### 3.6. Teacher expectations

Although it is widely accepted that teacher's expectations affect students' achievement, recent classroom observations have led some researchers to conclude that expectancy effects are more complex than previously thought. Claude Goldenberg, University of California/Los Angeles, believes that teachers and students affect one another in more complicated and reciprocal ways that are not easy to predict or to change. The relationship between expectancy and achievement appears to be partly the result of students' effects on teachers. Student behaviors, such as motivation and academic focus, help shape teachers' expectations. Some researchers suggest that teachers' expectations may predict students' performance, not simply because their expectations create self-fulfilling prophecies, but because they are accurate reflections of student behaviors that are critical for academic success.

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### 3.7. ENHANCING MOTIVATION IN TEACHING AND LEARNING PROCESS

1. Give students a sense of control in the academic activities.
2. Define the objectives which you are going to teach
3. Create a threat-free environment.
4. Change your scenery that you should provide different learning situations.
5. Offer varied experiences.
6. Use positive competition to yield more productivity in learning.
7. Offer rewards.
8. Give students responsibility.
9. Allow students to together to learn in different learning situations

10. Give praise when students giving appropriate responses.
11. Encourage self-reflection.
12. Be excited on learning
13. Know your student psychology to satisfy all kinds of learner.
14. Harness student interests.
15. Help students find intrinsic motivation.
16. Manage student anxiety.
17. Make goals high but attainable.
18. Give feedback and offer chances to improve.
19. Track your students progress.
20. Make things fun relevant to learning
21. Provide opportunities for success.

### 3.8. POSITIVE EMOTIONS

#### Definition

Positive emotions are always for human well-being and also it expands the happiest learning. Following are the different kinds of positive emotions :

- |                            |                       |
|----------------------------|-----------------------|
| ➤ <i>Joy</i>               | ➤ <i>Awe</i>          |
| ➤ <i>Gratitude</i>         | ➤ <i>Love</i>         |
| ➤ <i>Serenity Interest</i> | ➤ <i>Altruism</i>     |
| ➤ <i>Hope</i>              | ➤ <i>Satisfaction</i> |
| ➤ <i>Pride</i>             | ➤ <i>Relief</i>       |
| ➤ <i>Amusement</i>         |                       |
| ➤ <i>Inspiration</i>       |                       |

#### Positive emotions in classroom

In the classroom The research findings imply that positive emotions can have profoundly positive effects on students' learning. However, this need not be true for all positive emotions. Specifically, positive task-related emotions, such as

- enjoyment of learning,

- focus students' attention on learning,
- promote their motivation to learn,
- and facilitate use of deep learning strategies and self-regulation of learning.
- Motivates the students to learn
- Solves cognitive problems

### 3.9. SELF – EFFICACY

#### Definition

**Self-efficacy** is the extent or strength of one's belief in one's own ability to complete tasks and reach goals.

#### Self-Efficacy Theory

Self-efficacy beliefs are an important aspect of human motivation and behavior as well as influence the actions that can affect one's life. More simply, self-efficacy is what an individual believes he or she can accomplish using his or her skills under certain circumstances (Snyder & Lopez, 2007). Self-efficacy has been thought to be a task-specific version of self-esteem (Lunenborg, 2011). Judgments of self-efficacy are generally measured along three basic scales: magnitude, strength, and generality.

**Self-efficacy magnitude** measures the difficulty level (e.g. easy, moderate, and hard) an individual feels is required to perform a certain task (Van der Bijl & Shortridge-Baggett, 2002). How difficult is my class work? Are the quizzes easy or hard?

**Self-efficacy strength** refers to the amount of conviction an individual has about performing successfully at diverse levels of difficulty (Van der Bijl & Shortridge-Baggett, 2002). How confident am I that I can excel at my work tasks? How sure am I that I can climb the ladder of success?

**Generality of self-efficacy** refers to the "degree to which the expectation is generalized across situations (Lunenburg, 2011).

### **Factors affecting self-efficacy**

Bandura identifies four factors affecting self-efficacy.

#### **1. Experience, or "Enactive Attainment"**

The experience of mastery is the most important factor determining a person's self-efficacy. Success raises self-efficacy, while failure lowers it.

#### **2. Modeling, or "Vicarious Experience"**

This process is most effectual when we see ourselves as similar to the model. Although not as influential as direct experience, modeling is particularly useful for people who are particularly unsure of themselves.

#### **3. Social Persuasion**

Social persuasion generally manifests as direct encouragement or discouragement from another person. Discouragement is generally more effective at decreasing a person's self-efficacy than encouragement is at increasing it.

#### **4. Physiological Factors**

In stressful situations, people commonly exhibit signs of distress: shakes, aches and pains, fatigue, fear, nausea, etc. Perceptions of these responses in oneself can markedly alter self-efficacy.

### **Educational implications of self – efficacy**

1. Students can learn from others experience
2. Students can learn from previous performance
3. Students can learn social persuasion
4. Students can learn to overcome stress
5. Students can understand the genetics of intelligence accordingly they can practice their studies.

**Strategies to improve self-efficacy for struggling students**

- Use moderately – difficult tasks
- Use peer models
- Teach specific learning strategies
- Capitalize on students' interests
- Allow students to make their own choices
- Encourage students to try
- Give frequent, focused feedback
- Encourage accurate attributions
- Teachers need high self-efficacy

**3.10. COLLOBORATIVE LEARNING****Definition**

**Collaborative learning** is a situation in which two or more people learn or attempt to learn something together Unlike individual learning, people engaged in collaborative learning capitalize on one another's resources and skills (asking one another for information, evaluating one another's ideas, monitoring one another's work, etc.). More specifically, collaborative learning is based on the model that knowledge can be created within a population where members actively interact by sharing experiences and take on asymmetry roles.

**Steps in collaborative learning**

- ❖ Plan – formulation of goals and objectives
- ❖ Introduce – introduction of procedure to implementation
- ❖ Monitor – supervising the students work

- ❖ Assess – evaluate every steps
- ❖ Process – provide feedback

### **Collaborative Learning in Classroom situation**

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- Often, collaborative learning is used as an umbrella term for a variety of approaches in education that involve joint intellectual effort by students or students and teachers by engaging individuals in interdependent learning activities.
- Many have found this to be beneficial in helping students learn effectively and efficiently than if the students were to learn independently.
- Some positive results from collaborative learning activities are students are able to learn more material by engaging with one another and making sure everyone understands, students retain more information from thoughtful discussion, and students have a more positive attitude about learning and each other by working together.
- Encouraging collaborative learning may also help improve the learning environment in higher education as well.
- Simply including more interdependent activities will help the students become more engaged and thoughtful learners, but teaching them that obtaining knowledge is a communal activity itself.

### **3.11. SELF-REGULATED LEARNING (SRL)**

#### **Definition**

**Self-regulated learning (SRL)** is one of six domains of self-regulation, and is aligned most closely with the interests of teachers. Broadly speaking, it refers to learning that is guided by *metacognition* (thinking about one's thinking), *strategic action* (planning, monitoring, and evaluating personal

progress against a standard), and *motivation to learn*. "Self-regulated" describes a process of taking control of and evaluating one's own learning and behavior.

### **Four phases of self-regulation**

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These phases are :

task perception,  
goal setting and planning,  
enacting, and adaptation.

During the task perception phase, students gather information about the task at hand and personalize their perception of it. This stage involves determining motivational states, self-efficacy, and information about the environment around them.

Next, students set goals and plan how to accomplish the task. Several goals may be set concerning explicit behaviors, cognitive engagement, and motivation changes. The goals that are set depend on how the students perceive the task at hand. The students will then enact the plan they have developed by using study skills and other useful tactics they have in their repertoire of learning strategies.

The last phase is adaptation, wherein students evaluate their performance and determine how to modify their strategy in order to achieve higher performance in the future. They may change their goals or their plan; they may also choose not to attempt that particular task again. Winne and Hadwin state that all academic tasks encompass these four phases.

### **Sources of self-regulated learning**

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there are three sources of self-regulated learning:

- ❖ active/executive,
- ❖ dynamic, and

- ❖ interest-creating

**characteristics of self-regulated learning:**

1. self-observation (monitoring one's activities); seen as the most important of these processes<sup>[4]</sup>
2. self-judgment (self-evaluation of one's performance) and
3. self - reactions (reactions to performance outcomes).

**Involving stages**

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Zimmerman suggested that self-regulated learning process better with three stages.

1. Forethought, learners' preparing work before performance on their studying;
2. Volitional control, which is also called "performance control", occurs in the learning process. It involves learners attention and willpower;
3. Self-reflection,happens in the final stage when learners review their performance toward final goals. At the same time, focusing on their learning strategies during the process is also efficient for their final outcomes.

**Application of self-regulated learning in practice**

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- ❖ literacy instruction,
- ❖ cognitive engagement, and
- ❖ self-assessment

**Examples of self regulated learning strategies in practice:**

- Self-Assessment
- Wrapper Activity
- Think Aloud
- Questioning
- Reciprocal Teaching

## UNIT – IV: METHODS OF LEARNING

**Unit 4: Methods of learning** : Types - individual and group methods – innovative methods, new trends in learning use of computer and networking – Influence of methods on active engagement and inquiry in Learning – activity based learning – social learning – constructivism in learning – problem solving, discovery learning, mastery learning, individual and peer group learning – factors affecting learning

### Introduction

A **learning method** comprises the principles and methods used for instruction to be implemented by teachers to achieve the desired learning in students. These strategies are determined partly on subject matter to be taught and partly by the nature of the learner. For a particular learning method to be appropriate and efficient it has to be in relation with the characteristic of the learner and the type of learning it is supposed to bring about.

### 4.1. INDIVIDUAL METHODS OF LEARNING

**Individual learning** is training that is individualised to take into consideration the differences between learners. It is most appropriately used in a one-to-one situation, such as training successors or team members in the workplace.

The main types of individual learning methods are:

- ❖ Programmed learning
- ❖ Individual project learning
- ❖ Resource-based
- ❖ Directed private study
- Personalized system of learning
- Heuristic method of learning
- Computer-based training
- Distance learning

#### a) PROGRAMMED LEARNING

**Meaning:** Teaching technique in which a learner is presented with a small chunk of information, and is asked to answer a question after understanding it. If the answer is correct, the learner may proceed to the

next chunk, otherwise go back to a previous piece of information and proceed from there. Programmed learning is based on the principles of small steps, self-pacing, and immediate feedback.

### **Types of Programmed – Learning:**

**Type - 1: Linear programme** is one in which every learner follows the identical sequence, that is, the frames or deduces are encountered in a single, pre-arranged order. The proponent of this type of programme style is B.E Skinner (1958).

**Type - 2: Branching programme** is one where the particular response emitted on a frame or deduce determines the alternative frame/ frames, the learner proceeds to next. The proponent of this programme type is Norman Crowder (1960)

**Type - 3 : Mathetics** is one in which there is the systematic application of reinforcement theory to the analysis and construction of complex repertoires. This also represents mastery of subject matter.

### **STEPS IN PROGRAMMING:**

#### **1. Topic Selection:**

The programmes should select the most familiar topic; otherwise he has to take the help of a subject expert.

#### **2. Content Outline:**

After topic selection, its outline may be prepared which cover all the materials, one plans, to teach. For this programme one has to refer to examine relevant books and materials.

#### **3. Instructional Objectives:**

Instructional Objectives must be formulated which involve both task description and task analysis. The former is the description of terminal behaviours which the learner is expected to achieve and the latter is the series of component behaviours that he is required to acquire in the process of achieving terminal behaviour.

#### **4. Entry Skill:**

The learner should have some pre-requisite ability and skill to understand properly the new programme.

**5. Presentation of the Material:**

Suitable format is to be decided for presenting the material from the educational point of view. Then the programmed material should be presented in a sequence of frames arranged as steps towards terminal behaviour.

**6. Student Participation:**

On analysis of the terminal behaviour one will find the critical responses of the students.

**7. Terminal Behaviour Test:**

The effect of programme can be ascertained by administering the terminal behaviour test. It is also known as performance assessment. This provides feedback to the programme and shows the effectiveness of the instructional materials.

**8. Revision:**

Lastly the programme may be revised on the basis of feedback. The instructional materials may be edited and modified according to the needs and requirements of the target audience.

**ADVANTAGES OF PROGRAMMED INSTRUCTION**

1. The main emphasis is on individual differences and students' involvement.
2. There is not fixed time interval for learning. Students may learn at their own pace.
3. Learning by doing maxim of teaching is followed to involve learners in the learning process.
4. Students are exposed only to correct responses, therefore, possibility to commit errors is reduced.
5. Immediate confirmation of the results provides reinforcement to the learners and encourages the learners to proceed further. Feedback is provided to wrong answers, so that learner is able to develop mastery over the content.

**DISADVANTAGES OF PROGRAMMED INSTRUCTION**

1. It is very difficult to develop an instructional programme

2. Only cognitive objectives can be achieved
3. Due to tight schedule of time table, students cannot be left to learn at their own pace. It would be very difficult to learn the content the subject matter in a limited period of time.
4. There is no chance for students' creativity, their responses are highly structured.
5. Development of programme is not economical in terms of cost and time
6. In absence of the teacher, students may spoil the disciplinary tone of the class, or they will be helpless when any problem arises.
7. It cannot be applied at primary level of education or at higher education

#### **b) PERSONALIZED SYSTEM OF INSTRUCTION**

##### **Definition**

The Personalized System of Instruction is an approach to classroom instruction designed to change the role of teacher from agent of information to the engineer or manager of student learning. Its workability has been instruction.

##### **PRINCIPLES OF PSI**

- **Written materials**—The primary presentation of new content should be through written texts.
- **Units of content**—Subject matter material should be broken down into separable, meaningful units.
- **Self-paced instruction**—Students should be allowed to advance through the course material at their own pace.
- **Unit mastery**—Students must satisfy a mastery requirement in one unit before proceeding to the next. Typically, a unit in PSI would have more than one equivalent form of assessment.
- **Proctors**—Human proctors are an important part of the Keller Plan. The proctors could be "external" to the course (adults or peers brought to the course from external sources) or "internal" (advanced

students in the course who are doing well, have completed all units to date, and have good interpersonal skills).

### **c) RESOURCE BASED LEARNING**

#### ***Definition of RBL***

The design of any teaching method - and of language teaching methods in particular - will include views on the role of teachers, of learners and of materials (Richards & Rodgers 1986). Resource-based learning is a view which gives prominence to the role of resources in the teaching and learning process. It is concerned with

1. the principles which guide the selection and the organisation of the content of learning materials
2. the use of such materials, which includes
  - the nature of the activities which learners will be carrying out
  - whether students will be working individually or in groups
  - the nature of the support students can get
  - the ways in which learning will be assessed
3. technical and professional issues, which include
  - the design and production of materials and the appropriate use of the various media
  - classification issues for cataloguing or retrieval systems

### **d) COMPUTER BASED LEARNING(CBL)**

Computer Based Learning, sometimes abbreviated CBL, refers to the use of computers as a key component of the educational environment. While this can refer to the use of computers in a classroom, the term more broadly refers to a structured environment in which computers are used for teaching purposes. The concept is generally seen as being distinct from the use of computers in ways where learning is at least a peripheral element of the experience (e.g. computer games and web browsing).

### **e) DIRECT PRIVATE STUDY**

Direct private study is a general term for the explicit teaching of a skill-set using lectures or demonstrations of the material, rather than exploratory models such as inquiry-based learning.

This method is often contrasted with tutorials, participatory laboratory classes, discussion, recitation, seminars, workshops, observation, case study, active learning, practica or internships. Usually it involves some explication of the skill or subject matter to be taught and may or may not include an opportunity for student participation or individual practice. Some direct private study is usually part of other methodologies, such as athletic coaching.

Direct private study may be ad hoc or even an incidental digression. Although there is usually some element of frontal instruction and a general concept of the skill or lesson, there may or may not be a formal lesson plan. In some special education programs, direct private study is used in resource rooms, when teachers assist with homework completion and academic remediation.

#### **f) HEURISTIC LEARNING**

This is a kind of **individual learning**. The term "Heuristic" refers to Armstrong who was the exponent of this strategy. Pollion and Dankar (1945) called it "problem solving". It is based on the psychological principles of "trial and error" theory. Logical and imaginative thinking are perquisites for his type of teaching strategy. It is an economical and speedy strategy.

#### ***Meaning of Heuristic Method of learning***

A problem is placed before the learners and they are asked to find the solution of the problem through various literacy means, like library, laboratory, and workshops etc. Teacher's role is to initiate the learning and pupils are active throughout the learning process. By using their creative thinking and imaginative power, they try to find out the relevant solutions based on some logic. They learn by self-experience.

#### **Steps in Heuristic method**

1. try to understand the problem
2. make a plan
3. carry out this plan
4. evaluate and adapt

***Advantages of Heuristic Teaching Method***

Following are the advantages of this Heuristic teaching strategy

1. It helps in achieving cognitive, affective and psychomotor objectives i.e. it helps in all round development of the child.
2. Students are put into the situation to learn by self-experience. It certainly develops self-confidence and self-reliance in the learners.
3. It helps in developing scientific attitude and creativity in the learners.
4. Teacher encourages the learners to explore the environment in search of the solution of the problems. By doing so, some new knowledge is discovered by them.
5. Teacher is always ready to provide individual guidance regarding the solution of the problem. Thus interaction between the teacher and the learner takes place in a cooperative, conducive environment.

***Disadvantages of Heuristic Teaching Method***

1. It cannot be used at primary level of education
2. Higher intelligence and divergent thinking is required in the learners. But, there are some students who are below average and fail to succeed in discovering the solutions of the problems. It frustrates them.
3. In true sense, none of the teachers have patience for providing individual guidance to the learners. And learners, too, feel hesitation to approach the teacher for seeking his help.

**g) PROBLEM-BASED LEARNING**

**Problem-Based Learning** is a collaborative, student-centered approach to learning in which students learn about a subject by working in groups to solve an open-ended problem.

**Steps :**

1. Creating questions of their own
2. Obtaining supporting evidence to answer the question(s)
3. Explaining the evidence collected

4. Connecting the explanation to the knowledge obtained from the investigative process
5. Creating an argument and justification for the explanation

### **Advantages of PBL**

- Encourages higher order critical thinking and de-emphasizes memorization.
- Learning is relevant to the real world.
- Increases motivation to learn in order to arrive at a solution.
- Provides additional opportunities for students to work collaboratively and practice communication and social skills.
- Learning is student-centered. The instructor acts as a facilitator or learning coach.
- Students learn how to learn.

### **Disadvantages of PBL**

- Lack of traditional instruction and progression through material.
- Objective evaluation may be difficult. May be difficult to fail a student.
- Need more teachers/facilitators - ideally 1 for each 6 students.
- Range of topics that can be covered is a limiting factor.

## **4.2. TYPES OF GROUP METHOD OF LEARNING**

### **DEFINITION**

A collection of persons who are emotionally, intellectually, and aesthetically engaged in solving problems, creating products, and making meaning—an assemblage in which each person learns autonomously and through the ways of learning of others.

### **a) COLLABORATIVE LEARNING**

Collaborative learning is based on the view that knowledge is a social construct.

### **Principles of CL**

Collaborative activities are most often based on four principles:

- The learner or student is the primary focus of instruction.
- Interaction and "doing" are of primary importance
- Working in groups is an important mode of learning.

- Structured approaches to developing solutions to real-world problems should be incorporated into learning.

### **Advantages of CL**

The benefits of collaborative learning include:

- Development of higher-level thinking, oral communication, self-management, and leadership skills.
- Promotion of student-faculty interaction.
- Increase in student retention, self-esteem, and responsibility.
- Exposure to and an increase in understanding of diverse perspectives.
- Preparation for real life social and employment situations.

### **Examples of collaborative learning**

- ❖ Stump your partner
- ❖ Think-pair-share/ Write-pair-share
- ❖ Catch-up
- ❖ Case study
- ❖ Team-based learning
- ❖ Group problem solving

### **b) TEAM TEACHING**

**Definition :** “Team teaching is a type of instructional organization involving teaching personnel and the students assigned to them in which two or more teachers are given responsibility, looking together, for all or a significant part of the instruction for some group students”.

#### ***Characteristics of Team Teaching:***

- The team teaching method is flexible
- In team teaching, teachers need to decide their activities by themselves
- It is a collective responsibility
- In team teaching, the whole responsibility is on all the teachers

- The requirements of pupils, schools and other things are also considered
- Teaching and evaluation are both done on the co-operative basis

### ***Types of Team Teaching:***

There are mainly 2 types of team teaching methods, they are

#### **1.Hierarchic team teaching:**

This type of team teaching method is just similar to a pyramid where different levels of teachers are organized in a structure from top to bottom. The team leader is placed at the top, mid-level teachers just below the team leader and normal teachers at the bottom.

#### **2.Synergetic team teaching:**

In this type of teaching method, there is no differentiation between teachers. Through the cooperation of two or more teachers working together, synergetic team teaching groups can be formed.

#### **Advantages**

1. Low cost and it supports to teachers.
2. Closer integration of staff and it gives variety of ideas.
3. Better involvement of students and also develops mental simulation to students.
4. Breaks traditional lecture boredom.
- 5.. Better bonding between student and teacher also it provokes participation.
6. Imparts the lesson of team management.
7. Develops interpersonal skills and logic of students.
8. Teachers can give individual attention and also it concentrate on staff development.
9. Long-term knowledge retention.

#### **Disadvantages of team teaching:**

1. Acceptance of change by teachers.
2. Rigidity in teachers and bad team management.
3. Personality conflict and hard to keep track
4. Inability to complete curriculum and time for coordination and planning
5. Takes time to develop and going overboard and resistance from students
6. Takes time to develop and the expectation of higher compensation

**c) PLAYWAY METHOD OF TEACHING**

**Meaning :** By play-way, we mean the spirit of play in all educational instruction. It emphasises the spirit of freedom, spontaneity and enjoyment introduced in all school work. As Ross says, "It sums up in a word the modern spirit in education".

**Different forms of Playway method of teaching :**

**(i) Kindergarten Method** is the earliest play-way method, devised by Froebel. Froebel regarded the school as the garden and the teacher as the gardener who carefully tends the little human plants and helps them to grow beautifully. He introduced playful objects called 'gifts', and emphasised chorus singing. His method is most popular in nursery schools.

**(ii) Montessori Method** is also based on psychological considerations, and it includes a number of play-activities for sensory training and learning 3 Rs. Montessori's didactic apparatus' provides playful exercise for pre-school children.

**(iii) Dalton Plan** is a playful method teaching for the elder children who can work independently at their own will, in a spirit of play. The class-room is regarded as a laboratory for the various subjects, and the child is free to work at his own rate of learning.

**(iv) Project Method** devised by John Dewey, provides opportunities to the child to take up problems and solve those in a natural setting. The teacher creates real life situations wherein the child is himself motivated to discover in a playful spirit.

**(v) Heuristic Method** of Armstrong, seeks to put the pupil in a position of original discoverer, learning new facts in a spirit of play.

**(vi) Correlation Method** of Mahatma Gandhi is an Indian version of Project Method, and is characterised by the interest of the child in a particular activity, which gives rise to manifold knowledge. As the child is busy in an activity, he learns incidentally.

**(vii) Self-Government** is an adaptation of the play-way spirit in education. The elections take place in a playful manner, and the entire working of the school executive is a playful act.

**(viii) Scouting and Girl-Guiding** affords numerous playful activities like camp-fire, spooring, celebrating jamboree and scout rally.

**(ix) Story-telling** is the application of play-way in the teaching of history and literature.

**(x) Intellectual games** like word-building, braino, mechano and trade make the learning of new material easy and interesting.

**(xi) Hobbies**, like collection of stamps, flowers, leaves and fossils, art, painting, music and scientific hobbies are a source of both pleasure and profit.

**(xii) Dramatisation and Chorus** singing are cathartic in action. These have both emotional and therapeutic value.

**(xiii) Audio-visual aids** like movie, tape-record, radio and television are now-a-days utilised for educational purposes, simply because the child takes attending to these in spirit of play.

**(xiv) Curricular Activities** of all types should be introduced in the school in a spirit of play.

### **Advantages**

1. Maintains child's interest
2. More focused attention
3. Joyful learning
4. Eagerness to play more

## **4.3. INNOVATIVE METHODS**

### **Definition and Meaning**

Innovative teaching is necessary for the present and future of education to help students to reach their full potential.

#### **1. Brain storming**

Brainstorming is a large or small group activity that encourages students to focus on a topic and contribute to the free flow of ideas.

#### **Mechanism of Brain storming**

- First, a small group of students is formed. They are asked to sit in a group and are provided with a particular issue or topic.

- Teacher, as the group leader, then ask group members to think about the problem and give their ideas. They are advised to find as many solutions to the problem as they can find. They are instructed not to criticize others ideas but they are free to make attentions to others ideas. Students are encouraged to put forward suggestions without hesitation even if they seem to come up with unusual and unorthodox ideas.
- Students ideas are to be listened and accepted patiently, without passing any judgment or comment of any sort until the session is over.

### **Advantages of Brainstorming**

- ✓ It stimulated and provides varied instructional approach.
- ✓ Highly motivating.
- ✓ Increase task focus.
- ✓ Promotes spontaneity and creativity.
- ✓ Efficient and procedure.
- ✓ Involves participants in ownership of ideas.
- ✓ Encourages creativity.

### **2.Role Play Method**

Role playing is a learning structure that allows students to immediately apply content as they are put in the role of a decision maker who must make a decision regarding a policy, resource allocation, or some other outcome.

#### **Steps in Role play**

- **Offer a relevent scenario to students.** This scenario should include the role the student must play, the informational details relevant for decision making in this role, and a task to complete based on the information. This information might be provided on the screen through power point or by using a handout. It is highly recommended that the instructions be provided in writing so it is clear to students what they must do and how?

- **Give students five to ten minutes to complete the task.** The instructor might have students do this alone or in small groups or follow the think-pair-share format in which students work individual and then discuss their results with their partner.
- **Find a way to process student deliberations.** The instructor might ask students to write their replies to submit or this might be a very good lead in to a larger class discussion where students can justify their differing outcomes or opposing views.

### **Advantages**

- Students immediately apply content in a relevant, real world context.
- Students take on a decision making persona that might let them diverge from the confines of their normal self-imposed limitations or boundaries.
- Students can transcend and think beyond the confines of the classroom setting.
- Students see the relevance of the content for handling real world situations.
- The instructor and students receive immediate feedback with regard to student understanding of the content.
- Students engage in higher order thinking and learn content in a deeper way.
- Instructors can create useful scenarios when setting the parameters of the role play when real scenarios or contexts might not be readily available.
- Typically students claim to remember their role in these scenarios and the ensuing discussion long after the semester ends.

