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CENTRE FOR DISTANCE EDUCATION

LEARNING AND TEACHING

B.Ed. I YEAR

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Unit I - PROCESS OF LEARNING

Structure

1.1 INTRODUCTION

The word 'Learning' obviously means us to think of study and classroom related activities. We then think about the various subjects and skills we intend to master in school. But 'Learning 'is not limited to school. It is happening in our day today life. We start to learn at

once after our birth by adapting to the new environment. This learning may be deliberate or unintentional, for better or for worse, correct or incorrect and conscious or unconscious.

Every stage in our life is being moulded to bring modifications in our knowledge and behaviour. A baby cries to make know the mother when he or she feels hunger and gradually learn to cry whenever the baby feels uncomfortable in any situation in order to get care from the mother. Thus changes in our behaviour are brought by the experiences that we gained through the interaction with the environment and its people.

What is the process of learning? How do individuals learn? What are the factors that influence learning? What are the components of learning? What are the strategies we could use to manage memory? In this unit, we are going to pose with these questions and try to find out answers after going through this unit which will be helpful in gaining knowledge about the process/concept of learning.

1.2 OBJECTIVES

After learning this unit, you will be able to:

- describe the process of learning;
- state the concept of learning;
- identify the factors influencing learning;
- use the strategies for better management of memory;
- gain knowledge about the methods to improve motivation in learning; and
- understand the methods of improving motivation.

1.3 PROCESS OF LEARNING

We all know that learning starts right from the birth and continues throughout our life time. We learn something either incidentally or accidentally in common and natural situations of our life. As teachers we should know that ‘learning’ is the core of the educational process. Learning is a process continued through various steps.

The major attributes of learning as a process include it as a permanent change in the behaviour of an individual, but not because of changes due to illness, fatigue and use of intoxicants. The next attribute is that learning is manifested in the behaviour or activities of an individual which could be not directly observable. Learning results in some change of

persistent contact with nature. The final attribute is that learning depends on practice and experience in a given situation.

Let us illustrate the process of learning with an example. Suppose we find that there are three children from three different countries, like one from America, second from China and another from Japan. When we observe them how they greet their teachers or the language they speak, it would definitely vary from one another. This is the result of their early training and experiences in home. The early training might have brought a permanent change in their behaviour and this type of learning can be termed as learning.

As we know the main objective of learning is to bring desirable changes to our behaviour, it is quite essential for us to get knowledge about how people learn when they come in contact with the learning environment and in the process of interaction with the individuals. It is also very important to know how an individual apply the gained knowledge through learning to the environment and people living around. By knowing the process of learning, we could improve and accelerate learning process in such a way to achieve the desired learning outcomes.

The steps involved in the process of learning could be tagged under a) Preparatory phase and b) Actual learning phase.

a) The preparatory phase. It could be explained in the words of Smith as follows.

i . A motive or a drive: Every individual has their own basic motives and needs in their life to achieve. Motive is a dynamic force which energies and compels an individual to strive for satisfaction in achieving our needs. If we don't feel our present behaviour, knowledge, skill and performance adequate enough to satisfy our needs, we feel to bring about changes in our behaviour to gain knowledge and skills that we need. This motive or drive initiates a learner to learn what is required to fulfil their demands or needs. If the need is strong enough, we are compelled to strive for satisfaction.

ii. A goal: We need to set definite goal for achieving our needs. Learning becomes purposeful only when we set goals and aims. The ways and attempts that we made to achieve our goals makes the process interesting and orientate our potentials towards achieving our goals. Hence a goal is necessary in the process of learning.

iii. A block or barrier to the achievement of the goal: The third step in the process of learning is the block or barrier that keeps us from attaining the goal. It is an essential thing in the learning process. This block or barriers keep us away from attaining the goal. We don't strive to modify or change our behaviour if we don't feel difficulty in attaining the goal. Also it enables us to attempt various ways to bring changes in our behaviour when there happen a need to reach our goals when an unsatisfied motive arrives.

Apart from the above discussed steps suggested by Smith in the learning process, we should ascertain strong desire, essential readiness like mental and physical maturity, previously acquired knowledge and skills and positive attitude towards learning together with the preparatory phase.

b) Actual learning phase: The actual learning phase emphasises the following steps in the learning process.

i. Learning situation: The learning situations or environment provides learning opportunities to us in the learning process. This learning situation provides quality, speed and effectiveness for a learner to learn. A good and favourable learning situation provides satisfactory results in achieving the goals of learning while a poor and unfavourable situation fail to reach the goals.

ii. Interaction while learning: Learning is a never ending process. According to the prevailing environment, constant interaction could strive us to learn something we intend to learn. Interaction is a process which enables us to respond to stimulation and get feedback so that we could progress in the path of learning. This step in a learning process enables us to know or decide whether we get desirable changes or modifications in our behaviour and whether we could retain it or not as learning is a continuous and developmental process.