### **3. Mind Mapping Method of learning**

**Meaning:** Mind mapping is a visual form of note taking that offers an overview of a topic and its complex information, allowing students to comprehend, create new ideas and build connections. Through the use of colors, images and words, mind mapping encourages students to begin with a central idea and expand outward to more in-depth sub-topics.

**Procedure**

All **mind maps** begin with a main concept or idea that the rest of the map revolves around, so choosing that idea or topic is the first step. Begin by creating an image or writing a word that represents that first main idea.

From that main idea, create branches (as many as needed), that each represent a single word that relates to the main topic. It's helpful to use different colors and images to differentiate the branches and sub-topics.

Then, create sub-branches that stem from the main branches to further expand on ideas and concepts. These sub-branches will also contain words that elaborate on the topic of the branch it stems from. This helps develop and elaborate on the overall theme of the mind map. Including images and sketches can also be helpful in brainstorming and creating the sub-branch topics.

***Advantages of Mind Maps***

- Help students brainstorm and explore any idea, concept, or problem
- Facilitate better understanding of relationships and connections between ideas and concepts
- Make it easy to communicate new ideas and thought processes
- Allow students to easily recall information
- Help students take notes and plan tasks
- Make it easy to organize ideas and concepts

**4.4. NEW TRENDS IN LEARNING USE OF COMPUTER AND NETWORKING**

- **Mobile Learning.** New advances in hardware and software are making mobile “smart phones” indispensable tools. Just as cell phones have leapfrogged fixed line technology in the telecommunications industry, it is likely that mobile devices with internet access and computing capabilities will soon overtake personal computers as the information appliance of choice in the classroom.

- **Cloud computing.** Applications are increasingly moving off of the stand alone desk top computer and increasingly onto server farms accessible through the Internet.
- **One-to-One computing.** The trend in classrooms around the world is to provide an information appliance to every learner and create learning environments that assume universal access to the technology. Whether the hardware involved is one laptop per child (OLPC), or – increasingly -- a net computer, smart phone, or the re-emergence of the tablet, classrooms should prepare for the universal availability of personal learning devices.
  - **Ubiquitous learning.** With the emergence of increasingly robust connectivity infrastructure and cheaper computers, school systems around the world are developing the ability to provide learning opportunities to students “anytime, anywhere”.
  - **Gaming.** A recent survey by the Pew Internet and American Life Project per the Horizon Report found that massively multiplayer and other online game experience is extremely common among young people and that games offer an opportunity for increased social interaction and civic engagement among youth.
- **Personalized learning.** Education systems are increasingly investigating the use of technology to better understand a student’s knowledge base from prior learning and to tailor teaching to both address learning gaps as well as learning styles. This focus transforms a classroom from one that teaches to the middle to one that adjusts content and pedagogy based on individual student needs – both strong and weak.
  - **Redefinition of learning spaces.** The ordered classroom of 30 desks in rows of 5 may quickly become a relic of the industrial age as schools around the world are re-thinking the most appropriate learning environments to foster collaborative, cross-disciplinary, students centered learning.

- **Teacher-generated open content.** OECD school systems are increasingly empowering teachers and networks of teachers to both identify and create the learning resources that they find most effective in the classroom.
- **Smart portfolio assessment.** The collection, management, sorting, and retrieving of data related to learning will help teachers to better understand learning gaps and customize content and pedagogical approaches.

**Teacher managers/mentors.** The role of the teacher in the classroom is being transformed from that of the font of knowledge to an instructional manager helping to guide students through individualized learning pathways, identifying relevant learning resources, creating collaborative learning opportunities, and providing insight and support both during formal class time and outside of the designated 40 minute instruction period.

#### **4.5. INFLUENCE OF METHODS ON ACTIVE ENGAGEMENT**

##### **1. Connect To You**

Often the best way to reinforce ideas is to allow students to connect concepts explored in class to their own life experience or program of study. This works for general education electives but also for any course regardless of mode of delivery.

##### **2. Create and Make**

Creation leads to meaningful learning; when students make things it forces them to use their knowledge base as well as analyze and synthesize ideas. A student's creativity is one of your best untapped resources. Every student is creative in their own way.

##### **3. Collaborate with Peers**

When we were in Kindergarten our teachers used to say "sharing equals caring" and this same philosophy can help increase engagement in any class. The moment you ask students to share or collaborate they have to bring their collective knowledge to the table and fill in the gaps in order to communicate ideas and work as a team.

#### **4. Blog, Journal, Discuss**

Being able to reflect is important both for educators and for students. Taking the time to think about what has been discussed and to propose an intervention into the material is one way to get students engaged with the content and thinking about how everything fits together. Blogging or journaling (which is a low-tech way of achieving the same outcome) practices develop students' communication skills but also put ideas in relief in a way that engages latent literacy skills.

#### **5. Go Social**

There are many social media tools (some of them which have a low tech barrier) that you can integrate into your curriculum or active classroom in order to increase student engagement.

#### **6.Active Engagement in the Classroom Can Be Fun**

By asking the students to respond to ideas in different ways, we can make active engagement in the classroom fun. Asking students to connect concepts to their own field of study is great reinforcing technique. Social media can function as an efficient way to summarize key points from each class or lecture every week. Creating something tangible in class, collaborating on a presentation or written piece, or asking students to blog or journal on an idea are strategies best spread out throughout the term so active engagement remains high.

#### **4.6. INQUIRY-BASED LEARNING**

**Inquiry-based learning** (also **enquiry-based learning** starts by posing questions, problems or scenarios—rather than simply presenting established facts or portraying a smooth path to knowledge. The process is often assisted by a facilitator.

##### **Steps :**

- Creating questions of their own
- Obtaining supporting evidence to answer the question(s)
- Explaining the evidence collected

- Connecting the explanation to the knowledge obtained from the investigative process
- Creating an argument and justification for the explanation

### **Advantages**

- Reinforces Curriculum Content
- “Warms Up” the Brain for Learning
- Promotes a Deeper Understanding of Content
- Helps Make Learning Rewarding
- Builds Initiative and Self-Direction
- Works in Almost Any Classroom
- Offers Differentiated Instruction

## **4.7. ACTIVITY BASED LEARNING**

### **Characteristics**

- Under the system, the curriculum is divided into small units, each a group of Self Learning Materials (SLM) comprising attractively designed study cards for English, Tamil, maths, science and Social Science.
- When a child finishes a group of cards, he completes one "milestone". **Activities** in each milestone include games, rhymes, drawing, and songs to teach a letter or a word, form a sentence, do maths and science, or understand a concept.
- The child takes up an Exam Card only after completing all the milestones in a subject. On a common chart, the milestones are arranged in the form of a ladder and the child knows exactly which milestone he completed in the last lesson.
- This is a child-friendly way to evaluate and reinforce learning. If a child is absent one day, he/she continues from where he/she left unlike in the old system where the children had to learn on their own what they missed out on.

**Advantages of Activity Based Instruction:**

- 1) The most important feature of activity based instruction is learning by doing. So this method of instruction can fulfil the natural urge of a growing child on one hand also can help them learn their lesson.
- 2) The method also promotes better understanding of a lesson among students as they learn the lesson by practicing the task themselves.
- 3) It inspires the students to apply their creative ideas, knowledge and minds in solving problems as well as promoting competitive spirit among them.
- 4) It also helps learner psychologically as they can express their emotions through active participation in something useful.
- 5) The method also helps in developing their personalities, social traits and inter-personal management skills.

**➤ Disadvantages of Activity Based Instruction:**

- 1) The activity based instruction method requires long-term planning with minute details of the whole process because before engaging the learners, the teacher has to make sure that all students have sufficient knowledge and skills regarding the task they are going to perform. So this method can not be used on a regular and daily basis as it involves a lengthy procedure.
- 2) The objectives of the method can only be fulfilled if the planning of the lesson is flawless. If there is slightest flaw in the planning, this method would do more harm than good.
- 3) Learners have varied levels of merit and understanding. So less meritorious students might not prepare for a task as other which might lead to failure of objectives of the whole process.
- 4) Many renowned educationists also are of the opinion that the activity based method is more suitable for branches of experimental sciences and less useful for subjects of social sciences.

#### 4.8. SOCIAL LEARNING

##### **Meaning**

The social learning theory of Bandura emphasizes the importance of observing and modeling the behaviors, attitudes, and emotional reactions of others. Bandura (1977) states: “Learning would be exceedingly laborious, not to mention hazardous, if people had to rely solely on the effects of their own actions to inform them what to do.

Fortunately, 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.”

Social learning theory explains human behavior in terms of continuous reciprocal interaction between cognitive, behavioral, and environmental influences.

##### **The component processes underlying observational learning are:**

- (1) **Attention**, including modeled events (distinctiveness, affective valence, complexity, prevalence, functional value) and observer characteristics (sensory capacities, arousal level, perceptual set, past reinforcement),
- (2) **Retention**, including symbolic coding, cognitive organization, symbolic rehearsal, motor rehearsal),
- (3) **Motor Reproduction**, including physical capabilities, self-observation of reproduction, accuracy of feedback, and
- (4) **Motivation**, including external, vicarious and self reinforcement.

Because it encompasses attention, memory and motivation, social learning theory spans both cognitive and behavioral frameworks. Bandura’s theory improves upon the strictly behavioral interpretation of modeling provided by Miller & Dollard (1941). Bandura’s work is related to the theories of Vygotsky and Lave which also emphasize the central role of social learning.

##### **Application**

Social learning theory has been applied extensively to the understanding of aggression (Bandura, 1973) and psychological disorders, particularly in the

context of behavior modification (Bandura, 1969). It is also the theoretical foundation for the technique of behavior modeling which is widely used in training programs. In recent years, Bandura has focused his work on the concept of self-efficacy in a variety of contexts (e.g., Bandura, 1997).

### ***Principles***

1. The highest level of observational learning is achieved by first organizing and rehearsing the modeled behavior symbolically and then enacting it overtly. Coding modeled behavior into words, labels or images results in better retention than simply observing.
2. Individuals are more likely to adopt a modeled behavior if it results in outcomes they value.
3. Individuals are more likely to adopt a modeled behavior if the model is similar to the observer and has admired status and the behavior has functional value.

### **4.9. CONSTRUCTIVISM IN LEARNING**

Constructivism is a learning theory found in psychology which explains how people might acquire knowledge and learn. It therefore has direct application to education. The theory suggests that humans construct knowledge and meaning from their experiences. Constructivism is not a specific pedagogy. Piaget's theory of Constructivist learning has had wide ranging impact on learning theories and teaching methods in education and is an underlying theme of many education reform movements. Research support for constructivist teaching techniques has been mixed, with some research supporting these techniques and other research contradicting those results.

Formalization of the theory of constructivism is generally attributed to Jean Piaget, who articulated mechanisms by which knowledge is internalized by learners. He suggested that through processes of **accommodation** and **assimilation**, individuals construct new knowledge from their experiences.

## THE ROLE OF THE INSTRUCTOR

### *Instructors as facilitators*

According to the social constructivist approach, instructors have to adapt to the role of facilitators and not teachers (Bauersfeld, 1995). Whereas a teacher gives didactic lecture that covers the subject matter, a facilitator helps the learner to get to his or her own understanding of the content.

### **A few strategies for cooperative learning include**

1. **Reciprocal Questioning:** students work together to ask and answer questions
2. **Jigsaw Classroom:** students become "experts" on one part of a group project and teach it to the others in their group
3. **Structured Controversies:** Students work together to research a particular controversy (Woolfolk 2010)

### **The nature of the learning process**

- *Learning is an active, social process*
- *Dynamic interaction between task, instructor and learner*
- *Collaboration among learners*
- *Need to use activity based learning method*

### **Kinds of activities:**

The activities used in this strategy can be generalized under three main categories:

- *Exploratory* - gathering knowledge, concept and skill.
- *Constructive* - getting experience through creative works.
- *Expressional* - presentations.

### **The Activities you could focus on:-**

- *Experiencing*
- *Memorizing*
- *Understanding*
- *Organizing activities*

### **Role of a Teacher in an Activity Based Method**

- A planner, an organizer and evaluator.
- Facilitator.
- Decision maker.
- Knowledge imparter
- Disciplinarian

### **4.10. PROBLEM SOLVING**

#### **Definition**

It is the process of finding solutions to problems encountered in life.

#### **Characteristics**

- Differentiate fact from opinion
- Specify underlying causes
- Consult each faction involved for information
- State the problem specifically
- Identify what standard or expectation is violated
- Determine in which process the problem lies
- Avoid trying to solve the problem without data

#### **There are four basic steps in solving a problem:**

1. Defining the problem.
2. Generating alternatives.
3. Evaluating and selecting alternatives.
4. Implementing solutions.

#### **Advantages of Problem solving**

1. Better thinking
2. Better risk handling
3. Better communication
4. Increases understanding
5. Increased number of solutions
6. Helps to increase the team's potential
7. Higher commitment
8. Reduces the possibility of bias
9. Greater productive output
10. Encourages creative ideas

### **4.11. DISCOVERY LEARNING**

#### **Definition**

**Discovery learning** is a technique of inquiry-based learning and is considered a constructivist based approach to education. It is supported by the work of learning theorists and psychologists Jean Piaget, Jerome Bruner, and Seymour Papert.

**Steps in Discovery learning**

Selecting the content

Stating the aim

Identifying the prerequisites

Setting up a graphic organizer

**TYPES OF DISCOVERY LEARNING**

- Experiments
- Exploration
- Simulation-based learning
- Problem-based learning
- Inquiry-based learning
- Web quests

**Advantages**

The discovery learning literature often claims the following advantages:

- Supports active engagement of the learner in the learning process
- Fosters curiosity
- Enables the development of lifelong learning skills
- Personalizes the learning experience
- Highly motivating as it allows individuals the opportunity to experiment and discover something for themselves
- Builds on learner's prior knowledge and understanding
- Develops a sense of independence and autonomy
- Make them responsible for their own mistakes and results
- Learning as most adults learn on the job and in real life situations
- A reason to record their procedure and discoveries - such as not repeating mistakes, a way to analyze what happened, and a way to record a victorious discovery
- Develops problem solving and creative skills
- Finds new and interesting avenues of information and learning - such as gravy made with too much cornstarch can become a molding medium

### Planning a Discovery Learning Experience

- select an activity.
- gather materials.
- stay focused.
- use caution.
- plan extra time.
- record process and results.
- discuss and review.
- try again.
- plan for more discovery learning activities.

### 4.12. MASTERY LEARNING

**Mastery Learning** (or as it was initially called, “learning for mastery”) is an instructional strategy and educational philosophy, first formally proposed by Benjamin S. Bloom in 1968. Mastery Learning maintains that students must achieve a level of mastery (i.e. 90% on a knowledge test) in prerequisite knowledge before moving forward to learn subsequent information.

#### Definition

Mastery learning is a set of group-based, individualized, teaching and learning strategies based on the premise that students will achieve a high level of understanding in a given domain if they are given enough time.

Mastery Learning is a model where students are expected to master a learning objective or goal, before they can move on to the next goal. This is a model that was first described in the 1960’s and has been proven effective by many researchers.

#### Process

In a mastery learning classroom,

- teachers break up their curriculum into a series of skills or instructional units.
- The teacher will usually teach a topic, and
- then conduct an evaluation to record each student’s understanding of that unit.

- Next, students who have mastered the unit go on to do enrichment activities while the students who didn't achieve their goals are given additional opportunity to practice their skills.

**Some of the teaching aids that could be provided according to the ability of the learner are:**

- a. Alternative Textbooks
- b. Group Studies and Peer Tutoring
- c. Workbooks
- d. Programmed Instruction Units
- e. Audiovisual Methods
- f. Academic Games
- g. Laboratory experiences
- h. Simple demonstrations
- i. Puzzles

### **Benefits**

- It allows struggling students an opportunity to master critical concepts before new content is introduced. At the same time, it provides a challenge for high achieving students.
- This style of education allows gifted students to accelerate through the program and move on to either the next level (year) or to engage in extension studies which will broaden their understanding of the subject.
- The model also allows for an individual learning pace. In addition, feedback that is given during this process is helpful for the student.
- This model stands for the fact that every learner can learn if given the time and the right learning environment.

### **4.13. BLENDED LEARNING**

#### **Definition**

**Blended learning** is a formal education program in which a student learns at least in part through delivery of content and instruction via digital and online media with some element of student control over time, place, path, or pace.

### Models

Although there is little consensus on the definition of blended learning and some academic studies have suggested it is a redundant term, there are distinct blended learning models that have been suggested by some researchers and educational think tanks.

**Blended learning can generally be classified into six models:**

- 1 **Face-to-face driver** – where the teacher drives the instruction and augments with digital tools.
- 2 **Rotation** – students cycle through a schedule of independent online study and face-to-face classroom time.
- 3 **Flex** – Most of the curriculum is delivered via a digital platform and teachers are available for face-to-face consultation and support.
- 4 **Labs** – All of the curriculum is delivered via a digital platform but in a consistent physical location. Students usually take traditional classes in this model as well.
- 5 **Self-blend** – Students choose to augment their traditional learning with online course work.
- 6 **Online driver** – Students complete an entire course through an online platform with possible teacher check-ins. All curriculum and teaching is delivered via a digital platform and face-to-face meetings are scheduled or made available if necessary.

#### 4.14. INDIVIDUAL LEARNING

##### Definition

It is an instruction method in which students work **individually** at their own level and rate toward an academic goal.

##### Goals of Individual learning

- become more active participants in the learning process
- become independent learners
- identify what is important to their own learning
- achieve their full potential.

### Advantages

- Learning is the key to developing a person's potential
- Learning to learn is the key to effective learning
- Learning enables the individuals to meet the demands of change
- The capacity to learn is an asset that never becomes obsolete
- Embracing learning helps the individual to acknowledge that learning is more than formal education and training

### 4.15. PEER GROUP LEARNING

One of the most visible approaches to **peer learning** comes out of cognitive psychology, and is applied within a "mainstream" educational framework: "Peer learning is an educational practice in which students interact with other students to attain educational goals."<sup>[1]</sup> In this context, it can be compared to the practices that go by the name cooperative learning. However, other contemporary views on peer learning relax the constraints, and position "**peer-to-peer learning**" as a mode of "learning for everyone, by everyone, about almost anything." Whether it takes place in a formal or informal learning context, in small groups or online, peer learning manifests aspects of self-organization that are mostly absent from pedagogical models of teaching and learning

- ❖ Teaching is less expensive to deliver, more affordable and saves time.
- ❖ Blended learning offers flexibility in terms of availability – Anytime, anywhere. In other words, eLearning enables the student to access the materials from anywhere at any time.
- ❖ Access to global resources and materials that meet the students' level of knowledge and interest.
- ❖ Self-pacing for slow or quick learners reduces stress, increases satisfaction and information retention.
- ❖ E-learning allows more effective interactions between the learners and their instructors through the use of emails, discussion boards and chat room.
- ❖ Students have the ability to track their progress.

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- ❖ Students can also learn through a variety of activities that apply to many different learning styles.
- ❖ E-learning could improve the quality of teaching and learning as it supports the face-to-face teaching approaches.

#### 4.16. FACTORS AFFECTING LEARNING

1. **Motivation:** learner's motivation is one of the major conditions for learning. As we shall see later in this text, motivation is something that moves a person to action and continuous him in the course of the already initiated. This course of action includes learning too. A positive behavior developed through learning results into reward while a negative behavior results into punishment. Thus, degree of the learner's motivation is positively associated with his learning. There is overwhelming evidence that support the generalization that motivation responses tend to be repeated whereas non-motivated responses tend to be discontinued.
2. **Mental set-up:** Mental set-up refers to the preparation for an action, in the context learning. If a person is prepared to act, he can do the things quickly and in no time. Without mental set-up, learning cannot go smoothly and easily it happens so because the person's mental set-up activates him to do the act, and due to this level of activation, he gets inclined to perform the act. Various Research Studies also support this view.
3. **Nature of learning materials:** Nature of learning materials affects learning by providing the clue for understanding. There are a number of features of the learning materials which affect learning. First, if the learning material is of easy nature, it is learned quickly whereas difficult material takes time to understand. **Second**, familiarity with learning materials affects learning if the learner is familiar with the learning materials, he can learn more quickly as compared to when he is unfamiliar: with these third, serial position, shape, and meaningfulness of learning materials and this also affect learning. It these, features are positive, learning takes place at faster rate.

4. **Practice:** practice is a very basic condition of learning and affects all types of learning. The more a person practices, more he absorbs the learning contents. Most of the motor skills (like, swimming, etc.) are learned based on this principle.
5. **Environment:** Environment in which learning process occurs also, affects learning. Environment here refers to the situational set up for learning. Environmental factors can either strengthen or weaken the innate ability to achieve and learn. Environment with its pressure and high rate of change increases the likelihood of stress and has a negative impact on learning. Environment with features of support, cohesion, and affiliation has positive impact on learning.

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## UNIT – V: INDIVIDUAL DIFFERENCES AMONG LEARNERS

**Unit 5: Individual differences among learners** : Differential learning needs of the learners with regard to abilities: intelligences, interest, aptitude, creativity, personality, values – learning styles – language (home language and language of instruction) – sociocultural differences (cultural capital), learning difficulties, and their implications for classroom practices and teaching

### 5.1.INDIVIDUAL DIFFERENCES

#### Definition

“Individual differences are found in all psychological characteristics physical mental abilities, knowledge, habit, personality and character traits.”

#### Types of Individual differences

- Physical differences
- Differences in intelligence
- Differences in attitudes
- Differences in achievement
- Differences in motor ability
- Differences on account of sex
- Racial differences
- Differences due to nationality
- Differences due to economic status
- Differences in interests
- Emotional differences
- Personality differences

#### Causes of Individual Differences:

Some of the main causes of individual differences are as under:

Heredity

- Environment
- Influence of caste, race and nation
- Sex differences
- Age and intelligence

- Temperament and emotional stability
- Interests,
- aptitudes,
- achievements,
- sentiments,
- character,
- educational and
- home background
- Economic condition and education

### **Role of Individual Differences in Education:**

One of the important objectives of modern education is the complete development of the individual. Individuals have different goals, different interests, different emotional problems and different abilities. We cannot afford to ignore these individual differences in imparting education to children. Since school work is planned on group basis it presents a formidable challenge to all teachers.

### **Practical procedures for adapting school work to individual differences are suggested:**

1. Limited size of the class
2. Proper division of the class
3. Home task should be given
4. Allocate academic assignments considering on the factor of sex
5. Introduce different kinds of curriculum
6. Introduce various methods of Teaching
7. Educational Guidance
8. Vocational Guidance
9. Individual Training:
  - Dalton Plan
  - Morrison Plan
  - Winnetka Plan
  - Contract Plan
  - Project method

## 5.2.INTELLIGENCES

### Definition

**Intelligence** has been defined in many different ways including one's capacity for logic, abstract thought, understanding, self-awareness, communication, learning, emotional knowledge, memory, planning, creativity and problem solving. It can be more generally described as the ability to perceive information, and retain it as knowledge to be applied towards adaptive behaviors within an environment.

### Theories of intelligence:

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

- I. Unitary theory
- II. Two factor theory of Spearman
- III. Multi-factor theory of Thorndike
- IV. Theory of Multiple Intelligence by Gardner
- V. Group-factor theory of Thurstone
- VI. Structure of Intellects by Guilford
- VII. Hierarchical theory of Burt-Vernon

### ***Unitary or Monarchy Theory***

This theory holds that intelligence consists of all pervasive capacities. Binet, Terman and some other classical psychologists supported this view. According to this theory, if one has a fund of intelligence he can utilise it to any area of his life. The intelligence of a person gets stamped in all what he thinks and acts.

### ***Two Factor theory of Spearman***

Spearman proposed this Two factor theory of intelligence in 1904. As the name implies, the theory involves two factors namely General(G) and Specific(S) factors.

The first factor was a general capacity which was basically a reasoning factor. According to this theory every different mental ability involves a general factor(G), which it shares with all other mental activities and a specific factor(S), which is shared with none.

### ***Multi-factor theory of Thorndike***

1. Thorndike was an Associationist and he opposed the theory of General intelligence. He proposed that they are Specific stimuli and Specific response. According to him, Intelligence is nothing more than a convenient name for almost infinite number of actual or potential specific connections between these stimuli and responses.

**Thorndike distinguished 4 attributes of intelligence. They are:**

1. Range
2. Level
3. Area
4. Speed

### ***Group-factor theory of Thurstone***

Thurstone and his associates proposed the Group factor theory. According to this theory, Intelligent activity is not an expression of innumerable highly specific factor as Thorndike claimed.

**Space visualisation:** The ability to visualise geometric pattern.

**Perceptual speed:** Speed and accuracy of noting details.

**Numerical ability:** Speed and accuracy in simple arithmetic operations.

**Verbal comprehension:** Knowledge of meaning and relationship of words.

**Word fluency:** Ability to think and use many isolated words at a rapid rate.

**Rote memory:** Immediate recall or retrieval of material learned.

**Reasoning:** Ability to see relationship in situations described in symbols.

### **THE MULTIPLE INTELLIGENCES BY GARDNER**

Gardner describes eight types of intelligences. Those are the following :

***Spatial, linguistic, logical-mathematical, bodily-kinesthetic, musical, interpersonal, intrapersonal, and naturalistic.***

***Logical-mathematical***

This area has to do with logic, abstractions, reasoning and numbers and critical thinking.

***Spatial***

This area deals with spatial judgment and the ability to visualize with the mind's eye.

***Linguistic***

People with high verbal-linguistic intelligence display a facility with words and languages. They are typically good at reading, writing, telling stories and memorizing words along with dates.

***Bodily-kinesthetic***

It describes about body co-ordination.

***Musical***

This area has to do with sensitivity to sounds, rhythms, tones, and music. People with a high musical intelligence normally have good pitch and may even have absolute pitch, and are able to sing, play musical instruments, and compose music.

***Interpersonal***

This area has to do with interaction with others. In theory, individuals who have high interpersonal intelligence are characterized by their sensitivity to others' moods, feelings, temperaments and motivations, and their ability to cooperate in order to work as part of a group.

***Intrapersonal***

This area has to do with introspective and self-reflective capacities.

***Naturalistic***

This area has to do with nurturing and relating information to one's natural surroundings.

***Existential***

Some proponents of multiple intelligence theory proposed spiritual or religious intelligence as a possible additional type.

***Structure of Intellect by Guilford***

Guilford and his associates proposed the theory of Structure of Intellects on their attempt of factor analysis.

Guilford suggests that mind is composed of 3 major dimensions namely:

- i. Process of operation
- ii. Material or content
- iii. Product

***Process of operations:***

- **Cognition:** This involves immediate discovery, rediscovery, awareness, comprehension and understanding.
- **Memory recording:** It is a fundamental operation. It refers to the retention of what is recognised for a short duration.
- **Memory retention:** It means the retention of what is recognised for a long period of time.
- **Divergent thinking:** It refers to the generation of information from the given data where the emphasis is on conventionally accepted best outcomes.
- **Convergent thinking:** It involves thinking in different directions, searching and seeking some different variety and novelty. It is closely related with creativity. It simply means thinking out of the box.
- **Evaluation:** It refers to the reaching of conclusion and decision as the goodness, correctness, adequacy and desirability of information.

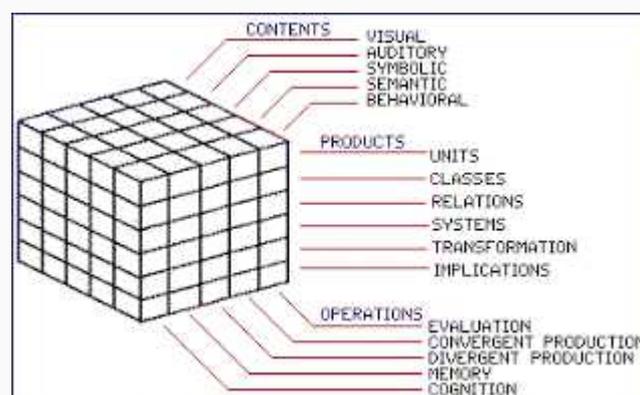
***Contents:***

- **Visual content:** It refers to the concrete material perceived through ideas and thoughts.

- **Auditory content:** It refers to the matter or information perceived through ears.
- **Symbolic content:** It refers to the composition of letters, digits or other conventional signs and symbols usually organised in general patterns.
- **Semantic content:** It refers to the clear verbal form of meanings or ideas for which no examples are necessary.
- **Behavioural content:** It refers to the social intelligence which enables one to understand human communications.

**Products:**

- **Units:** This is similar to Gestalt psychology of figure and ground; relatively segregated items.
- **Classes:** It refers to conceptions underlying sets of information or data grouped by virtue of their common properties.
- **Relations:** It refers to the connections between items of information based on variables. These connections are more meaningful and definable.
- **Systems:** It refers to the aggregate of items of information or data with a structure.
- **Transformations:** It refers to the changes like redefinition, modification in existing information or its functions.
- **Implications:** It refers to the explorations of information in the form of expectancies, predictions and consequences.



Thus according to Guilford there can be only 180 mental abilities that comes as a result of six processes operating on any one of the 5 contents to produce anyone of the 6 products.

Thus  $6 \times 5 \times 6 = 180$  mental abilities.

Guilford neglects the idea of some fixed amount of intelligence. Instead, he claims that development of intellectual skill as in any other skill depends on practice. Unlike others, he is concerned with the social behaviour of the individual besides academic success. Therefore, he devised some test of social sensibility. He considers Interpersonal skills. He refers to the dynamic cluster of skills which can always be improved.

### **MEASUREMENT OF INTELLIGENCE:**

Intelligent can be calculated through the formula  $I.Q = MA/CA \times 100$

### ***Individual vs. Group IQ Testing***

#### ***Individual intelligence tests***

There are two major types of intelligence test, those administered to individuals and those administered to groups.

The two main individual intelligence tests are the:

1. Stanford-Binet Intelligence Test.
2. Wechsler tests, i.e. WISC for children and WAIS for adults,

#### ***Group intelligence tests***

Group-administered intelligence tests involve a series of different problems and are generally

used in mass testing situations such as the military and schools.

Examples of group tests are:

- Multidimensional Aptitude Battery
- The Cognitive Abilities test
- Scholastic Assessment Tests

#### ***Advantages of group tests:***

- can be administered to very large numbers simultaneously

- simplified examiner role
- scoring typically more objective
- large, representative samples often used leading to better established norms

***Disadvantages of group tests:***

- examiner has less opportunity to establish rapport, obtain cooperation, and maintain interest
- not readily detected if examinee tired, anxious, unwell
- evidence that emotionally disturbed children do better on individual than group tests
- examinee's responses more restricted
- normally an individual is tested on all items in a group test and may become bored over easy items and frustrated or anxious over difficult items
- individual tests typically provide for the examiner to choose items based on the test taker's prior responses - moving onto quite difficult items or back to easier items. So individual tests offer more flexibility.

### **5.3.INTEREST**

**Meaning of Interest:**

An interest is a subjective attitude motivating a person to perform a certain task. It affords pleasure and satisfaction. It results in curiosity towards the object of interest, enthusiasm to be attached to the object, strength of will to face difficulties while engaged in the task of one's interest, a definite change in behaviour in the presence of the object characterised by attention and concentration.

**Jones states,** "Interest is a feeling of likening associated with a reaction, either actual or imagined to a specific thing or situation."

**Types of Tools for Measuring Interest:**

**Three notable formal methods universally employed are:**

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1. Strong Vocational Interest Blank,
2. Kuder Preference Record, and
3. Thustone's Vocational Interest Schedule.

### **1. Strong Vocational Interest Blank:**

Prof. Strong of Stanford University California designed and standardised this check list. The check list contains 400 separate items. It is presented to the individual and he is simply asked to indicate whether he likes, dislikes or is indifferent, on a three point scale.

The test reveals the interest maturity of the individual, his masculinity and of femininity, and his occupational level. The 400 items include 100 occupations, 49 recreations, 36 school subjects, 48 activities and 47 peculiar interests. As such it is useful for both educational and vocational guidance.

### **2. Kuder Preference Record:**

This has been prepared by G. Frederic Kuder. This test covers a wider field, comprising of nine separate scales of occupations, viz. mechanical, computational, scientific, persuasive, artistic, literary, musical, social and clerical. Kuder presupposes three major interests viz. mechanical, literary and artistic. So when the same task is presented to the subject, with three related activities, the subject will select the activity that relates one of the three interests that he possesses.

**The subject is asked to select the activity that he would prefer the most, and the activity he would prefer the least out of the following three:**

- (i) Visit an art gallery.
- (ii) Browse in a library.
- (iii) Visit a museum.

**A triple activity regarding collections is:**

- (i) Collect autographs.
- (ii) Collect coins.
- (iii) Collect butterflies.

A detailed scoring system is employed for analysis and interpretation. A percentile of 75 or above is considered significantly high. If a person goes beyond P 75 in any of the areas, all the occupations in that area are attractive for him.

**3. Thurston's Vocational Interest Schedule:**

This test has been devised by Thurstone. He administered a comprehensive test to 3400 college students who expressed their Likeness (L), Indifference (I) and Dislike (D) to each of the items in the test.

**He analysed the test scores and through the techniques of factor analysis, arrived at 8 factors of interest viz.;**

- Commercial Interest,
- Legal
- Athletic
- Academic
- Descriptive
- Biological
- Physical Science
- Art

**5.4.APTITUDE****Meaning of Aptitude:**

Aptitude as- **“A condition or set of characteristics regarded as symptomatic of an individual's ability to acquire with training some (usually specified) knowledge, skill or set of responses, such as ability to speak a language, to produce music ...”**

**Aptitude, in reality predicts what a person is fit to be:**

- Achievement looks to the past, indicating what has been done.
- Ability concerns the present, indicating the powers now.
- Aptitude looks to the future, predicting what he may become.

Aptitude is a result of both heredity and environment. The primary mental ability which is a major factor herein is hereditary. The readiness to acquire knowledge or skill, and the satisfaction in the activity is cultivated on the effect on environment.

**How to Measure Aptitude:**

Aptitude can be measured through a multiple evidence which includes past academic achievement of the pupil, occupational status of the parents, the observation of the teacher, the hobbies selected by the pupil, the interview, self-estimate by the pupil, a situation test and a standardised aptitude test. The most important of the above means in the aptitude test.

**Aptitude Tests:****Below we mention some important Aptitude Tests:**

1. Thurston's S.R. A test O11 Primary Mental Abilities is based on the theory given by Thurston that there are 7 types of primary abilities. He arrived at this theory through the method of Factor Analysis Several other tests based on factor analysis are M.A.T. (Multiple Aptitude Test), FACT (Flanagan Aptitude Classification Test) GATB (General Aptitude Test Battery) and Holzinger's Unifactor Tests.
2. Differential Aptitude Tests (DAT) have been prepared by Drs. Benette, Seashore and Wesman and printed by Psychological Corporation, New York. This consists 8 tests viz. verbal reasoning, numerical ability, abstract reasoning, space relations, mechanical reasoning, clerical speed and accuracy and language usage.
3. Minnesota Mechanical Aptitude Test, measures the mechanical aptitude.
4. Detroit Mechanical Aptitude Test also is for the same purpose.
5. O'Connor's Tweezer Dexterity Test, measures precision in the use of small tools, which is necessary in surgery, anatomy and watch-making.
6. Wiggly Block test by Johnson O'connor consists of 9 wooden pieces which are dismantled and then reconstructed.

7. Minnesota Clerical Aptitude Test is very popular and its Indian adaptation also has been prepared. Johnson O'conner also has prepared clerical aptitude test.

8. Seashore Musical Aptitude Test is quite suitable in the western countries, but is not applicable in India, because of the difference in the music style.

9. Mcadory Art Test includes 72 plates with 4 different versions of the same picture in each plate. The subject has to distinguish between the 4 different versions.

## **5.5.PERSONALITY**

### **Meaning of the term 'Personality**

The term 'personality has been derived from the Latin root persona'which referred to the facial mask worn by Roman actors on the stage. It was the masked face, that the actor presented to the audience and perhaps this mask determined how a person is perceived by others and how he affects other people.

### **Uses of the knowledge of personality to the teachers**

i) The personality factors of pupils affect their learning performance in classes and knowledge of persor characteristics of pupils is needed to give them proper guid

ii) Recognition of disturbed personalities of some people wil teachers to have immediate recourse to professional assis so that serious difficulties may be averted.

iii) Even from a pe angle, much of our time is spent in trying to weigh personalities of those around us and trying to influence th adjusting to them. For this purpose too, a knowledge of ours our personality traits and attitudes is essential.

### **Factors influencing personality development**

- Personality Factors
- Psychological
- Biological

➤ Sociological Factors

**Biological Factors**

- i) Physique
- ii) Chemique(endocrine glands)
- iii) Nervous system

**Sociological factors**

- i) Home
- ii) School
- iii) Language
- iv) Culture

**Psychological factors**

- i) Motivation
- ii) Attitude
- iii) Sentiment
- iv) Intelligence
- v) Emotion
- vi) Interest

**Role of school in shaping the personality of a child**

The influence of the school on a child's personality is more powerful than is generally recognised by teachers and parents. The children get the opportunity of coming across their own age group (peers) only at the school. The experiences that the children in shaping and developing a child's personality. For long the school share with other children and exchange of ideas are all important insisted on formal and rigid curriculum. The teachers were authoritarian. Progressive schools emphasize that children's life in the school is not a preparation for any future job only but has meaning for a future life. There are three forces in the class room situation the teacher, subjects and the child. In the past, it was Today the child is important. The interest and aptitude of the child teacher-centred education. Subsequently subjects were important. square peg in a round hole and a round peg in the square hole. should determine the choice of the

subject. We should not fix the square peg in a round hole and a round peg in the square hole.

The traditional 'talk and chalk' method has been replaced by pupil-centred activities. Instruction has become instructional technology. Democratic procedures in the classroom have beneficial effects on personality development, Democracy stands for equality, freedom, fair play and respect for the opinion of others. The school is a miniature society and if it is to provide for individual differences, then instruction should be individualised. In such maturity. At primary school level, the pupil identifies with the Situation the children develop emotionally and also attain social maturity. At primary School level, the pupil identifies with the teachers and accepts him as a model. If the teacher treats a child in the same manner as does a parent, then the school will strengthen and reinforce the influence of the home on the personality of the child. The teachers, the peer group and the formal and informal activities will have bearing on the personality of the child.

### **Two Major Approaches in Describing Personality**

Psychologists adopt two major approaches to describe personality

**(i) trait approach and**

**(ii) type approach.**

The trait approach attempts to list a number of basic personality traits and the personality of an individual can be described by its position on a 7 or 9 point scale, in each of these units. Type approach attempts to classify people into a few types, each type characterising certain styles of life that characterise individuals.

#### **1. Trait Approach in Personality**

A personality trait is an enduring and consistent characteristic of a person that is observed in a wide variety of situations. Such traits as intelligence, emotional sensitivity, ascendance, submission, irritability, warm, etc. are personality studies

**Example : Cattell's trait-approach in personality**

Cattell has identified 12 independent and 4 secondary traits that describe the complete personality of an individual. These 16 personality factors are bipolar (referring to the opposite or extreme degrees). They are:

Genial ↔ hostile,  
 intelligence ↔ stupid, emotionally  
 stable ↔ changeable,  
 dominant ↔ submissive,  
 cheerful ↔ unhappy,  
 sensitive ↔ hard boiled,  
 thoughtful and aesthetice ↔ boorish and coarse,  
 conscientious ↔ slipshod,  
 cooperative ↔ reserved,  
 vigorous ↔ slack,  
 hypersensitive ↔ phlegmatic,  
 friendly ↔ suspicious.

Cattell named these 16 personality traits as 'Source traits', differentiating them from 'Surface traits'. 'Surface traits are easily deeper unity than that revealed by surface traits. observable, but the real traits are source traits which representa

**2.Type approach**

Type theorists have explained personality on the basis of physique and temperament. Temperament refers to emotional aspect of the personality like changes in mood, tensions, excitement, etc.

**Example : William Sheldon's Classification:**

Sheldon has proposed a theory of personality correlating temperament and body type. He has divided people into three types:

**a. Endomorph:**

These people will have soft, fat and round body, having predominance of abdominal region. They are sociable and relaxed (can be compared to pyknic type).

**b. Ectomorph:**

These are the people who are tall, thin and flat chested, having the skin, bones and neural structure predominantly. They are shy, reserved and self-conscious (can be compared with asthenic type).

**c. Mesomorph:**

These people are well built with heavy and strong muscles appear predominantly. They are physically active, noisy, adventurous by nature (can be compared to athletic type).

**3. TYPE CUM TRAIT APPROACH****Example : Eysenck's Theory of Personality**

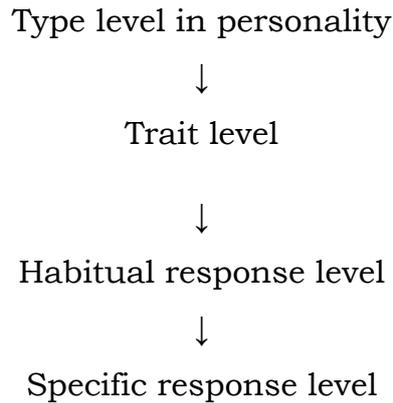
Eysenck provides a hierarchial type approach to personality. He describes three basic categories of personality at the top of the hierarchy.

Extroversion ↔ Introversion,

Neuroticism ↔ stability:

psychotism ↔ normality.

These have been ultimately reduced to two dimensions namely, stable unstable, and introversion extroversion. Each of these categories involves certain qualities at the next lower or trait level. For example, the traits of an introvert would include such qualities as persistence, rigidity of approach, subjectivity, etc. These traits in turn are associated with the next habitual response level. For example, we may expect an introvert to be persistent in tasks like problem solving, etc. generally. The last is the specific response level which applies to specific tasks in which also the traits involved in the categories would be expressed in diverse degrees. Eysenck's approach is hierarchial with the top indicating types and lower traits.



### 5.6.CREATIVITY

**Creativity** is a phenomenon whereby something new and somehow valuable is formed.

#### Assessing creativity

##### Psychometric approach

- I. J. P. Guilford's group, which pioneered the modern psychometric study of creativity, constructed several tests to measure creativity in 1967:
- II. Plot Titles, where participants are given the plot of a story and asked to write original titles.
- III. Quick Responses is a word-association test scored for uncommonness.
- IV. Figure Concepts, where participants were given simple drawings of objects and individuals and asked to find qualities or features that are common by two or more drawings; these were scored for uncommonness.
- V. Unusual Uses is finding unusual uses for common everyday objects such as bricks.
- VI. Remote Associations, where participants are asked to find a word between two given words (e.g. Hand \_\_\_\_\_ Call)
- VII. Remote Consequences, where participants are asked to generate a list of consequences of unexpected events (e.g. loss of gravity)

VIII. Building on Guilford's work, Torrance developed the Torrance Tests of Creative Thinking in 1966.<sup>1</sup> They involved simple tests of divergent thinking and other problem-solving skills, which were scored on:

IX. **Fluency** – The total number of interpretable, meaningful and relevant ideas generated in response to the stimulus.

X. **Originality** – The statistical rarity of the responses among the test subjects.

XI. **Elaboration** – The amount of detail in the responses.

### **FOSTERING CREATIVITY**

Nickerso provides a summary of the various creativity techniques that have been proposed. These include approaches that have been developed by both academia and industry:

- i. Establishing purpose and intention
- ii. Building basic skills
- iii. Encouraging acquisitions of domain-specific knowledge
- iv. Stimulating and rewarding curiosity and exploration
- v. Building motivation, especially internal motivation
- vi. Encouraging confidence and a willingness to take risks
- vii. Focusing on mastery and self-competition
- viii. Promoting supportable beliefs about creativity
- ix. Providing opportunities for choice and discovery
- x. Developing self-management (metacognitive skills)
- xi. Teaching techniques and strategies for facilitating creative performance
- xii. Providing balance

### **Process of creativity**

1. Preparation
2. Incubation
3. Illumination

#### 4. Verification

Researcher Graham Wallis, many years ago, set down a description of what happens as people approach problems with the objective of coming up with creative solutions. He described his four-stage process as follows:

1. In the **preparation** stage, we define the problem, need, or desire, and gather any information the solution or response needs to account for, and set up criteria for verifying the solution's acceptability.
2. In the **incubation** stage, we step back from the problem and let our minds contemplate and work it through. Like preparation, incubation can last minutes, weeks, even years.
3. In the **illumination** stage, ideas arise from the mind to provide the basis of a creative response. These ideas can be pieces of the whole or the whole itself, i.e. seeing the entire concept or entity all at once. Unlike the other stages, illumination is often very brief, involving a tremendous rush of insights within a few minutes or hours.
4. In **verification**, the final stage, one carries out activities to demonstrate whether or not what emerged in illumination satisfies the need and the criteria defined in the preparation stage.

### 5.7. VALUES

Values can be defined as broad preferences concerning appropriate courses of action or outcomes.

#### Types of values

- **Personal values:**

These are considered essential principles on which we build our life and guide us to relate with other people. They are usually a blend of family values and social-cultural values, together with our own individual ones, according to our experiences.

- **Family values:**

These are valued in a family and are considered either good or bad. These derive from the fundamental beliefs of the parents, who use them to educate

their children. They are the basic principles and guidelines of our initial behavior in society, and are conveyed through our behaviors in the family, from the simplest to the most complex.

- **Social-cultural values:**

These are the prevailing values of our society, which change with time, and either coincide or not with our family or personal values. .

- **Material values:**

These values allow us to survive, and are related to our basic needs as human beings, such as food and clothing and protection from the environment.

- **Spiritual values:**

They refer to the importance we give to non-material aspects in our lives. They are part of our human needs and allow us to feel fulfilled. They add meaning and foundation to our life, as do religious beliefs.

- **Moral values:**

The attitudes and behaviors that a society considers essential for coexistence, order, and general well being.

## **5.8.LEARNINMG STYLES**

**Learning styles** refer to a range of competing and contested theories that aim to account for differences in individuals' learning. These theories propose that all people can be classified according to their 'style' of learning, although the various theories present differing views on how the styles should be defined and categorised. A common concept is that individuals differ in how they learn.

### **Learning modalities**

Walter Burke Barbe and colleagues proposed three learning modalities (often identified by the acronym VAK):

- a) Visualising modality
- b) Auditory modality

- c) Kinesthetic modality

### **CLASSROOM APPLICATION**

Although learning styles will inevitably differ among students in the classroom, Dunn and Dunn say that teachers should try to make changes in their classroom that will be beneficial to every learning style. Some of these changes include room redesign, the development of small-group techniques, and the development of "contract activity packages". Redesigning the classroom involves locating dividers that can be used to arrange the room creatively (such as having different learning stations and instructional areas), clearing the floor area, and incorporating student thoughts and ideas into the design of the classroom.

## **5.9.LANGUAGE(Home language and Language of Instruction)**

### **Home Language**

A *home language* is a language (or the variety of a language) that is most commonly spoken by the members of a family for everyday interactions at home. Also called the *family language* or the *language of the home*.

According to research studies examined by Kate Menken, bilingual children "who are able to develop and maintain their home languages in school through bilingual education are likely to outperform their counterparts in English-only programs and experience greater academic success"

### **LANGUAGE OF INSTRUCTION**

A **medium of instruction** (plural: usually **mediums of instruction**, but the archaic **media of instruction** is still used by some) is a language used in teaching. It may or may not be the official language of the country or territory. If the first language of students is different from the official language, it may be used as the medium of instruction for part or all of schooling. Bilingual or multilingual education may involve the use of more

than one language of instruction. UNESCO considers that "providing education in a child's mother tongue is indeed a critical issue"

### **5.10. SOCIOCULTURAL DIFFERENCES**

#### ***Definition***

Cultural factors like attitudes, beliefs, values, history, and systems of knowledge are interdependent with the social environment that includes economic status, home, community and family systems, and interpersonal relationships.

Undoubtedly the above socio – cultural factors creates differences among learners in their learning especially in intelligence, personality, creativity, interest, motivation and attitude. So that differences persist on learning among learners based on their nature of socio – cultural factors.

### **5.11. LEARNING DISABILITIES**

Learning disabilities are neurologically-based processing problems. These processing problems can interfere with learning basic skills such as reading, writing and/or math. They can also interfere with higher level skills such as organization, time planning, abstract reasoning, long or short term memory and attention. It is important to realize that learning disabilities can affect an individual's life beyond academics and can impact relationships with family, friends and in the workplace.

#### **Causes of learning disabilities**

A learning disability happens when a person's brain development is affected, either before they are born, during their birth or in early childhood.

Several factors can affect brain development, including:

- i. the mother becoming ill in pregnancy
- ii. problems during the birth that stop enough oxygen getting to the brain
- iii. the unborn baby developing certain genes

- iv. the parents passing certain genes to the unborn baby that make having a learning disability more likely (known as inherited learning disability)
- v. illness, such as meningitis, or injury in early childhood

### **Specific Learning Disabilities**

#### **Auditory Processing Disorder (APD)**

Also known as Central Auditory Processing Disorder, this is a condition that adversely affects how sound that travels unimpeded through the ear is processed or interpreted by the brain. Individuals with APD do not recognize subtle differences between sounds in words, even when the sounds are loud and clear enough to be heard. They can also find it difficult to tell where sounds are coming from, to make sense of the order of sounds, or to block out competing background noises.

#### **Dyscalculia**

A specific learning disability that affects a person's ability to understand numbers and learn math facts. Individuals with this type of LD may also have poor comprehension of math symbols, may struggle with memorizing and organizing numbers, have difficulty telling time, or have trouble with counting.

#### **Dysgraphia**

A specific learning disability that affects a person's handwriting ability and fine motor skills. Problems may include illegible handwriting, inconsistent spacing, poor spatial planning on paper, poor spelling, and difficulty composing writing as well as thinking and writing at the same time.

#### **Dyslexia**

A specific learning disability that affects reading and related language-based processing skills. The severity can differ in each individual but can affect

reading fluency, decoding, reading comprehension, recall, writing, spelling, and sometimes speech and can exist along with other related disorders. Dyslexia is sometimes referred to as a Language-Based Learning Disability.

### **Language Processing Disorder**

A specific type of Auditory Processing Disorder (APD) in which there is difficulty attaching meaning to sound groups that form words, sentences and stories. While an APD affects the interpretation of all sounds coming into the brain, a Language Processing Disorder (LPD) relates only to the processing of language. LPD can affect expressive language and/or receptive language.

### **Non-Verbal Learning Disabilities**

A disorder which is usually characterized by a significant discrepancy between higher verbal skills and weaker motor, visual-spatial and social skills. Typically, an individual with NLD (or NVLD) has trouble interpreting nonverbal cues like facial expressions or body language, and may have poor coordination.

### **Visual Perceptual/Visual Motor Deficit**

A disorder that affects the understanding of information that a person sees, or the ability to draw or copy. A characteristic seen in people with learning disabilities such as Dysgraphia or Non-verbal LD, it can result in missing subtle differences in shapes or printed letters, losing place frequently, struggles with cutting, holding pencil too tightly, or poor eye/hand coordination.

**IMPLICATIONS**

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- Take charge of your child's education
  - Identify how your child learns best
  - Think life success, rather than school success
  - Emphasize healthy lifestyle habits
  - Take care of yourself, too
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## UNIT – VI: INNOVATIVE PRACTICES IN LEARNING

**Unit 6: Innovative practices in learning :** *Techniques for higher learning-conference, seminar, symposium, workshop and panel discussion, field trips, social camps, educational tours, ICTs and changing venues of teaching and learning, strategies for active learning, multicultural understanding in teaching and learning, learning with new technologies, online tools of learning , pedagogy of online learning and virtual learning.*

### 6.1. TECHNIQUES FOR HIGHER LEARNING

#### 1. Conference

##### Meaning

A **conference** is a meeting of people who "confer" about a topic.

Conferences are usually composed of various presentations. They tend to be short and concise, with a time span of about 10 to 30 minutes; presentations are usually followed by a discussion. The work may be bundled in written form as academic papers and published as the conference proceedings.

##### Advantages of conference

- Conference meetings bring together specialists, agents and staff for program planning, informal networking and formal education opportunities, which meet the individual's, and above all, the organization's needs
- Provide ideas to create roadmap for upcoming projects, and explore possibilities for opening up new avenues for research in teaching and learning.

- Major research programs generally need to include multiple organizations or institutions around the globe, separated by geographical distances and time zones. Conference meetings allow them to share their progress, hurdles they've come across, and techniques devised and employed for solving them.
- Major organizations often face problems in previously unknown areas in education and discuss solutions to overcome them in these conference.
- However unrelated do they seem, students benefit the most from conferences. By attending any conference (a little knowledge is required beforehand regarding subject matter of the conference before attending), students can integrate themselves with recent progresses not covered in academics, events and hurdles encountered on the path of researches, and stages one has to cross to pursue a career in that particular subject.
- Aside from researchers, students and delegates, common people employed by concerned industries too can attend conferences to get a glimpse of what the environment is really like in top notches of management and their R&D segments.