1.4 CONCEPT OF LEARNING

It is quite essential for the teachers to know about the concept of the term 'learning' before engaging in the teaching process. It would facilitate the teachers to get a thorough understanding of the meaning and definitions of learning.

Learning is an act of getting experience, knowledge, skills and values by understanding what to do and how to do any task by synthesizing the different types of

information perceived by us. Learning brings about changes in the existing behaviour of an individual. Human beings, animals and plants do learning.

A child starts learning even in the womb of the mother and it involves continuous training or practice to produce a permanent change in the behaviour. Learning not only brings about changes in the existing behaviour of an individual but also enable individuals to acquire new behaviour. The changes brought about through experience and training by learning would be stable and enduring. It prepares the individual for adjusting and adapting with the existing environment.

Learning is a process which occupies an important role in moulding the structure of our personality and behaviour. It develops socially accepted behaviours and also there is equal chance of building negative side of human behaviour. Learning necessities to meet some personal need as it is a purposeful and goal oriented. Recognising and identifying such needs enable us to evaluate whether that learning has been worthwhile and successful.

Learning involves new ways of doing things with no limit to adopt the ways and means to attain the goal. It is a continuous, comprehensive process which involves different methods and covers conative, cognitive and affective domains of human behaviour.

Temporary changes due to maturation or hunger are excluded from learning. Also we should know that responses to tendencies like instincts and reflexes etc. could not be attributed to learning. Ex. We blink our eyes on bright light; we remove our hands immediately when you touch a hot thing or a cold thing.

Learning - Definitions:

"Learning is the process by which behaviour (in the broader sense) is originated or changes through practice or training" – Kingsley and R. Garry (1957)

"Learning is a relatively permanent change in behavioural potentiality that occurs as a result of reinforced practice" – Kimble (1961)

"Learning is the acquisition of new behaviour or the strengthening or weakening of old behaviour as the result of experience" – Henry P. Smith (1962)

"The term learning covers every modification in behaviour to meet environmental requirements" – Garder Murphy (1968)

Learning is defined as "the acquisition of habits, knowledge and attitudes .It involves new ways of doing things ,and it operates in an individuals' attempts to overcome obstacles or to adjust to new situations .It represents progressive changes in behaviour….It enables him to satisfy interests to attain goals" – Crow and Crow (1973)

1.4.1 Types of Learning

Learning involves either physical or mental activities. The physical activity involves activities of muscles, bones, etc. and mental activities involves from simple to complex or higher mental activities. There are different types of learning which could be classified such as a) Depending on the way of acquiring knowledge, b) Depending on the number of individuals, and c) Depending on the types of activity involved.

a) Depending on the way of acquiring knowledge: Depending on the way of acquiring knowledge, learning could be classified further as Formal Learning, Informal Learning and Non-formal Learning.

Formal Learning: Formal learning states learning objectives in an organised and structured form and hence it is always intentional. The objective emphasises to gain knowledge, skills and/or competencies. Ex: Learning in a formal setting school or workplace.

Informal Learning: As the name itself mean this type of learning happens through experiences like talking, observing, training etc. It is a natural way to learn. This learning through experiences may happen at any place at any time and hence incidental. Ex: Learning one's mother tongue or culture or religion etc.

Non-formal Learning: This type of learning is intentional which states the objectives and could be in an organised form. Non- formal learning is flexible and includes intermediate concepts of formal and informal learning. Ex: Vocational education.

b) Depending on the number of individuals: The number of individuals involved in the learning process distinguishes learning as i) Individual Learning and ii) 2. Group Learning

Individual Learning: Individual learning or self-learning involves individualised training and instruction. The learner plays the active role to cater the needs of his/her own learning. Ex: Distance Learning, Computer Learning etc.

Group Learning: Group learning or Co-operative learning involves group of people either with similar or different age, intellectual ability or competencies form together to achieve the objectives of learning. It requires trainer to facilitate learning in a way to make progress in learning. Ex: Classroom Learning.

c) ***Depending on the types of activity involved:*** The third classification of learning is based on the type of activities like Motor learning, Discrimination learning, Verbal learning, Cognition learning, and Sensory learning.

Motor learning: Most of our activities involve with motor skills, in our day-to-day life which an individual has to learn them in order to maintain his regular life. This learning enables in acquiring skills to perform all our activities related to muscular co –ordination in an efficient way. Ex: walking, running etc.

Verbal learning: This type of learning involves the use of words, language we speak and write and the communication devices we use. Learning the verbal behaviour through rote memorization and retention of acquired list of words enables linguistics intelligence in an individual. Ex: Signs, pictures, symbols, words, figures, sounds, etc.

Discrimination learning: Learning which involves the act to differentiate between stimuli and showing an appropriate response to these stimuli is called discrimination learning. Ex: Ability to discriminate living and non-living beings etc.