## **2.SEMINAR**

A **seminar** is a form of academic instruction, either at an academic institution or offered by a commercial or professional organization.

### **MEANING**

A seminar as an instructional technique involves generating a situation for a group to have guided interaction among themselves on different aspects or components of a topic, which is generally presented by one or more members.

**DEFINITION**

Seminar is an instructional technique of higher learning which involves paper reading on a theme and followed by the group discussion to clarify the complex aspects of theme.

**TYPES**

- International Seminar
- National Seminar
- Main Seminar
- Mini Seminar

**REQUIREMENTS OF SEMINAR**

- Duration is 1-2 hours.
- The topic is presented by the students taking time 15-20 minutes time.
- 10-15 are participants.
- –Teacher is a leader.

**THE FUNCTIONS OF THE TEACHER IN SEMINAR**

- Selectig the topic.
- Remaining in the background at the seminar, but sitting where she/he can see the whole group.
- Being prepared to help out in the initial stages of using the method, where there are long silences.
- See that no essential points are overlooked and that gross inaccuracies are invalid.

**THE RULES FOR CONDUCTING A SEMINAR**

- Define the purpose of the discussion.
- Relate topic of discussion to the main concept or the objectives to be attained.
- Direct and focus the discussion on the topic.
- Helps students express their ideas.

- keep the discussion at a high level of interest so that students will listen attentively.

### **ADVANTAGE OF SEMINAR**

- Role of student is active; it presupposes that student has background knowledge.
- If properly conduct, the seminar teaches the method of scientific analysis and techniques of research.
- The group as a whole and the individual students try to solve problems.
- Exchange of facts and attempts to draw better conclusion.

### **DISADVANTAGES OF SEMINAR**

Time-consuming.

- Cannot be applied to new students.
- Timid students cannot improve.
- If subject knowledge is poor, unnecessary discussion arises.
- The approach to problems extends to their professional and personal activities.

## **3.SYMPOSIUM**

### **Meaning**

**A Symposium** is a formal gathering in an academic setting where participants are experts in their fields. These experts present or deliver their opinions or viewpoints on a chosen topic of discussion. It would be correct to label a symposium as a small scale conference as the number of delegates is smaller. There are the usual discussions on the chosen topic after the experts have presented their speeches. The chief characteristic of a symposium is that it covers a single topic or subject and all the lectures given by experts are completed in a single day. A Symposium - prestigious conferences, generally leading venues in their respective fields.

#### 4.WORKSHOP

**A Workshop** includes all the elements of the Seminar, but with the largest portion being emphasized on “hand-on-practice” or laboratory work. The Lab work is designed to reinforce, imprint and bring forward an immediate functioning dimension to the participant’s eye and hands by implementing and practicing the actual concept or technique that was taught through the lecture and demonstration process.

#### 5.PANEL DISCUSSION

A **panel discussion**, or simply a **panel**, involves a group of people gathered to discuss a topic in front of an audience, typically at scientific, business or academic conferences, fan conventions, and on television shows. Panels usually include a moderator who guides the discussion and sometimes elicits audience questions, with the goal of being informative and entertaining.<sup>[1][2]</sup> Film panels at fan conventions have been credited with boosting box office returns by generating advance buzz.

#### ELEMENTS OF A PANEL DISCUSSION

Panel discussions are an important part of many conferences and Educate meetings. The discussions should be informative, interactive and thought-provoking. Make sure attendees get the most out of a panel session by focusing on these essential elements and incorporating these tips:

- **Appropriate setup.** Place roomy, soft seating on an elevated stage so panelists are comfortable and can be seen by the audience. Also, ensure that the stage is lit properly and that each panelist has access to a microphone.

- **Moderator.** Select someone familiar with the industry or topic at hand to moderate the panel discussion. This person can gather questions submitted beforehand, as well as in real-time from social media or audience members. The moderator also should feel comfortable interjecting when necessary to keep panelists on topic and the session within time constraints.
- **Time limit.** Put a cap on the session's length to keep panelists and attendees focused on the pertinent discussion topics.
- **Panelist introduction.** The moderator should be prepared to introduce the panelists, giving their names, job titles, company names and industry expertise and highlighting any special projects the panelists have been involved with that are relevant to the discussion. This will help attendees engage more thoughtfully with the panelists.
- **Audience engagement.** For attendees to feel invested in the session, they should be able to ask questions from the audience or via social media throughout the discussion.

### **Participating in the discussion**

During the discussion itself, follow the moderator's instructions. As a rule, speak only when invited to, but feel free to give signals to the moderator when you would like to contribute to the discussion. When you are speaking, keep it short: A panel discussion is about exchanges, not monologues. Make explicit links to what other panelists have said whenever you add to or disagree with their contributions. When you are not speaking, listen attentively to what others are saying: Make written or mental notes. As much as possible, be a member of the team: Strive to advance the discussion, not your own interests. If the moderator allows, feel free to hand over to another panelist at the end of a contribution, such as by saying "This

is our usual approach at our institution, but I would be interested to hear about Dr. Brook's experience with this issue."

Panel discussions are not exams. If you do not know the answer to a question, dare to say so; do not ramble on or attempt to answer another question instead. Similarly, if you believe someone else on the panel is more qualified than you are to answer a particular question, say so, although prudently.

As with all oral communication, work on eye contact. When speaking (and only when speaking), look at the audience — though perhaps briefly at other panelists when referring to what they said or when handing over to them. When not speaking, look at whoever is speaking. In this way, if attendees look at you, they will follow your gaze to whatever panelist is speaking, and that person will then benefit from their eye contact.

### **Moderating the discussion**

Moderating a panel discussion is much harder than being a panelist or even chairing a regular conference session. In addition to all the tasks involved in being a chairperson, such as introducing the session and the speakers (see *Chairing Sessions*), you also must launch, moderate, and summarize the discussion.

To launch the discussion, ask the panelists simple questions — perhaps questions you told them in advance you were going to ask. Limit the number of prepared questions, however: These usually trigger unconnected rehearsed answers from the panelists, not a true discussion. If the idea is to take questions from the attendees, encourage them to start asking early: The longer you alone ask questions, the harder it is for the attendees to gather the courage to ask some.

Once the discussion process is underway, facilitate it and encourage interaction. Designate who will answer a particular question. Encourage

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other panelists to comment on the first person's response. As a rule, though, do not let panelists interrupt one another: Allow one panelist to finish his or her contribution before you designate or allow another panelist to react. Rephrase answers, especially diffuse ones. Use these types of rephrased answers to launch follow-up questions. If attendees are keen to ask many questions, guide them to keep the discussion focused; prevent them from interrupting panelists with follow-up questions, too. Feel free to take notes during the discussion. As always, manage the time.

At the end of the session, and perhaps at various points throughout it, summarize. Provide the audience with an integrated view of what has been said — one they can more easily remember than the detailed discussion. Point out the convergences and divergences of viewpoints while remaining neutral yourself. If possible, offer an overall conclusion from the discussion. If time allows, check your summary with the panelists.

As when chairing a session, insist on meeting panelists ahead of time to make sure everyone is clear on the process and to make final arrangements. Normally, you or another organizer will have sent the panelists guidelines well in advance, specifying what they must prepare (biographical information, answers to announced questions, etc.) and what the rules are. Still, go over the process again immediately before the session to avoid surprises. Make sure all panel members know who the other members are, who sits where, who speaks first, and so on. Test the equipment, especially the microphones — all of them.

## **6.FIELD TRIP**

A **field trip** is a visit to an area outside of the normal classroom where children can try new things, have different experiences, and learn valuable life lessons. A field trip can be to countless locations where students can see new sights and have hands-on opportunities in a wide variety of

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experiences. A field trip may be to a location right around the corner or may require a bus ride to a different town. Regardless, the objective of a field trip is to learn, be exposed to a different environment, and be able to try new things.

**STEPS TO ORGANIZING A FIELD TRIP**

- Talk with the principal of your school.
- Determine the educational goals of the trip.
- Consider the age and learning abilities of your students.
- Make a list of potential sites.
- Contact potential sites.
- Choose an affordable destination.
- Decide on a location.
- Obtain permission from your school board.
- Gain parental permission for each student.
- Ask parents to fill out medical release forms.
- Finalize your reservations for the group.
- Arrange for transportation to and from the field trip.
- Conduct a pre-visit to the site.
- Recruit chaperones.
- Compile all of the necessary paperwork into a single binder or database.
- Take careful attendance on the day of the trip.
- Make alternate arrangements for the students who do not go on the trip.
- Integrate the trip into classroom lessons.
- Explain all activities prior to the trip.
- Communicate behavioural expectations.
- Discuss safety with your class.

- Send a letter home providing students with additional information about the trip.

**Benefits of Field Trips**

- While a day in the classroom has its benefits, there are many advantages of getting children out of their typical settings and experiencing new environments.
- The field trip may be a place that supports the current curriculum.
- Other trips may be to unrelated, yet relevant locations. For instance, if your class is learning about planets, a trip to the planetarium can help enhance the coursework.
- However, you could also plan a field trip to the zoo or aquarium.
- The experiences may not match the lesson about the universe, but the animals or marine life can offer valuable learning opportunities.

**7.SOCIAL CAMP**

Many campers enjoy socializing with small groups of fellow campers. Such groups will arrange events throughout the year to allow members with similar interests or from similar geographical areas in order to collaborate. This allows families to form small close-knit societies, and children to form lasting friendships. There are two large organizations in the UK who facilitate this sort of camping: the Caravan Club and the Camping and Caravanning Club.

Some who participate in this sort of camping feel that it brings a closer form of bonding, as members become more mutually dependent than they would otherwise be in modern society. Social camping can also build more of a bond between members of the same family and between different families. It is common for many campers to organize this type of activities with their

friends or neighbors. Social camping goes beyond uniting families and it may also give the opportunity for lonely campers to enjoy this type of activity with individuals who share their enthusiasm in this matter.

Because of the bonding this type of camping promotes, it can also be used as a personnel training facility. In fact, many companies offer their employees this type of training because it helps connect people who do not necessarily know each other but who need to work in the same environment and need to get along successfully. Including this type of activity in a personnel training package is becoming more and more popular and it is also recommended because of the benefits it brings.

In more recent years, those who camp alone have been able to share their experiences with other campers, through blogs and online social networking. There are many online websites especially designed for people who are looking for camping companions or for those who only want to share their experiences with other people. In this case, campers may provide the others with useful tips resulting from their own experience. Individuals who are willing to camp are likely to access this type of websites and connect with other campers, especially if they are novices, because it gives them the opportunity to learn more about this activity.

### **8. EDUCATIONAL TOUR**

True **Educational** Tour is a carefully planned combination of **tours**, site **visits** and hands-on learning opportunities, built around clear learning objectives. Through **Educational** Tour, students: Actually see and enrich their knowledge of places and works of art they've learned about in the classroom.

## Organizing an Educational Tour

### Date

Start by making a rough estimation of your **dates**. Are you working within a set school vacation? Are your dates flexible? Pick your first, second and third choices of dates so that a tour consultant can show you how to maximize your budget or suggest the best times of year to visit a particular destination.

### Place

Speaking of **destination**, do you have one in mind? Often teachers know what country or countries they want to travel to; if instead you have a definite list of educational objectives for your tour that might be satisfied in a variety of locations, you can also ask your tour consultant to suggest the best destinations to cover them.

### Number of students

Estimate the **size of your group**. Will you have 5 or 50 travelers? How many chaperones do you want to bring along? It's perfectly normal to not know how many students will sign up. This number can change, but it's good to know whether you will be a small or large group.

### Visiting areas

Know your **must-sees**. If you've been dreaming of visiting Paris' catacombs, then make sure you mention it when talking to your tour consultant. His or her job is to build the perfect itinerary for your group. It will likely be a

balance of well-known sites and local favorites that only your tour director can show you.

### **Homework on tour companies**

Research **student tour companies**. Once you know your travel requirements and constraints, start looking at student travel agencies to see which one fits the bill. Visit their websites, read their blogs and understand their travel philosophies. If you know other teachers who travel, ask them about their experiences.

### **Talk to an expert**

**Talk to a tour consultant.** Now's the time to call a few companies to make further inquiries about your trip. Build an itinerary. Get a price quote. Choose one student travel agency and set up an online account for your tour so students will be able to register when the time comes.

### **Get school board approval**

Get **school board approval**. You'll need to talk to your school's principal and school board in order to obtain their approval for your trip. The student travel agency that you've chosen should be able to help you and provide any documents that you might need.

### **Create the buzz**

**Promote** your trip. Start spreading the good news: you're going to travel! Get students excited about your trip by explaining what you'll see and do. **Hang destination posters** in your classroom, build a presentation for students or ask one of our consultants for an interactive poster to hand out to your students.

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**Organize a parent meeting**

This step is crucial! Prepare for a variety of different questions as parents will want to be fully informed on every aspect of their child's trip. A tour consultant should provide you with all the appropriate materials and information you need to be ready for your meeting. It's important that you let students and parents know what to expect on the trip, as well as how to access any online payment platforms. This is your opportunity to direct interested students to **register online** and start making payments toward their tour.

In the meantime, keep the **theme of travel** alive in your classroom. Plan fundraisers to help with the cost of your trip and to keep the momentum building. You and your students are on your way to a great adventure!

**6.2. ICTS AND CHANGING VENUES OF TEACHING AND LEARNING**

In ancient days it is not easy to share information from one to another. It also too difficult to make better understanding among the learners before to arrival of ICT tools. But after the arrival of ICT tools, it completely changes the venues of the teaching because it serves lot of advantages in teaching and learning. The advantages of ICT given below :

**1. ICT expand the access of education**

ICTs are potentially powerful tool for extending educational opportunities, both formal and non-formal, to previously underserved constituencies—scattered and rural populations, groups traditionally excluded from education due to cultural or social reasons such as ethnic minorities, girls and women, persons with disabilities, and the elderly, as well as all others who for reasons of cost or because of time constraints are unable to enroll on campus.

**2. Anytime, anywhere.** One defining feature of ICTs is their ability to transcend time and space. ICTs make possible asynchronous learning, or learning characterized by a time lag between the delivery of instruction and its reception by learners. Online course materials, for example, may be accessed 24 hours a day, 7 days a week.

**3. Access to remote learning resources.** Teachers and learners no longer have to rely solely on printed books and other materials in physical media housed in libraries (and available in limited quantities) for their educational needs. With the Internet and the World Wide Web, a wealth of learning materials in almost every subject and in a variety of media can now be accessed from anywhere at anytime of the day and by an unlimited number of people.

#### **4. Uses in education**

- ICT stimulate the development of intellectual skills
- ICT contribute to the ways of learning knowledge, skills and attitudes, but still dependent on pre-requisite knowledge and type of learning activity.
- ICT spur spontaneous interest more than traditional approaches of learning.
- Students using new technologies concentrate more than those in traditional settings
- Moreover the above outlined points are balanced by further genuine observations:
- Benefits of ICT for students are greatly dependent on the technological skills of the teachers and their attitudes towards technology.
- Skill and attitude in turn are largely dependent on the staff training in this area. (UNESCO Paris, 2002).

**5.Motivating to learn.** ICTs such as videos, television and multimedia computer software that combine text,sound, and colorful, moving images can be used to provide challenging and authentic content that will engage the student in the learning process.

**6.Facilitating the acquisition of basic skills.** The transmission of basic skills and concepts that are the foundation of higher order thinking skills and creativity can be facilitated by ICTs through drill and practice.

**7.Enhancing teacher training.** ICTs have also been used to improve access to and the quality of teacher training.

### **8.Helping ICT for students**

Research has shown that the appropriate use of ICTs can catalyze the paradigmatic shift in both content and pedagogy that is at the heart of education reform in the 21st century. If designed and implemented properly, ICT-supported education can promote the acquisition of the knowledge and skills that will empower students for lifelong learning.

**9.Active learning.** ICT-enhanced learning mobilizes tools for examination, calculation and analysis of information, thus providing a platform for student inquiry, analysis and construction of new information.

**10.Collaborative learning.** ICT-supported learning encourages interaction and cooperation among students, teachers, and experts regardless of where they are.

**11.Creative Learning.** ICT-supported learning promotes the manipulation of existing information and the creation of real-world products rather than the regurgitation of received information.

**12.Integrative learning.** ICT-enhanced learning promotes a thematic, integrative approach to teaching and learning. This approach eliminates the

artificial separation between the different disciplines and between theory and practice that characterizes the traditional classroom approach.

**13.Evaluative learning.** ICT-enhanced learning is student-directed and diagnostic. Unlike static, text- or print-based educational technologies, ICT-enhanced learning recognizes that there are many different learning pathways and many different articulations of knowledge. ICTs allow learners to explore and discover rather than merely listen and remember.

### 6.3.STRATEGIES FOR ACTIVE LEARNING

#### I.Think-Pair- Share.

1. **Define “Think-Pair-Share.”** Explain to students that a Think-Pair-Share allows them to activate their prior knowledge and share ideas about content or beliefs with peers. This structure gives students a chance to organize their ideas—first in their own minds, then in a smaller group setting before sharing with the entire group. In a Think-Pair-Share, students Think individually about the question or idea(s) put forth, Pair up with someone to discuss their thinking, and then Share their conversation with their table group, and then finally with the whole group.

**2. Display Think-Pair-Share prompts about a concept or topic.** Give students 1-2 minutes to think about the prompt on their own. Then discuss with a partner for another few minutes.

#### 3. Facilitate a whole group discussion.

- Listen to their responses.
- Ask students to elaborate on their thinking by providing explanations, evidence, or clarifications.
- Try to stay neutral in your reaction to students' comments.

- Invite others to react and respond to ideas by providing alternative viewpoints, agreements or disagreements.

## **II.Quick write**

A prompt is posed for students to respond to in writing. Taking only 5 minutes or so, this is a quick way to accomplish one or more of the following: determine whether or not students have done the homework assignment, engage students in thinking about the topic that will be covered in the session, provides the opportunity for students to access their prior knowledge on a topic. The quick write can be graded to encourage students to do their reading assignment, or collected to serve as an attendance check.

## **III.Turn and Talk**

In a turn and talk, a question is posed to the class and students simply turn to the person next to them to discuss. This can serve as a comfortable way for students to share their ideas with others and set the stage for them sharing with the larger group. The instructor doesn't need to hear all (or any) of the ideas shared– the important aspect of this strategy is for the peers to share and for individuals to access their prior knowledge about a topic.

- Why do you think there is such a disparity

## **IV.Polling**

Having students vote anonymously on what they perceive as the best explanation/answer to a question, followed by opportunities to discuss their ideas with peers, and then to vote again leads to greater learning of the material.

## **V.Individual plus Group Quizzes**

Give students a quiz that they complete individually and turn in to be graded. Immediately following the individual quiz, put students in small

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groups and have them take the quiz again, but this time they discuss the answers in their group and turn it in for a group score.

#### **VI. Tests/Quizzes with common preconceptions as distractors**

Design assessments to include common preconceptions (or misconceptions) that students often hold. Allow students to answer the question on their own and then discuss their answer and rationale with a partner.

#### **VII. Jigsaws**

Students work in small groups to read information that has been organized into sections. Each student in the group reads one section of the material and then shares that information with the rest of their group.

#### **VIII. Sorting strips**

Small bits of information are separated into strips so that students can sort the strips into various categories, or organize them into a sequence depending on the topic. This strategy encourages discussion of competing ideas or organizations or order in which a process would take place. In this case, it is often the discussion and sharing of ideas that is the most important outcome of the activity.

#### **IX. Partial Outlines/PPTs provided for lecture**

Research has shown that students have a better understanding, do better on exams, and stay more engaged with the content during lecture when they are provided with partial, rather than complete lecture notes or PowerPoints.

#### **X. Pausing in lecture**

These strategies work towards inserting wait time in lectures for students to reflect on, discuss and apply ideas just presented and to encourage them to engage actively in the lecture rather than passively taking notes. These

strategies also help students to understand what they do and don't understand about the lecture.

**Posters & gallery walk**

Give groups of students an assignment that they need to work on together and present their ideas on a sheet of chart paper. Once they have completed their poster, have them display it on the wall, much like at a scientific poster session. One of their group will stay with the poster and help to explain it as the class circulates to look at all of the posters. Students take turns standing by their poster so that each of them have the chance to visit the other groups' posters. This sets up a more interactive way of presenting as compared to ppt presentations.

**Fish bowl**

A fish bowl allows a small group of students to engage in a discussion about ideas or concepts that have alternative explanations while the rest of the class observes and takes notes.

**Idea line up**

The idea line up is a structure that allows a teacher to use the diversity of perspectives in the classroom to generate heterogeneous groups of students for discussion.

**Four corners**

Four corners is used for the same reasons as the idea line up. The only difference is that students are considering several claims (responses to a question). For example, a teacher might ask, "Where does most of the mass in a plant come from?" Claims for consideration might include, "soil," "air," "water," and "sunlight."

#### **6.4.MULTICULTURAL UNDERSTANDING IN TEACHING AND LEARNING**

The meaning of multicultural understanding in teaching and learning is differ in different context. For example it denotes the students belongs to different gender, religion, communities, economic disparities, rural, semi – urban and urban, languages, states, countries, geographical localities, intelligences, interests, aptitude, attitude and learners belong to inclusive setting.

So, a teacher while teaching has to consider the above differences among learners and act accordingly. So that teacher satisfy all the learners, otherwise as a teacher you cannot be successful in your profession.

#### **6.5.LEARNING WITH NEW TECHNOLOGIES**

##### **1. AUDIO AND VIDEO**

Radio offers a synchronous educational vehicle, while streaming audio over the internet with webcasts and podcasts can be asynchronous. Classroom microphones often wireless can enable learners and educators to interact more clearly.

Video technology has included VHS tapes and DVDs, as well as on-demand and synchronous methods with digital video via server or web-based options such as streamed video from YouTube, Teacher Tube, Skype, Adobe Connect, and webcams. Telecommuting can connect with speakers and other experts. Interactive digital video games are being used at K-12 and higher education institutions.

##### **2. COMPUTERS, TABLETS AND MOBILE DEVICES**

**Computers and tablets** enable learners and educators to access websites as well as programs such as Microsoft Word, PowerPoint, PDF files, and images. Many mobile devices support m-learning.

**Mobile** devices such as clickers and smart phones can be used for interactive audience response feedback. Mobile learning can provide performance support for checking the time, setting reminders, retrieving worksheets, and instruction manuals.

### **3. SOCIAL NETWORKS.**

Group WebPages, blogs, wikis, and Twitter allow learners and educators to post thoughts, ideas, and comments on a website in an interactive learning environment. Social networking sites are virtual communities for people interested in a particular subject to communicate by voice, chat, instant message, video conference, or blogs.

### **4. WEBCAMS**

Webcams and webcasting have enabled creation of virtual classrooms and virtual learning environment. Webcams are also being used to counter plagiarism and other forms of academic dishonesty that might occur in an e-learning environment.

### **5. WHITEBOARDS**

There are three types of whiteboards. The initial whiteboards, analogous to blackboards, date from the late 1950s. The term whiteboard is also used metaphorically to refer to virtual whiteboards in which computer software applications simulate whiteboards by allowing writing or drawing. This is a common feature of groupware for virtual meeting, collaboration, and instant messaging. Interactive whiteboards allow learners and instructors to write on the touch screen.

### **6. SCREENCASTING**

Screen casting allows users to share their screens directly from their browser and make the video available online so that other viewers can stream the video directly.

## 7. VIRTUAL CLASSROOM

A virtual classroom provides the opportunity for students to receive direct instruction from a qualified teacher in an interactive environment. Learners can have direct and immediate access to their instructor for instant feedback and direction.

**ONLINE COLLABORATION TOOLS**, such as those in *Google Apps*, allows students and instructors to share documents online, edit them in real time and project them on a screen. This gives students a collaborative platform in which to brainstorm ideas and document their work using text and images.

- **Presentation software** (such as *PowerPoint*) enable instructors to embed high-resolution photographs, diagrams, videos and sound files to augment text and verbal lecture content.
- **Tablets** can be linked to computers, projectors and the cloud so that students and instructors can communicate through text, drawings and diagrams.
- **Course management tools** such as *Canvas* allow instructors to organize all the resources students need for a class (e.g. syllabi, assignments, readings, online quizzes), provide valuable grading tools, and create spaces for discussion, document sharing, and video and audio commentary. All courses are automatically given a Canvas site!
- **Clickers and smart phones** are a quick and easy way to survey students during class. This is great for instant polling, which can quickly assess students' understanding and help instructors adjust pace and content.
- **Lecture-capture tools**, such as *Panopto*, allow instructors to record lectures directly from their computer, without elaborate or additional classroom equipment. Consider recording your lectures as you give them and then uploading them for students to re-watch. Studies show that posting recorded lectures *does not* diminish attendance and

students really appreciate the opportunity to review lectures at their own pace.

### 6.6.ONLINE TOOLS OF LEARNING

➤ There's a lot more to it than just flexibility in terms of time and place. Online education seamlessly combines many different tools to help students learn:

- **Audio and video lectures** let students replay difficult or confusing parts until understanding is reached. Thanks to mobile technology and other media players, students can take these lectures anywhere and listen anytime.

- **Social networks**, whether **chat rooms, forums** or social media sites such as Twitter, Facebook, Stumbleupon etc, allow students and teachers to communicate quickly and easily.

- **Varied content**, from images and text to animations and interactive presentations, keeps students engaged and can result in better retention of materials.

- **In-depth tracking** on tests, quizzes, homework or learning games lets professors see exactly where students are having issues with class material instantly, allowing more focus to be put on those areas for individual students or the class as a whole.

Of course, even online classes are subject to materials and teaching styles, but a good professor will use all of the tools available to help students learn.

**6.7.PEDAGOGY OF ONLINE LEARNING AND VIRTUAL LEARNING**

- **Computer-Based:** Instruction is not provided by a teacher; instead, instruction is provided by software installed on a local computer or server. This software can frequently customize the material to suit the specific needs of each student.
- **Internet-Based:** This is similar to *computer-based* instruction, but in this case, the software that provides the instruction is delivered through the Web and stored on a remote server.
- **Remote Teacher Online:** Instruction is provided by a teacher, but that teacher is not physically present with the student. Instead, the teacher interacts with the student via the Internet, through such media as online video, online forums, e-mail and instant messaging.
- **Blended Learning:** This combines traditional face-to-face instruction, directed by a teacher, with *computer-based*, *Internet-based* or *remote teacher online* instruction. In effect, instruction comes from two sources: a traditional classroom teacher, and at least one of the forms of virtual learning described above.
- **Facilitated Virtual Learning:** This is *computer-based*, *Internet-based* or *remote teacher online* instruction that is supplemented by a human “facilitator.” This facilitator does not direct the student’s instruction, but rather assists the student’s learning process by providing tutoring or additional supervision. The facilitator may be present with the learner or communicating remotely via the Web or other forms of electronic communication.

aaaaaa

## UNIT – VII: CONCEPT OF TEACHING

**Unit 7: Concept of Teaching** : *Meaning, definitions, criteria for teaching – teaching an art or a science? – relationship between teaching and learning – analysis of the concept of teaching - teaching as a deliberately planned process: analysis in terms of teaching skills – general model of instruction – Pre-active, Interactive and Post active phases and teachers role in them.*

### 7.1.TEACHING

#### Introduction:

Teaching is a process intended for learning by inducing a behavioural change in the taught. It is an art of communicating a message with impact on audience. Teaching creates knowledge awareness and feelings in the taught and brings about behavioral change. Teaching is not confined merely to the provision of academic knowledge. It also includes discipline and behavior as well. The teacher guides the student to behave in the proper manner, according to the cultural and social expectations.

#### Meaning:

Teaching means interaction of teacher and students. They participate for their mutual benefits. Both have their own objective and target is to achieve them. Teaching includes all the activities of providing education to other. Teaching is processes where students are treated as consumers of knowledge. It does not always have a fixed agenda and being rigid, but being flexible, fluid, experimenting, and having the confidence to react and adjust to changing circumstances. It is agreed that teaching is a many – sided activities consisting of a number of verbal and nonverbal acts.

- **T**- Transferring the knowledge.
- **E**- Enlightening with the present living conditions.
- **A**-Aligning with portion and real life.
- **C**-Character building.

- **H**- Healing touch offer.
- **I** - Involvement with the student in studies.
- **N**- Nurturing the thoughts into reality.
- **G**- Giving a final shape.

**Definitions:**

According to **Gage**, "Teaching is a form of interpersonal influence aimed at changing the behavior potential of another person."

**Nature and characteristics of teaching**

1. The main character of teaching is to provide guidance and training.
2. Teaching is interaction between teacher and students.
3. Teaching is an art to give knowledge to students with effective way.
4. Teaching is a science to educate fact and causes of different topics of different subjects.
5. Teaching is continues process.
6. Teacher can teach effectively, if he has full confidence on the subject.
7. Teaching encourages students to learn more and more.
8. Teaching is formal as well as informal.
9. Teaching is communication of information to students. In teaching, teacher imparts information in interesting way so that students can easily understand the information.
10. Teaching is tool to help student to adjust himself in society and its environment.

**Criteria for Teaching**

Teaching effectiveness is perceived as an aggregation of qualities like:

- (i) Knowledge of the subject matter;
- (ii) Clarity and understanding;
- (iii) Presentation skills;

(iv) Human relations and rapport with the students; and

(v) Class management.

All these factors determine effectiveness of teaching. There are three major criteria for assessing effectiveness of teaching viz.

i) Product,

ii) Process and

iii) Presage. These concepts may be discussed here for clear perception.

### **1. The first criterion is the product effectiveness.**

Product is what students learn and advocates of this criterion emphasize that the best test of teaching effectiveness is how much and how well students achieve. This includes achievement in the three domains: Cognitive, effective and psychomotor. For example, students gain in the content of the subject, knowledge and understanding their achievement in affective aspects like attitude, interests, appreciation and so on and students gain in psychomotor skills like drawing, handwriting, handling equipment, conducting experiments, preparing teaching aids and other related abilities. The difference between the pre-teaching and post-teaching behaviour is the measure of product effectiveness.

**2.The second criterion is process effectiveness.** Assessment of teacher's effectiveness is made in terms of what the teacher does, what the students do, the interaction between them and so on. The examples of this criterion are:

- Teacher behaviours like explaining, questioning, leading discussions, counselling, evaluating, etc.
- Students, behaviour like attentiveness, participating in discussions, conducting experiments, workshop activities and so on.

- Teacher-students interactions like exchange of ideas, teacher-directed and student directed exchanges, warm reception and mutual responses. In the teaching process, the presentation of the subject matter, fluency, skills in using various methods, techniques and audio visual aids creating interest and humour, generating motivation and morale. The teacher may assess himself, students may evaluate, supervisions and colleges may check the teaching effectiveness. In teaching work, teacher's behaviour, the climate in the classroom and interactions determine the process effectiveness.

**3.The third criterion is presage effectiveness** which is mainly concerned with predictive factors. A teacher's present and future effectiveness is judged on the basis of his Cognitive ability, personal appearance and other characteristics. The instances of this criterion are cognitive competence of teachers, amount of college workload, grade points, and personal qualities and so on. All this can be judged indirectly on the basis of records, tests and ratings in and outside the classroom.

On the whole, most of the researchers have pointed out the following characteristics for effective teaching.

- intellectual efficiency
- creativity
- flexibility
- personal rapport
- involvement
- confidence
- motivation
- understanding
- techniques as well as methods of presentation

## 7.2.TEACHING: AN ART OR A SCIENCE

### Teaching is an Art:

Teaching involves “artistic judgement about the best way to teach”. When teaching leaves the laboratory or text book and faces the students to real, “the opportunity for artistry expands enormously”. Teachers need to be able to feel the pulse of the classroom, to know when to re-teach, when to skip content that has already been learned, when to give kids a break, and when to incorporate humor (N.L.Gage). They need to connect personally which learners and create safe environment. Flexibility and enthusiasm are essential. Science cannot prescribe successfully at all situations as teachers respond and interact with judgement, insight or sensitivity to promote learning to the students.

Teaching is based primarily on feeling and artistry. Teachers should be able to express their emotions, feelings or real personality while teaching so as to affirm and value the students. Nevertheless that the teaching is solely based on feeling and art. If it is so, then it will be difficult to measure how much the students have achieved in learning and whether or not the aim of education have been fulfilled with regard to that, it is importance to have observable and measurable aim in teaching so that the progression of teaching and learning can be examined and supervised.

### Teaching as a science:

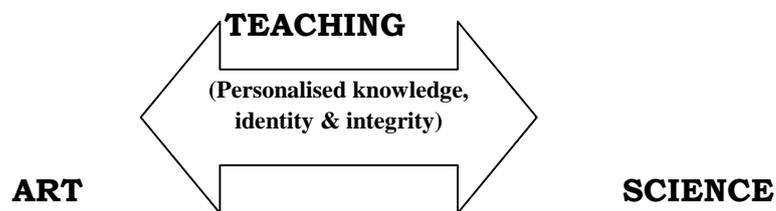
We have to “hand (our ends) over to science” as the best method of achieving our aims of education that is value – oriented. The planning of a curriculum by objectives that is more precise and can be measured. The process of education can be tackled by science by eliminating the values aspect, by making objectives of education measurable, the progress of what has been achieved and what more needs to be done can exactly been observed. Teaching deals with human being, teachers should be able to convey knowledge in a suitable manner in promoting learning to students.

For this purpose, the art of teaching is very crucial as it is the process to achieve the educational goal as well as to satisfy human needs the teachers needs technology skills to deliver content, math skills to communicate effectively, and time management skills to accomplish everything the job demands.

**Teaching as both an art and a science:**

Some educators perceive teaching as an art which practiced by individual who are born with intuitive awareness, whereas others view teaching as a science that practiced by in a scientific manner.

Is teaching an art, a science or a combination of both elements? In the light of this issue, the argument is about whether teaching is an activity involving general laws or principal as well as scientific terms to facilitate planning; or whether it is an individualistic, intuitive and spontaneous process to produce creative work as it involves so many factors which are impossible to specify general lines of direction, so teaching involves both art and science.



There are three basic important principles in education which are aim (goal and objectives), mean (process and method) and end (evaluation and assessment). The aim of education involves the science of teaching where observable and measureable goals and objectives are developed. The goals and objectives will be stated specifically and clearly based on the student's ability. Mean of the education may involve both the art and science of teaching.

The process or method of teaching is planned by teacher accordingly – this is where teacher is regarded as a science, and teacher will be using

different approach for different types of classes or different students. At this stage, teacher will use their own experience and creativity to deliver knowledge and to make the students understand by using their personalized knowledge – this is where teaching is regarded as an art. Likewise, end of education may involve both elements science and art. At this stage, teacher will identify a suitable assessment to evaluate the students' understanding which can measure the students' different ability. Teaching will be evaluated based on students' achievement on the assessment.

Science and art cannot be separated in teaching. Both complement each other. A teacher can be regarded as a scientist or an artist. When a teacher being a scientist, his or her laboratory is school, the instruments or apparatus are lesson plan as well as school facilities while the chemicals are the students. When doing the research in the laboratory, the scientist will use judgement, intuition and insight in handling the unpredictable – contingencies (Gage, 1978). It same goes with the teacher. The teacher will act as a scientist in a classroom, using trial and error method in order to find the most appropriate way to teach the students so as the students will understand better.

Learning activities is the strategies in achieving goals. A teacher is regarded as an artist when he is able to use creativity and sense in order to find the best strategies so that the goals can be achieved. Thus, teacher should be creative to promote learning by encouraging the students through sense and make the lesson alive as the students can feel what they learn. Each teacher is unique as each has his own personalized experience. Teacher's character or personality is expressed during the teaching process. At the same time, even though each teacher employing different methods of teaching, they have to ensure that the process of teaching is able to reach their goals in teaching. This is where the science and the art of teaching are applied in education.

**Conclusion:**

It is crucial for a teacher to teach students by heart as it will bring teacher closer to the students. Teachers have to know themselves and the subjects that they will be going to teach before knowing the students. Only after knowing themselves the teachers will be able to know the students well. Teaching is a science as well as art, having clear objectives or goals and striving hard to think of different and interesting way of teaching. A teacher needs to have personalized knowledge/ identity and integrity in his life. From these three elements then the teacher will be able to teach from heart.

**7.3.RELATIONSHIP BETWEEN TEACHING AND LEARNING**

The teaching-learning relationship is as old as human beings on earth. It has been carried out not only by human beings but also by animals to teach their young ones to adjust themselves successfully with their environment. Teaching consists of all those activities or system of actions that are intended to produce learning.

**The relationship between teaching and learning are as follows :**

- The teacher creates the learning process and learning situation for the student.
- The relationship is the interaction between the student and teacher.
- Teaching and learning relationship is a means through which the teacher, the learner, the curriculum and other variables are organized in the systematic manner to attain pre-determined goals and objectives.
- Teaching-learning relationship implies that all the various elements of the teaching-learning situation have to be brought into an intelligible whole.

- The teacher-learner activities which are varied and complex have to be harmonized.
- The teaching-learning element and activities include learners and their individual difference.
- The methods of teaching.
- The material to be taught.
- Classroom conditions.
- Teaching devices and aids.
- Questioning and answering.
- Teaching-learning relationship is influenced by the totality of situation.
- Teaching-learning relationship is a means where by society trains the young ones in a selected environment.

#### **7.4.ANALYSIS THE CONCEPT OF TEACHING**

Teaching as an interactive process interaction means participation of both teacher and student and both are benefitted by this. The interaction takes place for achieving desired objectives. The attempt have been made to analyze teaching is several ways with a view to understanding it, designing teaching materials and methods for realizing the specific activities, perform the task of teaching effectively, evaluate and then modify it (on the basis of feedback) for acquiring teaching competency and proficiency.

An analysis is concerned with the process of breaking or separating out the elements or constituents of a substance, therefore, an analytical description of teaching would demand the breaking or separating the different components or elements of the process teaching.

According to **wage (1968)** “Teaching skills are specific instructional techniques and procedures that a teacher may use in the classroom. They represent an analysis of the teaching process into relatively discrete components that can be used in different combinations in the continuous flow of the teacher’s performance”.

**Ajit Singh (1982)** state, “Teaching can be analyzed in terms of teacher behaviour at least at three levels viz.

- i. Component teaching skills.
- ii. component teaching behaviours comprising skills &
- iii. Atomistic teaching behaviour

Diagrammatically this analysis can be prescribed as given below.

**Teaching**

**Level. I :** Teaching may be analyzed into various component teaching skills.

Say S1, S2, S3,..... ..... Sn.

S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	Sn
----	----	----	----	----	----	----	----	----	-----	-----	-----	----

**Level. II :** Each of the component teaching skill may be analyzed into a number of component teaching behaviours.

say C1, C2, C3..... Cn

S7 (Component teaching skills)

C1	C2	C3	C4	C5	C6	C7	C8	C9
----	----	----	----	----	----	----	----	----

**Level. III:** Each of the component teacher behaviour may be further analyzed into atomistic teaching behaviours.

Say Tb1, Tb2, Tb3,..... Tbn

(Component Teaching behaviour – 4)

Tb1	Tb2	Tb3	Tb4	Tb5	Tbn
-----	-----	-----	-----	-----	-----

An analytical description of teaching skills related to the following activities.

- i. Activities undertaken in the teaching process
- ii. Teaching objectives to be achieved through these activities

**B.K.Passi (1976)** has concluded that teaching contributes a number of verbal and non-verbal teaching acts like questioning, acquiring pupil response, smiling, rewarding and nodding to pupil, response, and movements in the class, gesture etc. Base on the analysis it can be easily concluded that the complex task or reaching may be safely analyzed into limited but well defined components called “Teaching & skills” or “Technical Skills” of teaching

### **7.5.TEACHING AS A DELIBERATELY PLANNED PROCESS : INTERMS OF TEACHING SKILLS**

Totally there are more than 60 skills in teaching. As much as possible we should know each component of every skill and we should use properly. So that teaching will be perfect.

The key aspect of effective teaching is having a plan for what will happen in the classroom each day. Teaching and learning should be planned with clear objectives that are understood by learners. The approaches to teaching and learning should engage all learners, encouraging them to be active partners in the process.

The term instructional strategy is used to mean a deliberated act of teaching that focuses on learning to meet a particular purpose when the teacher interact with their students they use a range of deliberate acts of

teaching. They use them to develop students' knowledge, strategies and awareness in terms of learning. The importance of deliberate strategic teaching cannot be over emphasized. However, much learning is incidental and improved student outcomes result from both planned and incidental learning experience.

The activities should be relevant to the needs of learners and to the programme they are following;

- i. Creating such a plan involves setting realistic goals.
- ii. Deciding how to incorporate course textbooks and other required materials, and
- iii. Developing activities that will promote teaching.

This means that teaching learning session should,

- ❖ meet individual learning needs.
- ❖ certain activities that motivate and engage all learners whatever their age ability and cultural background.
- ❖ make clear links between schemes of work and individual sessions plans; and
- ❖ a teacher who is prepared is well on his way to a successful instructional experience

**Purpose of Planning:**

The purpose of planning includes:

- i. clarification of the objectives to the pupils,
- ii. provision for individual differences,
- iii. development of means for stimulating interest,
- iv. provision for a logical instructional sequence
- v. provision for flexibility and
- vi. enabling the teacher to teach with confidence

**Elements of Planning:**

**1. Statement of objectives:**

This clearly shows what is to be taught and the outcomes to be achieved, expressed in terms of pupils learning.

**2. Statement of activates:**

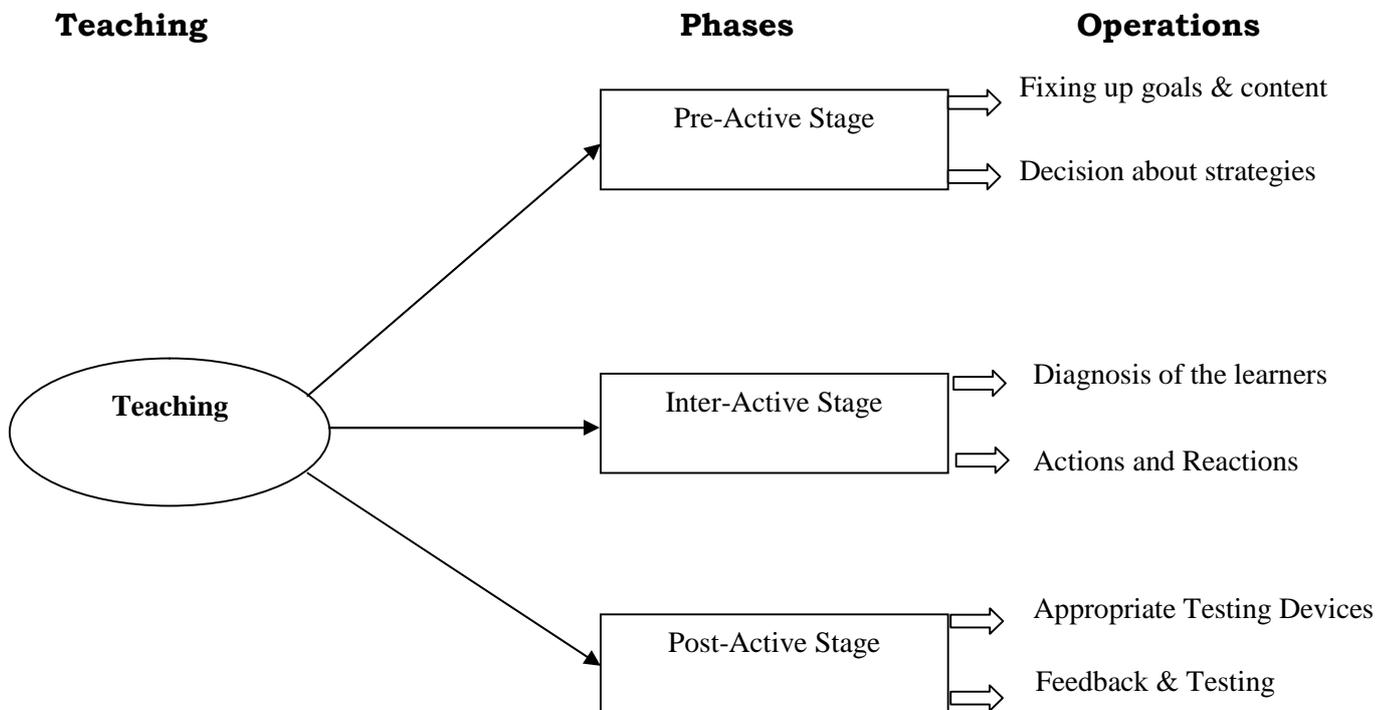
A logical step-by-step sequence of instruction necessary transition and an appropriately developed ending;

**3. List of Materials:** to be used

**4. Assessment,** in including at least two types of assessment: Assessment of pupil learning, and assessment of the teaching procedures.

**7.6.GENERAL MODEL OF INSTRUCTION**

Teaching is a complex task for performing this task, a systematic planning is needed. Teaching is to be considered is terms of various steps and the different steps constituting the process are called the phases of teaching. The teaching can be divided into three phases;



**Phases of Teaching (Philip. W. Jackson)****1. Pre-active Phase:**

In the pre-active phase of Teaching, the planning of teaching carried over. This phase includes all those activities which a teacher performs before class-room teaching.

Pre-teaching consists essentially of the planning of a lesson. The planning of lesson needs to be seen in broader terms, not merely the designing of a lesson plan. Planning includes identifying the objectives to be achieved in terms of students learning, the strategies and methods to be adopted, use the teaching aids and so on.

It the planning phase of teaching acts. The foundation of this phase is set through the establishment of some kind of goals or objectives, and discovering ways and means to achieve those objectives. Planning is done for taking decision about the following aspects:

- a. Selection of the content to be taught
- b. organization of the content
- c. Justification of the principle and maxims of teaching to be used.
- d. Selection of the appropriate of methods of teaching.

**Role of the teacher in the Pre-active phase:**

It comprises the activity of planning teaching-learning process. The teacher has to plan to simplify the complex process in the following way.

- a. Analyzing the content
- b. Deciding on the position of the content to be selected for instruction.
- c. Deciding on instructional objectives for the chosen content on the basis of the knowledge about.
  - i. Lend of students
  - ii. Their socio-cultural context

- iii. Time available
- iv. To study different learning experience that is suitable for achieving the set objectives.
- v. Deciding the method of evaluating learning and the specific item of evaluation.

## **2. Interactive Phase:**

The second phase includes the execution of the plan, where learning experience are provided to students through suitable modes. "The teacher provides pupil verbal stimulation of various kinds, makes explanations, ask question, listen to the student's response and provide guidance".(Jackson).

Learning is directed in Pre-determined directions to achieve certain pre-specific goals. The varieties of experiences that students go through with a teacher, among themselves provide learning opportunities. The activities included in the interactive phase are;

### **Sizing up of the class:**

As the teacher enters the classroom, first of all he/she perceive the size of the class. The teacher throws his eyes on all the pupils of the class in a few moments. The teacher should appear as an efficient and impressive personality.

### **Diagnosis of the learners:**

- i. Abilities of learners.
- ii. Interests and attitude of learners.
- iii. Academic background of learners.

### **Action and reaction of achievement:**

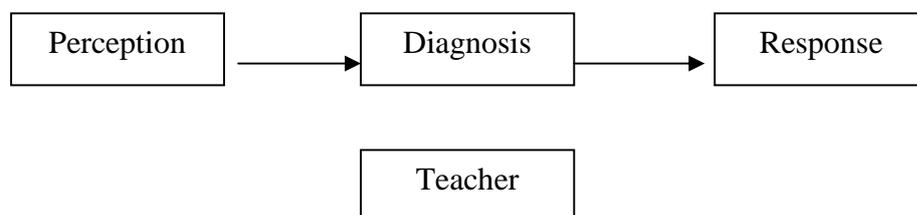
- i. Initiation
- ii. Response

Both these activities are known as verbal interaction. Both these activities occur between the teacher and the students. When a teacher performs some activities, the student's reaches (or) when students perform some activities, the teacher reacts. This way the inter-action in the teaching takes place.

### **Role of the teacher in the Inter-active phase:**

The teacher also plays the role of a manager during the teaching-learning process, they are as follow,

- i. To sense the students are becoming bored, a teacher decides to stop teaching
- ii. To realize that the student has not understood a point fully, a teacher decides to simplify the explanation with more examples.
- iii. To make a lesson more interesting a teacher decides to narrate a related story.
- iv. As students start making too much noise and could not be managed by a teacher should decides to let them go out and play.
- v. As the prepared plan does not prove effective to make students understanding the point, a teacher decides to deviate from the plan and tries out another sequencing of learning experiences.



### **3. Post – Active Phase:**

In this phase, as the teaching tasks sums up, the teacher asks the questions from the pupils, verbally or in written form, the measure the behaviours of the pupils so that their achievements may be evaluated

correctly. Therefore without evaluation teaching is an incomplete process. It is related with both teaching and learning. The following activities are suggested in the post – active of teaching.

- i. Defining the exact dimensions of the changes caused by teaching
- ii. Selecting appropriate testing devices and techniques
- iii. Changing the strategies in terms of evidences gathered.

**Role of the teacher in the post-active phase:**

Post-teaching phase involves teachers' activities such as analyzing evaluation results to determine students learning, especially their problems in understanding specific areas, to reflect on the teaching by self, and to decide on the necessary changes to be brought in the system in the next instructional period.

As a result in the post-teaching phase, a teacher analyses results, reflects on self and modifies the teaching-learning purpose of being as effective as a teacher.

**Difference between Pre-active and interactive Teaching:**

1. Pre-active teaching operations are concerned with planning aspects of teaching whereas interactive teaching operations are related to presentations aspects.
2. Pre-active behaviour is more or less deliberate whereas interactive is spontaneous. The teaching is highly rational process.
3. The pre-active behaviour is more or less predictable whereas interactive teaching behaviour is more concurrent.
4. In the cognitive style between pre active and interactive teaching. The interactive teaching behaviour is rapid in the classroom events when students are import of him whereas pre active teaching is rather show.

5. These differences in teacher behaviour with and without students have relevance for the teaching task, for justifying certain training requirements and for identifying the criteria of good teaching.

### FLANDER'S INTERACTION ANALYSIS

The Flander's system is an observational tool used to classify the verbal behavior of teachers and pupils as they interact in the classroom. Flander's instrument was designed for observing only the verbal communication in the class room and non-verbal gestures are not taken into account. The basic assumption of the system is that in the classroom the verbal statement of a teacher are consistent with his non-verbal gestures or with his total behavior. Ned . S . Flander has categorized the instruction of teachers and pupils in classroom. There are 10 categories in this system.

#### 1)Flander's interaction analysis categories

		Category number	activity
Teacher talk	response	1	<b>Accept feeling:</b> accepts and clarifies an attitude or the feeling tone of a pupil in a non- threatening manner. feeling may be positive or negative.
		2	<b>Praises or encourages:</b> praises or encourages pupil action or behavior. Jokes that release tension, but not at the expense of another individual. Nodding head, or saying 'UMHM?'
		3	<b>Accepts or uses ideas of pupils:</b> clarifying or building or developing ideas suggested by a pupil. Teacher extensions of pupil ideas are included but as the teacher brings more of his own ideas into play, shift to category five.
		4	<b>Ask questions :</b> asking a question about content or procedure with the intent that a student may answer.
	initiation	5	<b>Lecturing :</b> giving facts or opinions about content or procedures; expressing his own ideas; asking rhetorical questions.
		6	<b>Giving direction:</b> directions, commands or orders to which a pupil is expected to comply.
		7	<b>Criticizing or justifying authority:</b> statements intended to change pupil behavior from non acceptable to acceptable pattern; stating why the teacher is doing what he is doing
Pupil talk	Response	8	<b>Pupil talk in response to teacher:</b> talk by students in response to teacher. Teacher initiates the contact or solicits student statement.
	Initiation	9	<b>Pupil talk initiated by the pupil;</b> talk by students which they initiate. It 'calling on ' student is only to indicate who may talk next, observer must decide whether student wanted to talk. If he did, use this category
silence		10	<b>Silence or confusion:</b> pauses, short periods of confusion in which communication cannot be understood by the observer.

## 2 ) OBSERVATION PROCEDURE

The observer sit in the classroom in the best position to hear and see the participant. At the end of each three second period he decides the category that best represents the communication of events just completed. He writes down this category number while simultaneously assessing communication in the next period. He continues at the rate of 20 to 25 observations per minute.

Flander suggests using a set ground rules to be followed while noting down the observations. Some of them are given below.

1. When uncertain about placing a statement on one of any two categories , choose a category on the scale that is farthest from category five, with the exception of category ten.
2. If the teacher's behavior is either consistently direct or indirect, avoid shifting from one classification to the other unless such a shift is clearly indicated by the teacher
3. When the teacher repeats student's answer and if it is a correct answer, this is recorded as a 2.
4. Record an 8 when several students respond to a narrow question.

## 3) RECORDING OF OBSERVATIONS IN THE CODING CHART

Let us consider an episode and try to analyse it into various categories , by indicating the relevant code numbers. The observer writes the proper category numbers in its correct sequence, in the manner indicated below.

10	10	1
2	3	2
3	3	5
2	7	1
1	5	1
5	7	9
5	9	9
5	4	1
6	9	10
6	9	10
5	4	5
5	9	6
5	7	5

(10,2),(2,3),(3,2),(2,1),(1,5),(5,5),(5,5),(5,6),(6,6),(6,5),(5,5),(5,5),(5,10),(10,3),(3,3),(3,7),(7,5),(5,7),(7,9),(9,4),.....

#### 4) TABULATING MATRIX

The data given above can be recorded in a 10x10 matrix. The first step is to make sure that the entire series begins and ends with the same number. For that Flander create certain groups of pairs from the observations. Each pair overlaps with the next and the total number of observations.[from the above observation,(10,2), (2,3), (3,2), (2,1),(1,5)....so on] The numbers are tallied in the matrix one pair at a time. The row is used for the first number in the pair and the column is used for the second number. The row is used for the first number in pair and the column is used for the second number.

category	1	2	3	4	5	6	7	8	9	10	total
1	1	1									2
2			1							1	2
3		1	lll							1	5
4											0
5	1				lll	1	1				6
6					1	1					2
7							1				1
8											0
9				llll			ll				6
10					1						1
total	2	2	4	4	5	2	4	0	0	2	25

#### 5) INTERPRETING THE MATRIX

From the interpretation several interference can be drawn from the matrix.

##### **The proportion of teacher talk, pupil talk and silence or confusion.**

The proportion of tallies in columns,2,3,4,5,6, and 7, columns 8,9, and column 10 to the total tallies indicates how much the teacher talks, the students talks and the time spent in silence or confusion. After several years of observing, we anticipate an average of 68 percent teacher talk, 20 percent of pupil talk and 11 or 12 percent silence of confusion.

category	1	2	3	4	5	6	7	8	9	10	total
1	1	1									2
2			1							1	2
3		1	lll							1	5
4											0
5	1				lll	1	1				6
6					1	1					2
7							1				1
8											0
9				llll			ll				6
10					1						1
total	2	2	4	4	5	2	4	0	0	2	25

$$\begin{aligned} \text{Teacher talk} &= 2+2+4+4+5+2+4 \\ &= 23 \end{aligned}$$

$$\begin{aligned} \text{Student talk} &= 0+0 \\ &= 0 \end{aligned}$$

$$\text{Silence or conf} = 2$$

• **The ratio between indirect influence and direct.**

The sum of column 1,2,3,4, divided by the sum of 5, 6, 7 gives this ratio. If the ratio is 1 or more than 1, the teacher is said to be indirect in his behavior. The ratio therefore , shows whether a teacher is more direct or indirect in his teaching

**The ratio between positive reinforcement and negative reinforcement.**

The sum of column 1, 2, 3 divided by the sum of columns 6,7. If the ratio is more than 1 then the teacher is said to be good.

• **Student's participation ratio**

the sum of columns 8 and 9 is to be divided by total sum. The answer will reveal how much the students have participated in the teaching learning process.

• **Steady state cells**

The following figure shows the study state cells along the diagonal from the upper left to the lower right. If these cells are heavily loaded it shows that the teacher remains in a particular category for more than three seconds. The cell with the highest frequency of the entire matrix is typically the 5-5 cell which lies on this diagonal indicating that the teacher frequently stays longer than 3 seconds when he provides information through lecture.

category	1	2	3	4	5	6	7	8	9	10	total
1	1										
2											
3			1								
4											
5					III						
6											
7											
8											
9				IIII			II				
10											
total											

### Content cross cells

The cells corresponding to the numbers 4 and 5 in the column and the row are known as content cross cells. If these cells are overloaded they reflect the teachers emphasis on the subject matter.

category	1	2	3	4	5	6	7	8	9	10	total
1	1										
2											
3			1								
4											
5					III						
6											
7											
8											
9				IIII			II				
10											
total											

**Constructive integration cells and vicious cells:**

Two areas that are most sensitive to the positive and negative aspects of social skill is the teacher- student relationship. This is shown in following figure.

category	1	2	3	4	5	6	7	8	9	10	total
1	I										
2		A									
3			I								
4											
5					III						
6							B				
7											
8											
9				IIII			II				
10											
total											

Area A might be called ‘constructive integrative cells’ while area B is called the ‘vicious cells’. The cells corresponding to numbers 1,2 and 3 are known as constructive integration cells. Cells of numbers 6 and 7 are known as vicious cells. These cells reveal the teacher’s attention to problems of classroom management and control as distinct from concern with the subject matter.

**Advantages of FIACS**

1. It is an objective and reliable technique of observing and analyzing the verbal behavior of a teacher and class room interaction.
2. It may help in understanding analytically what actually goes on in the classroom.
3. It may help in determining the flow and pattern of teaching behaviors.
4. By providing feedback, it helps in acquiring the desirable patterns of teaching and modifying one’s teaching behavior.
5. Through the use of this system, student teacher may practice and learn new desirable teaching behaviours quite unknown to the traditional teaching.
6. It supplements the training techniques like micro teaching and team teaching.

7. It can be used for undertaking research in several areas of teaching, teacher behavior, pre- service and in-service education of teachers.
8. As the system 's rule is to take observer records almost all the behaviors of the teacher and the students.
9. It helps to determine the classroom climate.
10. A teacher can control his teaching behavior, so, this system is well suited to be used as a mechanism of feedback device for the modification of teacher behavior.
11. It is used as an observation technique in teacher education programs.

### **Limitations**

1. The system concentrates on verbal behavior and does not describe the classroom interaction or teacher behavior in its totality.
2. Out of 10 categories, it devotes as many as seven categories to teacher talk and just three to student talk.
3. The use of this system envisages highly trained observers and interpreters.
4. There is much scope for subjectivity in the observation of the behavior.
5. It hardly takes into consideration classroom interaction in the form of student- student interaction.
6. The system does not incorporate various essential steps teaching a particular subject.
7. The fourth category of asking questions in this system does not classify the type of questions asked.
8. It does not provide valued judgments about and bad teaching behaviours.

### **7.7.CHARLES GALLOWAY SYSTEM OF INTERACTION ANALYSIS**

This system of Interaction Analysis was developed by Charles Galloway in the form of a teachers' training technique. It is basically a category type system involving categorization of all sets of possible verbal and non-verbal behavior of a teacher in the classroom while interacting with the students. In total there are ten categories of verbal behavior and ten categories of non-verbal behavior.

These are divided into three major sections

- (a) Teacher talk
- (b) Student talk and
- (c) Silence on Confusion.

In this system relevance to the non-verbal cues is given along with the verbal behavior, as the teachers do convey information to students through non-verbal cues. These cues can be either spontaneous or managed and facilitate any effort to understand others and to be understood.

### **Assumptions of Charles Galloway System**

- The assumptions of Charles Galloway System are as follows:
- Non-verbal communication of a teacher do has a significant role in classroom interaction.
- As one cannot see when he / she behave, so, a feedback is necessary for the behavior.
- The non-verbal cues are important, as they can reinforce and can motivate a student.
- Non-verbal communication can be more effective during interaction in the classroom.
- Becoming aware of his non-verbal events occurring around us, one can achieve a better understanding of himself.
- Training of teachers enhances the aspect of non-verbal communication in teachers.
- The system is based upon the theory of modification of the teacher's behaviour.

**Charles Galloway stressed both verbal and non- verbal communication in the classroom but he thought that the non – verbal communication would be more effective when compared to the verbal communication.**

### **GALLOWAY'S COMMUNICATION MODES IN CLASSROOM**

**1.Verbal communication strategy :** Language is the key and base of any verbal communication. The use of language can take one of the three forms i.e. oral, written and oral plus written. In the classroom communication, a teacher write on the blackboard, also makes use of language for the explanation and exposition of the written contents. In this way oral form combined with written form of communication or vice-versa always proves more effective, than any of these forms used separately.

**2.Non-verbal strategy :** Non Verbal Communication refers to “all external stimuli other than spoken or written words and including body motion, characteristics of appearance, characteristics of voice and use of space and distancing.” All these non verbal cues taken together are known as body language. Communication process can also be carried out without the use of any verbal means (written on spoken language). In the normal situations

non-verbal media is generally used for giving strength and effectiveness to the verbal communication.

**Some of these important modes of nonverbal communication are as follows:**

- Facial expressions
- Language of Eye
- Body Language
- Sound symbols
- Symbolic code language

### **7.8.VARIOUS LEVELS OF TEACHING : MEMORY, UNDERSTANDING AND REFLECTIVE :**

We all know that teaching is a purposeful activity. Through teaching the teacher brings a desirable change in the learner. Both the concepts teaching and learning are interrelated to each other. Development of all-round personality of the learner is the final goal of teaching and learning. During teaching an interaction takes place between an experienced person (teacher) and an inexperienced person (student). Here the main aim is to bring change in the behavior of the student.

Teachers teach students at three levels. They have to keep in mind about the developmental stage of the learners so that desired educational objectives can be achieved. These three levels are

1. Memory level: Thoughtless teaching
2. Understanding level: Thoughtful teaching
3. Reflective level: Upper thoughtful level

#### **Memory level of teaching**

It is the first and thoughtless level of teaching. It is concerned with memory or mental ability that exists in all living beings. Teaching at memory level is considered to be the lowest level of teaching. At this level,

- the thinking ability does not play any role.
- students only cram the facts, information, formulas and laws that are taught to them.
- the teaching is nothing but learning the subject matter by rote.[Bigge, Morris L(1967)]
- the role of the teacher is prominent and that of the student is secondary.

- The study material is organized and pre-planned. The teacher presents the study material in a sequential order.

Memory level teaching lacks insight. Psychologically, it is cognitive level teaching.

### **Merits of memory level teaching**

1. Useful for children at lower classes. This is because of their intellect is under development and they have a rote memory.
2. The role of the teacher is important in this level of teaching and he is free to make choices of subject matter, plan it and can present it at will.
3. The knowledge acquired at memory level teaching forms a basis for the future i.e. when student's intelligence and thinking is required.
4. Memory level teaching acts as the first step for understanding and reflective levels of teaching. It is pre-requisite for understanding level teaching.

### **Demerits of memory level teaching**

1. This does not contribute to the development of the student's capabilities.
2. Since at this level student learns by rote, the knowledge gained does not prove helpful in real life situations as it does not develop the talents of students.
3. The pupils are kept in strict discipline and cramming is insisted on this teaching.
4. Intelligence does not carry any importance in this type of teaching and it lacks motivation

### **Understanding level**

Understanding something is to perceive the meaning, grasp the idea and comprehend the meaning. In the field of Education and Psychology, the meaning of '*understanding*' can be classified as

- seeing the total use of facts
- seeing relationship
- a generalized insight

The teaching at the understanding level is of a higher quality than the one at the memory level. It is more useful and thoughtful from the point of view of mental capabilities. At this level of teaching, the teacher explains the student about the relationship between principles and facts and teach them how these principles can be applied. Memory level teaching barrier is essential to be crossed for this level of teaching.

As compared to memory level teaching, the understanding level teaching has greater merit. This enables students to have complete command over subject material. In the understanding level role of the teacher is more active. The students at this level are second any. At this level, no cramming is encouraged. The new knowledge acquired at this level is related to the earlier knowledge gained. A generalization is made on the basis of facts and the facts are used in the new situations.

### **Merits of the understanding level of teaching**

1. At this level of teaching students to make use of their thinking abilities.
2. Knowledge acquired at this level forms the basis of the reflective level of teaching.
3. Here the teacher presents subject matter before the students in an organized and sequential form. The new knowledge acquired is related to to the previously acquired knowledge.
4. Here the students do not learn by rote. Here they learn by understanding the facts and information and their use and purpose.

### **Demerits of the understanding level of teaching**

1. Teaching at this level is subject centered. There is no interaction between the teacher and students at this level.
2. This type of teaching mastery ie emphasized.

### **Reflective level of teaching**

This level is also known as introspective level. Reflecting on something means giving careful thought to something over a period of time. It also means thinking deeply about something.

### **Reflective level of teaching is considered to be the highest level at which teaching is carried out.**

- It is highly thoughtful and useful.
- A student can attain this level only after going through memory level and understanding level.
- Teaching at the reflective level enables the students to solve the real problems of life.
- At this level, the student is made to face a real problematic situation. The student by understanding the situation and using his critical abilities succeeds in solving the problem.
- At this level emphasis is laid on identifying the problem, defining it and finding a solution to it. The student's original thinking and creative-abilities develop at this level.

- The role of the teacher in this level of teaching is democratic. He does not force knowledge on the students but develops in their talents and capabilities.
- The role of the students is quite active.
- reflective level of teaching is that which is problem-centered and the student is busy in original imagination.

### **Merits of reflective level teaching**

1. The teaching at this level is not teacher-centered or subject-centered, it is learner-centered.
2. There is an interaction between the teacher and the taught at the reflective level teaching.
3. At this level, teaching is appropriate for the higher class.
4. At this level, teaching is highly thoughtful and useful than the teaching at the memory or understanding level.

### **Demerits of reflective level teaching**

1. not suitable for small children at the lower level of teaching. It is suitable only for mentally matured children
- At this level, the study material is neither organized nor pre-planned. Therefore students cannot acquire systematic and c;rganized knowledge of their study courses.

## **7.9.MAXIMS OF SUCCESSFUL TEACHING**

### **Meaning**

Experience is said to be a good teacher and a trusted guide. Educationists and teachers engaged in the task of actual classroom teaching have evolved certain simple notion and working ways based on their own experiences which may prove quite helpful in the task of teaching. These are known as maxims of teaching.

**Some of the important ones of maxims of teaching are as follows:**

- from known to unknown
- from definite to indefinite
- from simple to complex

- from concrete to abstract
- from actual to representative
- from particular to general
- from whole to parts
- from induction to deduction
- from analysis to synthesis
- from empirical to rational
- from psychological to logical

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## UNIT – VIII: APPROACHES TO TEACHING

**Unit 8: Approaches to Teaching :** Various Approaches to Teaching, such as, Behaviourist, Cognitivist, Constructivist, Connectionist, Participatory, Cooperative, Personalized, holistic

### VARIOUS APPROACHES TO TEACHING

#### 8.1.CONSTRUCTIVIST APPROACH

##### INTRODUCTION

Constructivism is a psychological theory of knowledge, which is called epistemology. It argues that humans generate knowledge and meaning from their experiences. Constructivism is an approach to learning developed by Seymour Papert and his colleagues at Massachusetts Institute of Technology who had worked with Piaget. It included everything associated with Piaget's constructivism, but went beyond it to assert that constructivist learning happens especially well when people are engaged in constructing a product, something external to themselves such as a sand castle, a machine, a computer program or a book.

##### Concept

The concept of constructivism was given by Piaget in his theory of cognitive development. He designed a proper framework to understand the structure, functioning and development of the cognitive network of the human mind. According to him; children are active thinkers who are constantly trying to construct more accurate or advanced understanding of the world around them.

Piaget describes three essential processes which define the basis of the way in which, according to the theory of genetic epistemology, learning takes place. These are :

1. **assimilation,**
2. **accommodation and**
3. **equilibration.**

The first of these is assimilation, which involves the incorporation of new information or knowledge structure known as **schemas**.

### **Schemas**

A schema is a kind of “cognitive framework” for holding knowledge and organizing it. A schema represents a unit of one’s cognitive structure in the shape of a general potential to perform a particular class of behaviours, the content of which is related to the conditions that prevail during any particular manifestation of that general potential.

1. **Assimilation** : Assimilation is the collecting and classifying of new information. A consists of discrete items of knowledge which are linked to each other by the common theme of the schema.
2. **Accommodation** : The second process is accommodation; which involves modification in existing knowledge structure(schema) as a result of exposure to new information or experiences. i.e; changes in our existing knowledge structure resulting from exposure to new information.
3. **Equilibration** : This is the state of having no contradiction present in our mental representations of our environment.

According to Piaget, for knowledge construction the above three process are important.

### **Role of teacher**

1. Facilitator
2. Counsellor

3. Guide
4. Supervisor
5. Director

**Examples and applications constructivism:**

- Case studies
- Research Projects
- Problem based learning
- Brainstorming
- Collaborative learning / group work
- Discovery learning
- Simulations

**Principles of learning**

What are some guiding principles of constructivist thinking that we must keep in mind when we consider our role as educators? I will outline a few ideas, all predicated on the belief that learning consists of individuals' constructed meanings and then indicate how they influence museum education.

1. **Learning is an active process** in which the learner uses sensory input and constructs meaning out of it. The more traditional formulation of this idea involves the terminology of the active learner (Dewey's term) stressing that the learner needs to do something; that learning is not the passive acceptance of knowledge which exists "out there" but that learning involves the learner's engaging with the world.

2. **People learn to learn as they learn:** learning consists both of constructing meaning and constructing systems of meaning.

3. **The crucial action of constructing meaning is mental:** it happens in the mind. Physical actions, hands-on experience may be necessary for learning, especially for children, but it is not sufficient; we need to provide

activities which engage the mind as well as the hands. (Dewey called this reflective activity.)

**4. Learning involves language:** the language we use influences learning. On the empirical level. Researchers have noted that people talk to themselves as they learn.

**5. Learning is a social activity:** our learning is intimately associated with our connection with other human beings, our teachers, our peers, our family as well as casual acquaintances, including the people before us or next to us at the exhibit.

**6. Learning is contextual:** we do not learn isolated facts and theories in some abstract ethereal land of the mind separate from the rest of our lives: we learn in relationship to what else we know, what we believe, our prejudices and our fears. On reflection, it becomes clear that this point is actually a corollary of the idea that learning is active and social. We cannot divorce our learning from our lives.

**7. One needs knowledge to learn:** it is not possible to assimilate new knowledge without having some structure developed from previous knowledge to build on. The more we know, the more we can learn.

**8. It takes time to learn:** learning is not instantaneous. For significant learning we need to revisit ideas, ponder them try them out, play with them and use them. This cannot happen in the 5-10 minutes usually spent in a gallery (and certainly not in the few seconds usually spent contemplating a single museum object

**9. Motivation is a key component in learning.** Not only is it the case that motivation helps learning, it is essential for learning.

## **Educational implications of Constructivism**

1. Learners learn by experimentation.
2. Learn new information.

3. Teacher constantly assesses the students knowledge.
4. Chance to find already existing knowledge.
5. Opportunity to correct the errors.
6. Place for promote the reasoning.
7. Promotes self- regulation.
8. Encourage individual activities.

## 8.2.CONNECTIONIST APPROACH

Elaine is a new teacher, and she recently read a book on teaching that suggested that people's success in school is closely tied to what happens around them. If a student is rewarded for learning, he or she is likely to continue to learn, for example. Elaine is learning about **connectionism**, an educational philosophy that says that learning is a product of the relationship between stimulus and response.

A **stimulus** is something that causes a reaction, and a **response** is just a reaction to a stimulus. Think about what happens when a big piece of gooey chocolate cake is put in front of you. The sights and smells of the cake are the stimulus, and they are very likely to produce a response in you that involves drooling and maybe even a growling stomach.

**Edward Thorndike** was the psychologist who first proposed that connectionism is key to learning. Thorndike, who was popular in the first half of the 20th century, was the first educational psychologist. That is, he was the first person to bring together what psychologists had studied about how the human mind works and what educators knew about how to teach.

Connectionism was Thorndike's main philosophy. He said that learning is about responding to stimuli. Believe it or not, much of his theory is still used in classrooms today, almost a hundred years later!

Let's look closer at three laws of connectionism and how they might appear in a classroom.

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## Laws in Connectionist approach

### Law of Effect

Remember Elaine? She's a new teacher and has read about connectionism. She wants to apply it to her classroom, but she's not sure where to start.

Connectionism is closely related to the word 'connect,' which is just what happens in this theory. The stimulus and its response are connected in a person's mind, like associating chocolate cake with drooling. This connection between stimulus and response is called a **stimulus-response bond**, or an **S-R bond**. The stronger the S-R bond, the better a person has learned the lesson.

### Law of Exercise

As we mentioned, the law of effect is one of three laws that Thorndike put forth to explain the tenets of connectionism. The next one is one that many people will already be familiar with, though you might not call it this: The **law of exercise** says that the more you do something, the better you are at it. That is, 'practice makes perfect'!

### Law of Readiness

Readiness is the function of motivation, which is guided more by law of reward. The law states that when conduction cells are prepared for particular action, this will lead to satisfaction.

## 8.3.BEHAVIOURIST APPROACH

### The Origins of Behaviorism

Behaviorism traces its roots to the early part of the 20th century, a time when many psychologists emphasized self-analysis of mental processes (**introspection**) or the **psychoanalytic theory** of Sigmund Freud. In contrast, researchers like Ivan Pavlov and John B. Watson began to develop

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a framework which emphasized observable processes (environmental **stimuli** and behavioral **responses**). The result was a new approach, behaviorism, which grew in popularity for some fifty years, becoming the dominant framework for experimental research. While its restrictions (including ignoring mental processes) ultimately led many psychologists to turn to other approaches, it is nonetheless still influential today.

### **1. Classical Conditioning**

Pavlov's classic experiment, in which a dog was trained to salivate at the ringing of a bell, is so well known that cartoonists have frequently used it in humor intended for general audiences. Yet classical conditioning is easily underestimated by those who haven't considered it closely. For example, classical conditioning plays a role in why our stomachs rumble when we skip lunch, and why familiar medicines can change in effectiveness with repeated usage. The following sources can help you gain a deeper understanding of this deceptively complex process.

When some teachers hear a bell one of the first things they do is walk out into the hallway. Even when they're at home. Alone. The call of the bell is simply such a strong habit that these teachers will produce the right behavior (going into the hall to monitor) at the wrong place (their own home).

In this chapter we will look at Classical Conditioning, perhaps the oldest model of change there is. It has several interesting applications to the real world, ones you may not have thought about it. Let's look at the components of this model.

#### **Components Of Classical Conditioning**

The easiest place to start is with a little example. Consider a hungry dog who sees a bowl of food. Something like this might happen:

**FOOD → SALIVATION**

The dog is hungry, the dog sees the food, and the dog salivates. This is a natural sequence of events, an unconscious, uncontrolled, and unlearned relationship. See the food, then salivate.

Now, because we are humans who have an insatiable curiosity, we experiment. When we present the food to the hungry dog (and before the dog salivates), we ring a bell. Thus,

**-> BELL -> FOOD → SALIVATION**

We repeat this action (food and bell given simultaneously) at several meals. Every time the dog sees the food, the dog also hears the bell. Ding-Dong, Alpo.

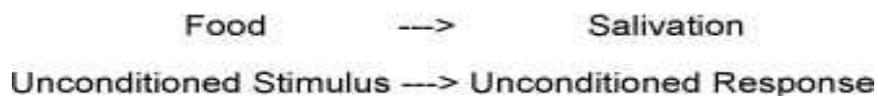
Now, because we are humans who like to play tricks on our pets, we do another experiment. We ring the bell (Ding-Dong), but we don't show any food.

**BELL → SALIVATE**

The bell elicits the same response the sight of the food gets. Over repeated trials, the dog has learned to associate the bell with the food and now the bell has the power to produce the same response as the food. (And, of course, after you've tricked your dog into drooling and acting even more stupidly than usual, you must give it a special treat.)

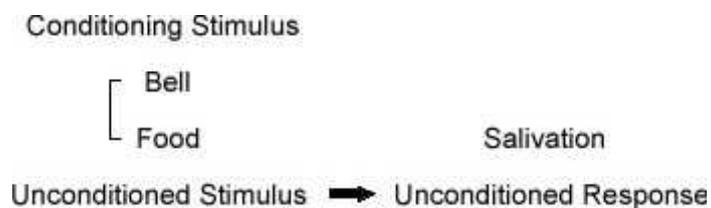
This is the essence of Classical Conditioning. It really is that simple. You start with two things that are already connected with each other (food and salivation). Then you add a third thing (bell) for several trials. Eventually, this third thing may become so strongly associated that it has the power to produce the old behavior.

Now, where do we get the term, “Conditioning” from all this? Let me draw up the diagrams with the official terminology.

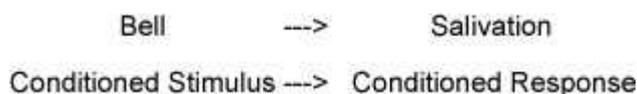


“Unconditioned” simply means that the stimulus and the response are naturally connected. They just came that way, hard wired together like a horse and carriage and love and marriage as the song goes. “Unconditioned” means that this connection was already present before we got there and started messing around with the dog or the child or the spouse or the customer or voter or whomever we’re toying with.

“Stimulus” simply means the thing that starts it while “response” means the thing that ends it. A stimulus elicits and a response is elicited. (This is circular reasoning, true, but hang in there.) Another diagram,



We already know that “Unconditioned” means unlearned, untaught, preexisting, already-present-before-we-got-there. “Conditioning” just means the opposite. It means that we are trying to associate, connect, bond, link something new with the old relationship. And we want this new thing to elicit (rather than be elicited) so it will be a stimulus and not a response. Finally, after many trials we hope for,



**Let's review these concepts.**

- 1. UNCONDITIONED STIMULUS:** a thing that can already elicit a response.
- 2. UNCONDITIONED RESPONSE:** a thing that is already elicited by a stimulus.
- 3. UNCONDITIONED RELATIONSHIP:** an existing stimulus-response connection.
- 4. CONDITIONING STIMULUS:** a new stimulus we deliver the same time we give the old stimulus.
- 5. CONDITIONED RELATIONSHIP:** the new stimulus-response relationship we created by associating a new stimulus with an old response.

There are two key parts. First, we start with an existing relationship, UNCONDITIONED STIMULUS → UNCONDITIONED RESPONSE. Second, we pair a new thing (CONDITIONING STIMULUS) with the existing relationship, until the new thing has the power to elicit the old response.

## **2. OPERANT CONDITIONING**

A classic cartoon shows two rats in a "Skinner box", a cage with a lever connected to a food dispenser. While a researcher looms overhead, clipboard in hand, one rat comments to the other, "Boy, have I got this guy trained: every time I press the lever, he gives me a piece of cheese!"

Of course, operant researchers would reject this description, and also the notion that mental processes have any role in understanding behavior. Instead, operant theory draws on the seemingly simple notion that we respond to the consequences of our actions, and that voluntary behavior can be understood in terms of its prior consequences (**history of**

**reinforcement**). Like the basic principles of classical conditioning, this fundamental framework can be applied in a wide variety of situations, from a misbehaving child to the efficiency of workers in a shipping company. The following resources will help you to explore operant principles in more detail. (Something to think about as you browse: why do you surf the Web? Does what you encounter **reinforce** you to continue browsing?)

### **Memory**

Most people take memory for granted--until they forget something. Yet the fact that we remember more often than we forget tends to lead us to overlook the underlying complexity of memory as a cognitive process. As the text notes, there are many forms of memory, which vary in duration as well as other characteristics. Even in the relatively permanent long term memory, there are different ways that information and experiences can be represented. To illustrate this, try the following simple **experiment**.

Ask a friend to name all the months of the year, and time how long their response takes. (Most people can do this in about 8 seconds.) Now ask the person to name the months in alphabetical order. (Almost no one can do this correctly in less than two minutes!)

### **Improving Memory**

In bookstores, often one of the largest sections is for "self-help" books, which relate to everything from social skills to mental health. Despite the wide array of titles, one should generally approach these books with skepticism and caution, as the quality and accuracy can vary considerably. Interestingly, one of the few topics for which the books tend to be reliable and practical is memory improvement! The text gives suggestions for both techniques and further reading, but you may also wish to explore some of the information available on-line.

### **Problem Solving and Creativity**

As discussed in the text, there are many techniques which have been identified to assist in solving problems. In general, algorithms are attractive because they guarantee obtaining the correct solution--but unfortunately, not every problem can be solved with an algorithm. In some cases, no one has found an algorithm better than systematic search--and for some problems (which mathematicians call 'NP-complete' problems), no one knows if an efficient algorithm even could exist! As a result, many problems require using heuristic techniques, such as working backwards or splitting the problem into sub-problems. While heuristics don't guarantee that one will find a solution, they often help to restrict the possibilities to consider. As with algorithms, not every heuristic is well suited to every problem, so becoming familiar with several can enhance the chances of success. (As an old saying has it, "If your only tool is a hammer, you tend to treat every problem like a nail!")

Creativity has been defined and measured in different ways, though I have always liked Edward DeBono's definition as "a new idea that works"--that is, creativity involves both originality and functionality. Some tests for measuring creativity, like the Unusual Uses Test, emphasize quantity of idea over quality; in other cases, there is an attempt to measure creativity by looking for unique ideas. For one example, see the link below, which gives examples from the Torrance Test of Creative Thinking.

### **Language**

#### **The Development of Language**

The cognitive approach emphasizes the role of learning in behavior, but unlike behaviorism, does not exclude the possible role of inherited mechanisms. (For example, Gestalt theorists like Kohler believed that perceptual organization was based on innate principles.) This duality of

learning-with-heredity is well-illustrated in the area of language development. As discussed in the text, Noam Chomsky believed that language development depends on an innate mechanism that he called a "language acquisition device" which processes grammatical rules. While controversial when first proposed, Chomsky's idea has gained support over time--even though we still don't know the precise nature of the underlying mechanism.

### Language and Thought

One of the basic questions about cognitive processes is the relationship between thinking and language. We are all aware of the ongoing flow of thoughts which William James called "the stream of consciousness", but does this mean that all thinking occurs in words? Various forms of research indicate that language is not necessary for thinking (for example, infants have been shown to be capable of forming hypotheses about cause and effect). However, there is also no denying that much of our thinking occurs in words.

A fascinating example of the conflicts that can occur between language and other cognitive processes is the **Stroop test**, which demonstrates how interference can occur between linguistic processing and naming of colors. To see this, time how long it takes you to name each of the colors below. Time for the first row, and then for the second row. (Remember, you are naming the colors, not the words!)

**red green yellow blue purple**

**purple blue yellow green red**

You likely found that naming the colors in the second row took considerably longer, because accessing the names of the colors is disrupted by the words themselves. This effect was first identified in 1935 by J. R. Stroop, and has

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been extensively studied since. While it does not directly answer the question of how language and thought are related, it shows that the relationship can be complex!

As noted in the text, anthropologist Benjamin Whorf once asserted that the language we speak shapes the way that we think--that is, that people who speak a different language actually perceive the world, and think about it, differently! The strong version of his hypothesis, that language directly shapes thought, has been largely disproved. However, there are still ways in which language can influence thinking--for example, most people who are bilingual will say that some concepts are easier to express in one language than another. Still, the topic still generates a great deal of interest and debate, as the article below shows.

#### **8.4.PARTICIPATORY APPROACH**

Participatory approach, also known as Freirean Approach, is a teaching strategy that incorporates themes or content area that are of interest to the learners. Freire contends that unjust social circumstances originate from illiteracy and the reason for seeking education is to empower learners to take a proactive stance in liberating themselves from their burdens (Spencer 1992). The Participatory approach is under the umbrella of Content-Based Instruction (CBI) in that it uses topics for specific purposes. The themes derive from real issues that affect students' daily lives where language learning is used as a vehicle to solve social problems. There are various activities that can be incorporated in this teaching strategy which aim to develop all language domains in the learning process. According to Auerbach ( as cited in Ross, 1995), learners are also encouraged to take ownership of their learning as well as collaborate with the teacher, including participating in small and whole group activities for learning to be meaningful. However, in the participatory approach meaning precedes form.

The Participatory Approach is a brainchild of Brazilian language educator Paulo Freire (Check out Paulo Freire's personal interview at the end of this page) . Freire is the author of the book "Pedagogy of the Oppressed". Many researchers have also referred to this method as the Freirean Approach to language literacy education. The goal of this method is to use language learning as a tool to provide solutions to social problems that impact learners in their daily lives. According to Jurno (as cited in Spencer, 1992) Freire contends that unjust social problems originate from illiteracy and the solution lies in helping learners empower themselves from the circumstances they are in.

The Participatory Approach belongs under the umbrella of CBI because it employs themes and topics that affect or interest learners. With this approach students are taking ownership of their learning as well as adding cooperative learning as they have to collaborate with other classmates in finding and endorsing solutions to social issues that affect the community they belong to. For example, in one of my ESL classes I chose a topic on keeping one's home safe from burglars. My students gave many ideas on how they could keep their household safe. In this lesson they learned vocabulary items that were specific to the theme; words such as burglar, cat prowler, etc. These vocabulary items enrich their learning. We built on these vocabulary items by using them in sentences both in writing and in speaking exercises. Students also exercised their reading skills by reading specific materials.

### **Classroom application**

A classroom using a participatory approach is different from many teacher-fronted classrooms that have been typical in language learning setting. Participatory approach, through the concept of Freire, opposes the old "banking method" of teaching where the teacher acts as depositor of information and students act as

recipients. Unlike the preceding methods, participatory approach utilizes a two-way transaction of learning. In this method, the teacher and students collaborate with each other with the teacher acting as a guide and facilitator. Over the course of the lessons, teachers in participatory approach eventually turn over some facets of control to the students. The topics are generated based from students' realities and previous experience which make up for an authentic and meaningful learning experience. Topics such as providing safety for women and suggesting better solutions to personal struggles and community problems are discussed allowing students to participate by expressing themselves.

### **8.5.COOPERATIVE APPROACH**

There are many benefits from using Cooperative Learning. Students will appreciate the value of teamwork and make a positive contribution when working with others to solve problems and complete tasks. Students learn research skills more readily when skills are shared through cooperative learning. Cooperative Learning allows students to enhance their ability to manage ideas and information in collaboration with others.

Cooperative Learning allows students to observe, imitate, and learn from each other. Students keep each other on task and share a sense of accomplishment. The encouragement, support, and approval of peers build motivation and make learning an enjoyable experience. In addition, with advances in technology and changes in the workforce infrastructure, the teamwork and cooperation learned through Cooperative Learning activities is of high value for the future success for the students.

#### **Cooperative Learning should include five essentials:**

##### **1. Positive Interdependence**

Students realize that each individual affects the work and success of

the others. The work is structured so that students must share information in order to complete their cooperative tasks.

## **2. Student-to-Student Interaction**

The teacher openly encourages students to help each other. Students share resources with each other, provide constructive feedback, challenge other members' reasoning and ideas, keep an open mind, act in a trustworthy way, and promote a safe feeling for all by reducing anxiety.

## **3. Individual Accountability**

Even though students work together, they also perform independently. Each individual's performance is assessed. Students must take personal responsibility for working toward the group goal(s).

## **4. Social Skills**

Students learn and use appropriate social skills that include leadership, decision-making, trust building, communication, and conflict-management.

## **5. Group Process**

To better develop the group process, students must analyze how well they are achieving their goals while maintaining effective working relationships.

### **List of some Cooperative Learning Approaches**

To be successful, Cooperative Learning tasks are designed by teachers so that students are required to depend on one another to complete the assigned tasks and to master content and skills. There are many Cooperative Learning approaches that are designed to achieve different objectives. When these approaches are used frequently and correctly, students will acquire the positive results of Cooperative Learning. Several Cooperative Learning approaches are described below.

- **Jigsaw** - Each student, in a four to five member team, is given information for only one part of the learning activity. However, each student needs to know all information to be successful. Students work cooperatively in two different teams, their original team and an expert team. All students in the expert team seek the same information, study it, and decide how best to teach it to their peers in the original team. After this is accomplished, students return to their original teams to teach their portion of the lesson to the others in the team. For additional information on Jigsaw go to [www.jigsaw.org](http://www.jigsaw.org).
- **Think-Pair-Share** - This strategy can be used before introducing new concepts. It gives everyone in the class time to access prior knowledge and provides a chance for them to share their ideas with someone. Think-Pair-Share helps students organize their knowledge and motivates learning of new topics. There are three steps to Think-Pair-Share with a time limit on each step signaled by the teacher. (1) Students are asked to brainstorm a concept individually and organize their thoughts on paper. (2) Students pair up and compile a list of their ideas. (3) Each pair will then share with the entire class until all ideas have been recorded and discussed.
- **Send-a-Problem** - Students are placed in heterogeneous teams of four. Each team designs a problem to send around the class. The other teams solve the problem. Since all of the teams send their own problem, there are a series of problems solved in this one activity. Results are shared with the class.
- **Round Robin** - Students are placed in heterogeneous teams of four. Each student has an opportunity to speak without being interrupted. The discussion moves clockwise around the team; everyone must contribute to the topic. The team may use an item to pass around as a visual aid to determine who has the floor. Round Table is another

version. The difference being that a piece of paper is passed around and each member writes instead of speaks about the topic.

- **Mind Mapping** - Mind Mapping is the process of visually depicting a central concept with symbols, images, colors, keywords, and branches. This is a fast and fun way to take visual notes, foster creativity, stretch students' visual thinking skills, make learning contextual and meaningful, and promote active involvement with the learning content. Pairs of students may create their own mind map or they may simultaneously add to the team and/or class mind map.

### **8.6.PERSONALIZED APPROACH**

According to the National Educational Technology Plan developed by the US Department of Education, personalized learning means adjusting the pace (individualization), adjusting the approach (differentiation), and connecting to the learner's interests and experiences. Personalization, in theory, is broader than mere individualization or differentiation in that it affords the learner a degree of choice about learning. Individualization refers to the strategies aiming to guarantee all students' mastery of the same learning objectives by adjusting the pace to the progression of the learner. The teacher (or computer) manages the best solution based on learner performance. Personalization does take into account the pace at which the learner is progressing, but also aims to use the entire potential of the learner—his abilities, sensibilities, and competencies (including emotional ones)— to develop his aptitudes, capabilities and talents.

Individualized instruction is a method of instruction in which content, instructional technology (such as materials) and pace of learning are based upon the abilities and interests of each individual learner. Mass instruction is the opposite, that is a method in which content, materials and pace of learning are the same for all students in a classroom or course. Individualized instruction does not require a one-to-one student/teacher ratio. Mass instruction began during the French

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Revolution and Industrial Revolution, where some citizens were considered equal and large numbers of workers were needed to produce goods in large scale. The idea was to teach groups of students the same skills at the same time in a classroom, instead of having teachers that had in consideration the previous skills of the students as done for centuries. This method reduced costs and time, two important aspects in the era.

**According to researcher Eduard Pogorskiy:**

ICT and communications technology can be a powerful tool for personalized learning as it allows learners access to research and information, and provides a mechanism for communication, debate, and recording learning achievements. However, personalized learning is not exclusive to digital technologies or environments. In the rhetoric around 21st Century Skills, personalized learning is often equated with 'customization' (as found in the business world), with digital personalization used to frame the learning experience as highly efficient. Problematic in this is the discounting of the highly relational and socially constructed space well defined in the research on learning. Narrowing personalized learning to its digital form also raises the concern of the echo chamber effect emerging in (hyper)personalized online experiences.

Advocates often discuss personalized learning in the context of schools but education can happen anywhere, for example in the home or in the community. Personalized learning can happen in partnership with other learners, for example learners working together in a group to study a particular topic. Enthusiasts sometimes discuss the topic by referring to 'anywhere, anytime, anyplace' learning.

**Phases of learning**

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According to the International Association for K-12 Online Learning, learning occurs in five phases in a personalized environment. The first phase is the assessment phase, followed by the teaching and learning phase. The third phase is curriculum choice. The departure from typical education

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models is the fourth phase, and the final phase is education beyond the classroom.

### **Role of the teacher**

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Many advocates of personalized learning argue that the role of the teacher in a personalized learning environment is different from that of a teacher plays in a traditional classroom. Teachers assess students' performance levels and foster collegial environments where significant interactions occur through flexible scheduling.

### **Instructional design**

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Proponents of personalized learning say that many elements of curriculum, assessment and instructional design must be present in classrooms for students to succeed and often use software systems to manage and facilitate student-led instruction. Proponents argue that classroom learning activities must build upon students' prior knowledge and teachers need to allocate time for practice. Advocates argue that teachers must continuously assess student learning against clearly defined standards and goals and student input into the assessment process is integral.

### **Debate**

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Andy Hargreaves and Dennis Shirley write that while there are advantages in students being able to access information instantly on-line, one should not mistake such processes for "something deeper, more challenging, and more connected to compelling issues in their world and their lives."

## **8.7.HOLISTIC APPROACH**

A holistic view means that we are interested in engaging and developing the whole person. You can think of this as different levels,

physical, emotional, mental and spiritual. It's the concept that the human being is multi-dimensional. We have conscious and unconscious aspects, rational and irrational aspects. We are a body mind. Not just intellect, but emotion, instinct, intuition, as well. We support people in using all of their 'multiple intelligence' that means insight, rationality, logic, emotion, hunches, gut feel, creativity, a sense of harmony and rhythm. We believe there are more than five senses, and we wish people to use the information from all their senses, and assist them in developing 'uncommon sense'.

Our vision of the holistic leader means somebody who acknowledges and honours their own complexity, who recognises that we all co-create our world, and who takes responsibility for their own part in this process. It is a vision of a leader who draws on their inner and outer natural resources... all their inner resources as a human being: intellect, insight, intuition, imagination and so on. And who also draws on the outer resources in their natural, social and political environment.

### **Holistic Psychology**

Holism refers to any approach that emphasizes the whole rather than their constituent parts. In other words 'the whole is greater than the sum of its parts'. Qualitative methods of the humanistic approach reflect a holistic position. Social psychology also takes a holistic view.

A holistic approach therefore suggests that there are different levels of explanation and that at each level there are "emergent properties" that cannot be reduced to the one below.

Reductionist explanations, which might work in some circumstances, are considered inappropriate to the study of human subjectivity because here the emergent property that we have to take account of is that of the "whole person". Otherwise it makes no sense to try to understand the meaning of anything that anybody might do.

**Examples of Holism in Psychology**

- Humanistic psychology investigates all aspects of the individual as well as the interactions between people.
- Social Psychology looks at the behavior of individuals in a social context. Group behavior (e.g. conformity, de-individualization) may show characteristics that are greater than the sum of the individuals which comprise it.
- Psychoanalysis – Freud adopted an interactionist approach, in that he considered that behavior was the results of dynamic interaction between id, ego and superego.
- Abnormal psychology – mental disorders are often explained by an interaction of biological, psychological and environmental factors. An eclectic approach to therapy is often taken using drugs and psychotherapy.

Perception – This is where the brain understands and interprets sensory information. Visual illusions show that humans perceive more than the sum of the sensations on the retina.

**8.8. COGNITIVIST APPROACH**

The idea that humans conduct mental processes on incoming information – i.e. human cognition – came to the fore of psychological thought during the mid twentieth century, overlooking the stimulus-response focus of the behaviourist approach. A dominant cognitive approach evolved, advocating that sensory information is manipulated internally prior to responses made – influenced by, for instance, our motivations and beliefs.

Introspection – a subjective method predominantly used by philosophical and psychodynamic approaches – was rejected in favour of experimental methodology to study internal processes scientifically.

**The cognitive approach assumes:**

The mind actively processes information from our senses (touch, taste etc.).

Between stimulus and response are complex mental processes, which can be studied scientifically.

Humans can be seen as data processing systems.

The workings of a computer and the human mind are alike – they encode and store information, and they have outputs.

### **The Study of Internal Mental Processes**

Using experimental research methods, the cognitive approach studies internal mental processes such as attention, memory and decision-making. For example, an investigation might compare the abilities of groups to memorize a list of words, presenting them either verbally or visually to infer which type of sensory information is easiest to process, and could further investigate whether or not this changes with different word types or individuals.

Theoretical and computer models are proposed to attempt to explain and infer information about mental processes. For example, the Information-Processing Model (Figure 1) describes the mind as if a computer, in terms of the relationship between incoming information to be encoded (from the senses), manipulating this mentally (e.g. storage, a decision), and consequently directing an output (e.g. a behaviour, emotion). An example might be an artist looking at a picturesque landscape, deciding which paint colour suits a given area, before brushing the selected colour onto a canvas.

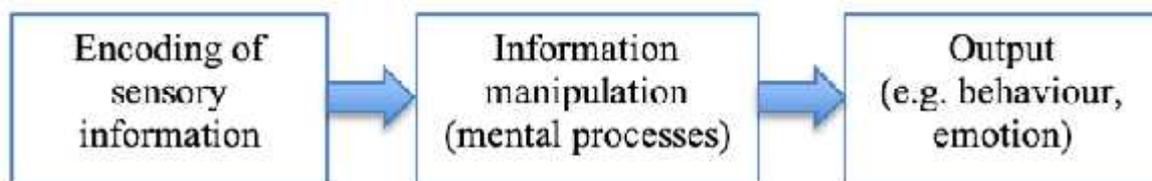


Figure 1: Flow chart highlighting the role of mental processing defined by the Information-Processing Model

In recent decades, newer models including Computational and Connectionist models have taken some attention away from the previously dominant information-processing analogy:

**The Computational model** similarly compares with a computer, but focuses more on how we structure the process of reaching the behavioural

output (i.e. the aim, strategy and action taken), without specifying when/how much information is dealt with.

**The Connectionist model** takes a neural line of thought; it looks at the mind as a complex network of neurons, which activate in regular configurations that characterize known associations between stimuli.

### **The role of Schema**

A key concept to the approach is the schema, an internal 'script' for how to act or what to expect from a given situation. For example, gender schemas assume how males/females behave and how is best to respond accordingly, e.g. a child may assume that all boys enjoy playing football. Schemas are like stereotypes, and alter mental processing of incoming information; their role in eyewitness testimony can be negative, as what somebody expects to see may distort their memory of what was actually witnessed.

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## UNIT – IX: MODELS OF TEACHING

**Unit 9: Models of Teaching** : Models of Teaching-Meaning and elements and families of models of teaching-Information processing models(Concept Attainment and Advance organizer models), Social interaction models(Jurisprudential model) – Personal development model(Non-directive teaching) – Behavior modification model(Contingency Management)

### Models of Teaching

*“Every teacher wishes to be an excellent one. But each falls somewhat short of his aspirations . . . There are varied reasons for this gap between a teacher’s desired excellence and actual performance. In some cases the gap is caused by an inability to maintain order in class. But often poor teaching is due to a lack of skill in selecting and using teaching models and methods (techniques)”.*

**- R.Murray Thomas & Sherwin G. Swartart**

### 9.1.INTRIDUCTION

#### MEANING OF TEACHING MODEL

A model is a plan or pattern that can be used to shape curricula, to design instructional materials and to guide instructions in the classroom and other setting. Model of teaching is just a blueprint designed in advance for providing necessary structure and direction to the teacher for realising the stipulated objectives.

#### DEFINITIONS OF TEACHING MODEL

“Model of teaching can be defined as instructional design which describes the process of specifying and producing particular environmental situations which cause the students to interact in such a way that a specific change occurs in their behaviour.”

**- Joyce and Weil (1972)**

**NATURE OF MODELS OF TEACHING:**

- Prescriptive strategies to guide planning and instruction
- Supported by research based-evidence
- Detailed overview of how to teach
- Role of instructor
- Type of classroom structure
- Ways teacher supports student efforts
- Provide common language to discuss facets of instruction common across all classrooms among administrators and teachers.
- Increases probability of learning certain skills/knowledge.
- Promote awareness about how individuals and collective faculty teach.
- Helps students learn how to learn.

**CHARACTERISTICS OF A MODEL OF TEACHING**

There are some common identifiable characteristics of all models of teaching which are as follows:

1. **Scientific Procedure:** A model of teaching is based on a systematic procedure to modify the behaviour of the learner. It is not a haphazard combination of facts.
2. **Specification of Learner Outcome:** All models of teaching specify what the students will perform after completing an instructional sequence.

3. **Specification of Environment:** A teaching model specifies in definite terms the environmental conditions under which a student's response should be observed.
4. **Specification of Criterion of Performance:** A model of teaching specifies the criterion of performance which is accepted from the students. The behavioural outcomes which the learner would demonstrate after completing specific instructional sequences are delineated in the teaching models.
5. **Specification of Operations:** All models of teaching specify the mechanism that provides for the reaction of students and interaction with the environment.

### **ROLE OF MODELS OF TEACHING**

Models of Teaching serve the following purposes:

- They assist teachers to develop their capacities to create conducive environment for teaching.
- They help curriculum planners to plan learning activities and curriculum which provides a variety of educational experiences to a learner.
- They assist producers of materials to create more interesting and effective instructional materials and learning source.
- They stimulate the development of new educational innovations which may replace the schools of today.
- They may help in the formation of a theory of teaching.
- They help to establish teaching and learning relationship empirically.
- Teaching models are useful to develop social efficiency, personal abilities, cognitive abilities and behavioural aspects of students.

**NEEDS OF MODELS OF TEACHING**

- Meet learning needs of heterogeneous groups.
- Varied outcomes, different levels of sophistication.
- Repertoire of approaches.

**USES OF MODELS OF TEACHING:****Teacher Benefits:**

- Improves the quality of instruction.
- Systematic approach to planning for instruction.
- Facilitates awareness about students' learning needs.
- Assess impact of instruction.
- Offers alternative ways of representing content/skills.
- Develop learning experiences that yield successful outcomes.
- Facilitates student engagement in more meaningful ways.
- Explicit use of teaching models can accelerate rate of learning, capacity and facility in learning.

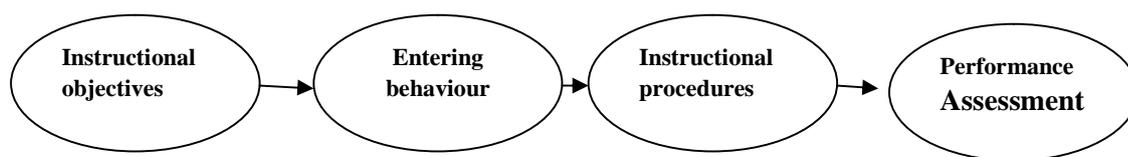
**Student Benefits:**

- Increases aptitude for learning and retention.
- Learn more rapidly.
- Facilitates different kinds of learning.
- Builds academic self-esteem.
- Acknowledges characteristics and aptitudes.

- Promotes student awareness of how they will be taught and what changes are sought.

### **General teaching model (Robert Glaser, 1962):**

It is termed as basic or general because it tries to explain the whole teaching process by dividing it into four basic components namely,



### **Components of Teaching Process in General Teaching Model.**

1. **Instructional objectives:** Instructional objectives indicate the stipulated goals that a student is expected to attain after the completion of a part of instruction. These are usually based on Bloom's taxonomy of objectives.
2. **Entering behaviour:** Entering behaviour implies the initial behaviour of the student before beginning of instruction. The assessment of the entering behaviour is an important aspect of the instructional process.
3. **Instructional procedures:** Instructional procedures represent the teaching methods, strategies and student – teacher interaction patterns involved in teaching. Instructional procedures are guided by the nature of the instructional objectives and the entering behaviour.
4. **Performance Assessment:** Performance Assessment involves the extent to which the stipulated objectives have been fulfilled. It involves the use of suitable evaluation techniques like tests, observation etc. It serves as a feedback devices for each of the steps and elements of the teaching process.

5. As a matter of fact, all these four basic components of the teaching process interact and influence each other. One sets the base for the other by providing as a base or feed-back for successful operation of the teaching act.

### **Fundamental Elements of a Teaching Model:**

A teaching model has six fundamental models;

- a. **Focus:** is the central aspect of a teaching model. Objectives of teaching and aspects of the environment generally constitute the focus of the model.
- b. **Syntax:** includes the sequence of steps involved in the organisation of the complete programme of teaching.
- c. **Principle of reaction:** This element is concerned with the way a teacher should regard and respond to the activities of the students. These responses should be appropriate and selective.

**The social system.** It is related to the description of the following;

- i. Interaction role and relationships between the teacher and the students.
- ii. The kinds of norms that are observed and student behaviour which is rewarded.

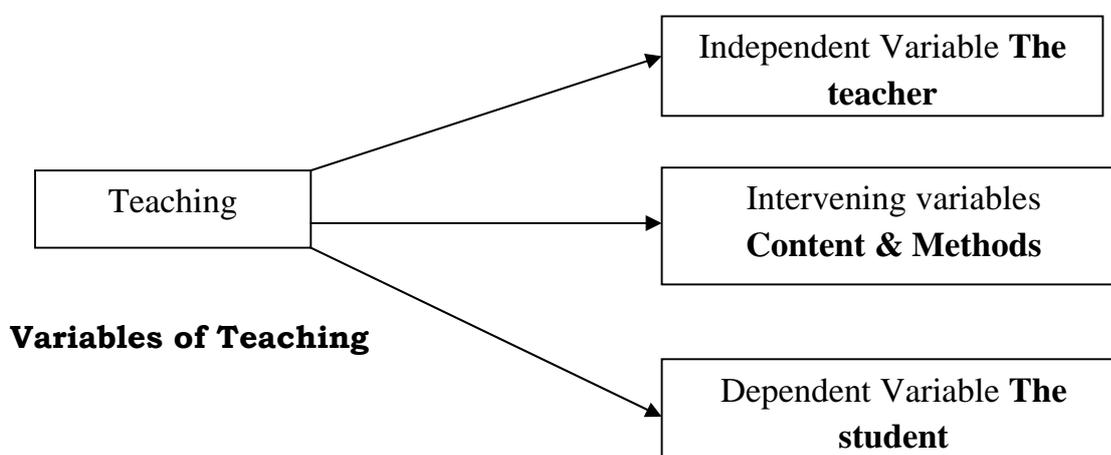
**The support system.** The support system relates to the additional requirements other than the usual human skills or capacities of the teacher and the facilities usually available in the ordinary class-room. These requirements refer to special skills, special knowledge of the teachers and special audio-visual materials etc.

#### d. Applicability of the model:

Being quiet systematic and structured, this model is applicable to almost all learning-teaching situations.

This basic or general model indicates that teaching includes a wide range of decision and practice and much of which requires little or no personal contact between the teacher and student. It implies a greater emphasis on the competency of the teacher than on his personality.

#### Structure of Teaching (Anatomy)



#### These are classified under:

##### 1. Teacher as an independent variable:

The teacher plans the role of independent variables. Students are dependent on him in the teaching process. The teacher does the planning, organizing, leading and controlling of teaching for bringing about behavioural changes in the students. Teacher is free to perform various activities for providing learning experiences to students.

##### 2. Students as dependent variable:

The student is required to act according to the planning and organization of the teacher. Teaching activities of the teacher influence the learning of the students.

### **3. Content and methodology of presentation as intervening variables:**

The intervening variables lead to interaction between the teacher and the students. The content determines the mode of presentation – telling, showing and doing etc.

#### **THESE TYPES OF MODELS OF TEACHING ARE:**

- Information Processing Models
- Personal Development Models
- Social Interaction Models and
- Behaviour Modification Models.

Within the families, there are specific models which are designed to serve particular purposes.

#### **9.2. INFORMATION PROCESSING MODELS**

The term information processing has been introduced by Joyce and Weil. In their words ***“Information processing refers to the ways people handle stimuli from environment, organise data, sense problems, generate concepts and solutions to problems, and employ verbal and non-verbal symbols”.***

Information processing models are more concerned with the intellectual growth rather than the emotional or social development of the individual. These models focus on intellectual capacity. They are concerned with the ability of the learner to observe, organise data, understand information, form concepts, employ verbal and nonverbal symbols and solve problems.

#### **The primary purposes are:**

- The mastery of methods of inquiry
- The mastery of academic concepts and facts

- The development of general intellectual skills such as the ability to reason and think more logically

**The models which belong to this family are:**

- The Concept Attainment Model
- Taba Inductive Thinking Model
- Inquiry Training Model
- The Advance Organiser Model
- The Memory Model
- Cognitive Growth Model
- Biological Science Inquiry Model.

### **9.3.1. CONCEPT ATTAINMENT MODEL**

**Major Theorist : Jerome Bruner.**

The term concept attainment is historically linked with the information processing model, this is completely based on the Jerome S. Bruner and his associates and that it is why the model is named as Bruner's concept attainment model.

**Basic ideas from the work of Bruner (1960)**

- Our environment is full of tremendously diverse things and it would have been impossible to adjust in it if we had not been endowed with the capacity to discriminate, categories things in groups and form concepts.

**A concept has three elements:**

- Examples,
- Attributes, and
- Attribute values.

Each examples can be described in terms of its basic characteristics called attributes, and each attribute has an attribute value. For illustration, if the concept is 'apple' each fruit is an example. Here, pears and oranges are negative and apples are positive example. The colour may be an attribute and yellow or red may be the attribute values.

- In categorization or concept formation, although the concept of categories may differ from one culture to another; yet all sets of concepts are the product of the same through process.
- The categorization activity actually has two components
- The act of category formation (concept formation) and
- The act of concept attainment. The concept formation is the first step towards concept attainment.
- In concept attainment, the concept is determined in advance and the task is to determine the elements of the concept
- Concept formation and attainment differ significantly in terms of thinking process and consequently require different teaching strategies.
- In identifying the strategies used to attain concepts, a distinction should be made between the two learning conditions of selection and reception.

**The reception models of concept attainment are as follows:**

The concept attainment model facilitates the type of learning referred to as conceptual learning. In practice, the model works as an inductive model designed to teach concept through the use of examples. Therefore, in addition it helps the students in the attainment of a particular concept.

**Syntax:**

The sequence of the phase and activities covering the concept attainment model may be outlined as in table:

## SYNTAX OF THE CONCEPT ATTAINMENT

<p>Phase one – presentation of data and identification of the concept (activities)</p>	<ul style="list-style-type: none"> <li>➤ Presenting examples with ‘yes’ or ‘no’ labels in a pre-arranged order by the teacher.</li> <li>➤ Comparing attributes in positive and negative examples.</li> <li>➤ Generating and testing hypotheses</li> <li>➤ Naming the concept</li> <li>➤ Stating the rule or definition of the concept according to its essential attributes.</li> </ul>
<p>Phase two-testing attainment of the concept(activities)</p>	<ul style="list-style-type: none"> <li>➤ Correctly identifying additional unlabelled examples of the concept as “yes” or “no”.</li> <li>➤ Generating own examples</li> </ul>
<p>Phase three-analysis of thinking strategies (activities)</p>	<ul style="list-style-type: none"> <li>➤ Describing thoughts</li> <li>➤ Discussion of hypothesis and attributes</li> <li>➤ Discussing type and number of hypotheses</li> <li>➤ Evaluating the strategies</li> </ul>

**Principle of reaction:**

The important principle of reaction is the teacher is to remain supportive of the student's hypotheses, has to maintain record by keeping track of the hypotheses (concepts), has to remain supportive for turning the students' attention towards analysis of their concepts and strategies, has to encourage analysis of the merits of various strategies.

**Social system:**

In most part of the teaching, the teacher has to exercise control over the social system. He has to present examples in such a way that the attributes are clear and are, indeed, both positive and negative examples of the concept.

**Application context:**

The concept attainment model proves an excellent way (based on inductive reasoning and systematic thinking) to teach concept through the use of examples.

**Types of concept attainment**

1. Reception model
2. Selection model

**DIFFERENCES BETWEEN RECEPTION AND SELECTION MODEL OF CONCEPT ATTAINMENT:**

<b>Reception Model</b>	<b>Selection Model</b>
Highly structured	Unstructured
Controlled by teacher	Autonomy, more freedom and controlled by students.

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Initially two examples are provided	All the examples are displayed to the students from beginning of the activity.
All the examples are labelled	All the examples are unlabelled
Sequence of the examples presented is decided by the teacher.	Sequence of the examples are decided by the teacher.
Examples provided by the teacher.	Students using their own example.
Less students responsibility.	More students responsibility.

### 9.3.2.THE ADVANCE ORGANISER MODEL

An advance organizer is a very useful tool for teachers to help students understand, retain and remember new learning material. 'Information overload.' What comes to mind when you think of those words? Have you ever experienced information overload when studying for an exam or even just when sitting in class? Sometimes learning everything that's required can be overwhelming and seem nearly impossible. Even if you are provided with all of the information, it can be hard to remember everything.

This is a challenge that teachers face regularly. We must provide our students with large amounts of information in a way that helps them understand retain and remember it. There are a number of strategies that teachers use to do this, but the one we'll discuss in this lesson is the use of advance organizers.

An **advance organizer** is a tool used to introduce the lesson topic and illustrate the relationship between what the students are about to learn and the information they have already learned. They are used during **expository instruction**, which is the use of an expert to present information in a way that makes it easy for students to make connections from one concept to the next.

By using an advance organizer to link the new information to old information, the new information can be remembered more easily. There are three basic purposes of advance organizers. First, they direct students' attention to what is important in the upcoming lesson. Second, they highlight relationships among ideas that will be presented. Third, they remind students of relevant information that they already have.

An advance organizer is not a summary or review of a previous lesson. It also doesn't provide a structure for the current lesson. Instead, it provides a structure for student thinking. It acts as a conceptual bridge from the old information to the new information. A person's existing knowledge about a concept is the most important factor in whether new material will be meaningful and how well it can be learned and retained.

Advance Organizer Model is based upon the Learning Theory of Meaningful Verbal Learning formulated by David P Ausubel, an unusual educational theorist. The theory of Meaningful Verbal Learning applies to situation where the teacher plays the role of lecturer or explainer. The main purpose is to help students acquire subject matter.

#### **9.4.PERSONAL DEVELOPMENT MODELS**

This family of models is also concerned with realization of the instructional goals belonging to affective domain. The personal development models emphasize the processes by which individuals can establish productive relationship with their environment and design their unique individuality for realizing the personal goals. Frequently, they focus on the emotional life of an individual and ultimately aim for the development of an integrated functioning self.

Models which belong to this family deal with the individual and the development of self hood. The emphasis of these models is on developing an individual into an integrated, confident and competent personality. They

attempt to help students understand themselves and their goals, and to develop the means for educating themselves. Many of the personal models of teaching have been developed by counsellors, therapists and other persons interested in stimulating individual's creativity and self expression.

The primary goals are:

- to increase the student's self worth,
- to help students understand themselves more fully.
- to help students recognise their emotions and become more aware of the
- way emotions effect other aspects of their behaviour,
- to help them develop goals for learning,
- to help students develop plans for increasing their competence,
- to increase the students' creativity and playfulness,
- to increase the students' openness to new experience.

The models which belong to this family are:

- Non-Directive Teaching Model,
- Synetics Model,
- Awareness Training Model,
- Classroom Meeting Model.

### **Elements of non-directive teaching model**

#### **Focus:**

This model facilitates affective development, self-concept and self-esteem and determination of learning needs. This model can be implemented on the students who are well aware if their learning disability and feel the most frustration in their learning environment. If they are able to identify why they are off-task, then they can take responsibility for managing their behaviour, thus enhancing self-esteem and self-concept.

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**Syntax:**

Because of the fluidity and possible unpredictability of the non-directive model, the syntax will be implemented as follows:

**Phase One:the helping situation is defined**

Encourage free expressionof feelings in initial conference.

**Phase Two : explanation of the problem**

- Encourage students to define the problem they are having
- Teacher accepts and clarifies the feelings expressed.

**Phase three : development of insight into the problem**

- Student discuss the problem in given situations.
- Teacher supports the student.

**Phase Four : Planning activity and making decision**

- Students plans initial decision making.
- Teacher clarifies possible decision.

**Phase Five : Integrate ideas**

- Students gain further insight and develops more positive actions.
- Teacher is supportive.

**Social system:**

In this model, a teacher becomes a facilitator and reflective practioner. The student is primarily responsible for maintain the interaction process or control.authority is shred between techer and students.

**Principle of reaction:**

The teacher takes responsibility for their action in classroom to help the students. He facilitates clear objectives for achieving success.

**Support system:**

This model is dependent upon the feelings expressed at the initial conference. The arrangements should be private. Sufficient time should be given to adequately explore the problems they are having in class, either with learning or behaving or both.

- Classroom application of non-directive Teaching Model
- It improves learning function
- Develop human relations
- Facilitates self-learning and self-realization
- students can understand and cope with their own lives.
- Develops decision making skills.

**9.5.SOCIAL INTERACTION MODELS**

The model belonging to this family are concerned with attainment of the social goals belonging to the affective domain. Consequently, the social interaction models are Weil and Joyce emphasis, ***“give priority for improvement of democratic process and the improvement of the society by the improvement of individual’s ability.”*** The models in this family emphasise the relationships of the individual to the society or other persons. The core objective is to help students learn to work together. To identify and solve problems, either academic or social in nature.

**The primary goals are:**

- to help students work together to identify and solve problems
- to develop skills to human relations, and

- to become aware of personal and social values.

**The models which belong to this family are :**

- Group Investigation Model,
- Role Playing Model,
- Jurisprudential Inquiry Model,
- Laboratory Training Model,
- Social Simulation Model,
- Social Inquiry Model.

**Elements of Social interaction Model :**

**Focus :**

- ✓ To fulfil commitment to behavioural change.
- ✓ To fulfil one's emotional needs for self-worth; love and identity.

**Syntax :**

- ✓ **Phase I** : Establishing a climate of involvement
- ✓ **Phase II** : Exposing the problem for discussion
- ✓ **Phase III** : Making a personal value judgement
- ✓ **Phase IV** : Identifying alternate course of action.
- ✓ **Phase V** : Making a commitment
- ✓ **Phase VI** : Behavioural follow – up.

**Principles of Reactions :**

- Principles of involvement
- Principles of accept responsibility
- Principles of alternative course of behaviour

**Support system**

The teacher must have warm personality. He must be skilled in interpersonal relations as well as group discussion techniques.

**Application :**

- To conduct classroom meetings at any stage of schooling.
- To involves organizing for the activities of the day.
- To share opinion of each other.
- To accept feelings and emotions of the students.
- To develop responsibility behaviour.
- To develop good leadership.
- To develop social problem-solving skills.
- To help in framing curriculum.

**IV. Behaviour Modification Model**

All the models in this family share a common theoretical base, a body of knowledge which referred to as behaviourtheory. The common thrust of these models is the emphasis on changing the visible behaviour of the learner.

**The models which belong to this family are :**

- Contingency Management Model
- Self Control Model
- Training Model
- Stress Reduction Model
- Desensitization Model
- Assertiveness Training Model

### 9.6.BEHAVIOUR MODIFICATION MODEL

Behavioral techniques are amenable to highly structured outcomes that concentrate on observable objectives such as learning to read, physical skills, behavioral and emotional adaptations and restructuring. These models are highly structured with finite goals toward specific pre-determined ends. B. F. Skinner is one of the more well know developers of behavioral techniques like his *Operant Conditioning*.

#### Elements of Behaviour Modification Model

**Focus:** this model trains the social skills of the students.

**Syntax** is based on the following five phases :

**Phase I :** Objectives of the training are framed.

**Phase II :** Training is completely based on the activity of the students concept based policy.

**Phase III :** Proper selection of activity need to be explained properly by doing demonstration.

**Phase IV :** Classroom environment need to be kept in mind and activity should be practiced properly.

**Phase V :** From the training what they learned inside the classroom need to be practiced and implemented in the real life situation.

#### **Social system :**

The training need to be with the discussion based on enhancing social skill of the students.

**Principles of reaction :**

The students one who participated in the training programme need to be clear with the concept and he need to implement those activity based on his view.

**Support system :**

Proper ways of ideas, activities, materials, illustrations, need to be selected and used in the training.

**Application :**

This training model can be used in the workshops with particular aim.

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## UNIT – X: TEACHING AS A PROFESSION AND VALUES OF TEACHERS

**Unit 10:** *Teaching as a profession and values of teachers Profession – meaning, characteristics – professional ethics and values - code of ethics – critical analysis of teaching as profession, job and occupation, profession and professionalism, Skills and competencies required for a teacher, Teacher as a purveyor and facilitator of knowledge and Essential qualities of a teacher.*

### 10.1.PROFESSION : MEANING

The word “profession” means different things to different people. But at its core, it’s meant to be an indicator of trust and expertise.

Traditionally, a “professional” was someone who derived their income from their expertise or specific talents, as opposed to a hobbyist or amateur. This still carries through to fields today, such as sport.

#### DEFINITION

A **profession** is a disciplined group of individuals who adhere to ethical standards. This group positions itself as possessing special knowledge and skills in a widely recognised body of learning derived from research, education and training at a high level, and is recognised by the public as such. A profession is also prepared to apply this knowledge and exercise these skills in the interest of others<sup>1</sup>.

A **professional** is a member of a profession. Professionals are governed by codes of ethics, and profess commitment to competence, integrity and morality, altruism, and the promotion of the public good within their expert domain. Professionals are accountable to those served and to society<sup>2</sup>.

**Professionalism** comprises the personally held beliefs about one’s own conduct as a professional. It’s often linked to the upholding of the principles, laws, ethics and conventions of a profession as a way of practice.

**Professionalisation** is the pattern of how a profession develops<sup>3</sup>, as well as the process of becoming a profession.

### **CHARACTERISTICS OF A PROFESSION:**

#### **1. Great responsibility**

Professionals deal in matters of vital importance to their clients and are therefore entrusted with grave responsibilities and obligations.

#### **Accountability**

Professionals hold themselves ultimately accountable for the quality of their work with the client.

#### **Based on specialized, theoretical knowledge**

Professionals render specialized services based on theory, knowledge, and skills that are most often peculiar to their profession and generally beyond the understanding and/or capability of those outside of the profession. Sometimes, this specialization will extend to access to the tools and technologies used in the profession (e.g. medical equipment).

#### **2. Institutional preparation**

Professions typically require a significant period of hands-on, practical experience in the protected company of senior members before aspirants are recognized as professionals. After this provisional period, ongoing education toward professional development is compulsory. A profession may or may not require formal credentials and/or other standards for admission.

#### **3. Autonomy**

Professionals have control over and, correspondingly, ultimate responsibility for their own work. Professionals tend to define the terms, processes, and conditions of work to be performed for clients (either directly or as preconditions for their ongoing agency employment).

#### **4. Clients rather than customers**

Members of a profession exercise discrimination in choosing clients rather than simply accepting any interested party as a customer (as merchants do).

**5. Direct working relationships**

Professionals habitually work directly with their clients rather than through intermediaries or proxies.

**6. Ethical constraints**

Due to the other characteristics on this list, there is a clear requirement for ethical constraints in the professions. Professionals are bound to a code of conduct or ethics specific to the distinct profession (and sometimes the individual).

**7. Merit-based**

In a profession, members achieve employment and success based on merit and corresponding voluntary relationships rather than on corrupted ideals such as social principle, mandated support, or extortion (e.g. union members are not professionals). Therefore, a professional is one who must attract clients and profits due to the merits of his work.

**8. Capitalist morality**

The responsibilities inherent to the practice of a profession are impossible to rationally maintain without a moral foundation that flows from a recognition of the singular right of the individual to his own life, along with all of its inherent and potential sovereign value; a concept that only capitalism recognizes, upholds and protects.

**Professional ethics**

**Professional ethics** encompass the personal, organizational and corporate standards of behavior expected of professionals.

Professionals and those working in acknowledged professions, exercise specialist knowledge and skill. How the use of this knowledge should be governed when providing a service to the public can be considered a moral issue and is termed professional ethics.<sup>[3]</sup>

Professionals are capable of making judgments, applying their skills and reaching informed decisions in situations that the general public cannot because they have not attained the necessary knowledge and

skills. One of the earliest examples of professional ethics is the Hippocratic oath to which medical doctors still adhere to this day.

### **COMPONENTS OF A PROFESSION**

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Some professional organizations may define their ethical approach in terms of a number of discrete components. Typically these include:

- Honesty
- Integrity
- Transparency
- Accountability
- Confidentiality
- Objectivity
- Respectfulness
- Obedience to the law
- Loyalty

### **10.2.PROFESSIONAL VALUES**

**DEFINITION : Values** can be defined as those things that are important to or valued by someone. That someone can be an individual or, collectively, an organization. One place where values are important is in relation to vision. One of the imperatives for organizational vision is that it must be based on and consistent with the organization's core values.

### **ELEMENTS OF VALUES**

- Integrity
- Professionalism
- Caring
- Teamwork
- Stewardship

**10.3.CODE OF ETHICS**

The Code of Ethics states the principles and expectations governing the behavior of individuals and organizations in the conduct of internal auditing. It describes the minimum requirements for conduct, and behavioral expectations rather than specific activities.

***Principles of Code Of Ethics***

Internal auditors are expected to apply and uphold the following principles:

**1. Integrity**

The integrity of internal auditors establishes trust and thus provides the basis for reliance on their judgment.

**2. Objectivity**

Internal auditors exhibit the highest level of professional objectivity in gathering, evaluating, and communicating information about the activity or process being examined.

**3. Confidentiality**

Internal auditors respect the value and ownership of information they receive and do not disclose information without appropriate authority unless there is a legal or professional obligation to do so.

**4. Competency**

Internal auditors apply the knowledge, skills, and experience needed in the performance of internal audit services.

#### 10.4.CRITICAL ANALYSIS OF TEACHING AS PROFESSION, JOB AND OCCUPATION

	Job	Occupation	Profession
Professional knowledge	Low level	Medium	High level
Model of practice	General	Specialist	Highly specialist
Scope of the profession	Generalised	Specialist	Highly specialised
Professional ethics	Loosely defined	Defined	Tightly defined
Entry routes into the profession	Huge variation	Medium	Limited options, better integrated
Continuing professional development	Low obligation	Medium	High obligation

From the above clarification reveals that profession is the noblest when comparing with job and occupation.

#### 10.5.DIFFERENCE BETWEEN PROFESSIONAL AND PROFESSIONALISM

A **professional** is a member of a profession. The term also describes the standards of education and training that prepare members of the profession with the particular knowledge and skills necessary to perform the role of that profession. In addition, most professionals are subject to strict codes of conduct enshrining rigorous ethical and moral obligations. Professional standards of practice and ethics for a particular field are typically agreed upon and maintained through widely recognized professional associations. Some definitions of "professional" limit this term to those professions that serve some important aspect of public interest and the general good of society.

**Professionalism:**

the conduct, aims, or qualities that characterize or mark a profession or a professional person"; and it defines a profession as "a calling requiring specialized knowledge and often long and intensive academic preparation." These definitions imply that professionalism encompasses a number of different attributes, and, together, these attributes identify and define a professional.

**10.6.SKILLS AND COMPETENCIES REQUIRED FOR TEACHER*****Commitment***

Dedication to students is of utmost importance when one is considering the teaching profession. Overall, a teacher must stop at nothing to provide the best instruction he can to the students he serves. Personality traits that support this core proposition are determination, compassion and empathy.

***Know the Subjects***

This is where proper teacher education comes into play for the would-be educator. Good teaching programs are widely available across the country, and it is imperative that the coursework include necessary instructional practice pedagogy (the method and practice of teaching) and content preparation for the student teacher. Once certified, a teacher should make it a point to stay abreast of new content and teaching strategies that could benefit her students. Personality traits that support this core proposition include flexibility and passion for the content being taught.

***Classroom Management***

This is often the most difficult area for new teachers to master. Although classroom management techniques are being taught in colleges across the country, it is significantly different when you are suddenly wholly responsible for the 25 or 30 students sitting in front of you. Experience is the most important factor for this proposition; however, certain personality

traits such as the ability to multitask and stay organized will help the new teacher succeed.

### ***Creative Thinking***

Teachers are required to keep immaculate records on their students and to reflect regularly on the progress (or lack of progress) that students are making. To use the data successfully, teachers must possess a knack for creative thinking, reteaching concepts in different ways to meet the needs of students.

### ***Leadership***

Teacher certification candidates must be willing to be active participants in their community. Teaching isn't only about what happens in the classroom. Relationships with parents and community members are important factors in building positive instructional relationships. Teachers must be willing and able to be seen as experts in their fields. Personality traits that support this core proposition include leadership and the ability to inspire others.

## **10.7.TEACHER AS A PURVEYOR AND FACILITATOR OF KNOWLEDGE**

The role of teacher is changing in smart and active learning methodologies. Now teacher is as a facilitator in learning. Teaching and learning are being modified due to innovations in education.

Teaching is the well known word for teachers. Teachers know the meaning of this word and know how to perform teaching. Sometimes they do not know the difference between teaching and facilitating in learning and it make a distance between the students and teachers. We have to understand the difference between “teaching” and “facilitating in learning” because the both words are correlated with each other. Teaching is an activity which is helping the student in learning. In several classes teachers go to the class, teach the students, supply the homework and do some daily routine activities and “finish”.

Instead of “to help the students in learning” or “facilitate the students in learning” is a quite fascinating and gentle concept. If teacher think that

every student should be sound in his subject is his duty than teaching-learning process become innovative, active and interesting. In our classrooms teachers have to change his attitude about teaching process. Teachers should become mentors and they should make students learn. *Teaching means teacher is doing the act of teaching. Learning means students are doing the act of learning.*

Discussing about Active Learning Methodology, we find the importance of facilitating in learning. In active learning methodology, teachers help the students in learning. Thus the entire classroom environment is changed. Actually active learning methodology focuses on helping in learning and facilitating in learning. Active learning methodologies include several activities in classroom; such as reading, making mind maps and group presentation and engage the student whole time. Active learning methodologies are very effective to find out students creativity and talent. Active learning methodologies are very smart methodologies very helpful to students in learning.

Active learning methodologies and active learning classroom techniques provide very smart teaching learning opportunities to teachers. If teacher is able to create an active learning environment in his class, he has to help the students in learning in various ways. Active learning methodologies are able to make teaching very smart and easy. Teachers may use collaborative learning and try to do an exciting experiment in his class. In modern learning environment, we see that “learning” is a more popular word than “teaching”. Teachers have to understand the modern trends in teaching learning process. Teachers have to make learning more interesting and interactive, so that students may learn better.

### **10.8.ESSENTIAL QUALITIES OF A TEACHER**

A great teacher is one a student remembers and cherishes forever. Teachers have long-lasting impacts on the lives of their students, and the greatest

teachers inspire students toward greatness. To be successful, a great teacher must have:

**1. An Engaging Personality and Teaching Style**

A great teacher is very engaging and holds the attention of students in all discussions.

**2. Clear Objectives for Lessons**

A great teacher establishes clear objectives for each lesson and works to meet those specific objectives during each class.

**3. Effective Discipline Skills**

A great teacher has effective discipline skills and can promote positive behaviors and change in the classroom.

**4. Good Classroom Management Skills**

A great teacher has good classroom management skills and can ensure good student behavior, effective study and work habits, and an overall sense of respect in the classroom.

**5. Good Communication with Parents**

A great teacher maintains open communication with parents and keeps them informed of what is going on in the classroom as far as curriculum, discipline, and other issues. They make themselves available for phone calls, meetings, and email.

**6. High Expectations**

A great teacher has high expectations of their students and encourages everyone to always work at their best level.

**7. Knowledge of Curriculum and Standards**

A great teacher has thorough knowledge of the school's curriculum and other standards they must uphold in the classroom. They ensure their teaching meets those standards.

**8. Knowledge of Subject Matter**

This may seem obvious, but is sometimes overlooked. A great teacher has incredible knowledge of and enthusiasm for the subject matter they are teaching. They are prepared to answer questions and keep the material interesting for the students.

**9. Passion for Children and Teaching**

A great teacher is passionate about teaching and working with children. They are excited about influencing students' lives and understand the impact they have.

**10. Strong Rapport with Students**

A great teacher develops a strong rapport with students and establishes trusting relationships.

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