Cognition learning: Higher order mental processes like thinking, reasoning, intelligence, generalization etc. are involved in this type of learning. It includes learning of concepts, principles, problem solving etc. This cognition learning initiates the processes called abstraction and generalisation which enhances the ability of recognising and identifying things. Ex: A child is able to identify a thing or picture with four legs as an animal.

Sensory learning: Sensory learning is concerned with perception of things to be learned by primary sensory organs. Visual learning (through images, symbols, graphs etc.), auditory learning (through listening), and kinetics learning (through physical activities) together constitute sensory learning. Learners differ in learning through sensory organs to receive and learn information and experiences. It depends upon the learner to choose any one or the combination of sensory learning styles to learn concepts, data, information etc.

1.4.2 Factors Influencing Learning

We have seen that 'learning' is one of the most important functions of our cognitive system which brings about relatively permanent changes in the behaviour of the learner. There are some factors which influences the acquisition of knowledge by perceived information through learning. These factors determine the achievement of desired goals aimed in the learning process. The factors are:

a) Psychological individual differences of learners
b) Teachers' enthusiasm in classroom learning
c) Environment and other factors

a) Psychological individual differences of learners:

The individual differences in the psychological, physical, social and cultural factors influence the quality and quantity of learning. The individual differences in psychological aspects make learners to differ from one another in the learning process.

The psychology of individual differences of learners' deals with the intelligence and abilities associated with personality of learner, learning styles and needs and interests of learner. The personality of learner includes their aptitude, attitude, motivation, mental health and aspiration to achieve their goals of life.

Learning is most effective when differences in learner's language, cultural, and social behaviour are taken into account. Although basic principles of learning, stimulus and effective instructions may apply to all learners, it is necessary to pay attention to language, intelligence, ethnic group, race, belief and socioeconomic status of the learners which can influence learning. When learners see that their individual differences in abilities, background, and cultures are valued and respected, then the motivation for learning enhances.

b) Teachers' enthusiasm in classroom learning:

The modifications in behaviour of the learner depend on the nature and method of learning experiences gained by the learner. Teachers play an important role in the teaching – learning process as a facilitator of learning. By adopting dynamic and efficient teaching techniques and strategies, a teacher could explore the talents of the learner and could progress quality of teaching –learning process.

Learning of different subjects and area of experiences could be enhanced by adopting pertinent teaching techniques and strategies. The teachers should employ applicable methods such as teacher- centred or learner- centred and a number of good techniques such as memorising, understanding, reflective, interaction, mentoring etc. to enable the learners to learn their subject and content matter.

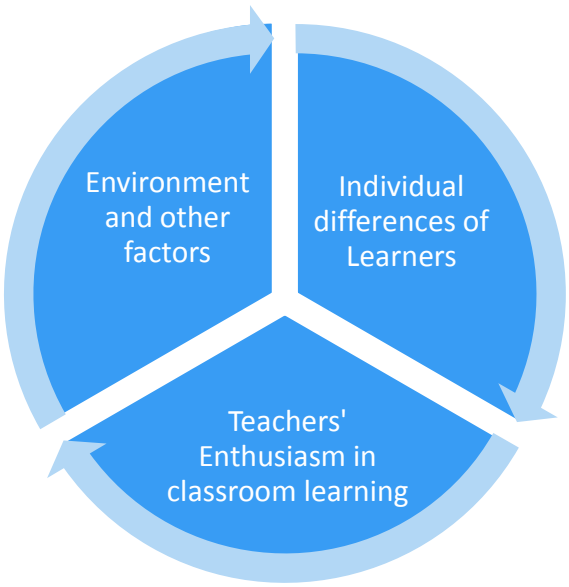
A teacher should be able to identify and meet the educational needs of the learners. The awareness in educational psychology could enable a teacher to know the motivational level, abilities, attitude, emotional conditions, interests and intelligence of the learners 'and should be aware of the advances educational psychology.

A teacher should also be sensitive to individual differences, keep in mind the level of intelligence and abilities of the learners and their different cultural attitudes. A teacher should respond in a sensitive way and view learners positively regardless of their cultural backgrounds.

The developmental needs of the learners could be motivated by a teacher if he or she finds himself or herself passionate towards their profession. In the process of teaching the teachers could counsel the learners by using psychometric instruments such as tests, rating scales, checklists, observation and interview. It helps the learners to overcome their psychological obstacles in their way to attain their aims of learning.

c) Environment and other factors:

The external environmental factors such as surroundings, cultural and social demands such as relationship with parents, teachers and peer, information factors such as media influence the learner. Surroundings include factors associated with one's location, weather, and people in the surrounding area, schedules and events. Cultural settings of the learner such as culture of their origin, religion and place influence the learning process. The learner's social relationship with their parents, teachers and peer group and mass media greatly influence the type of learning, intense of learning and time required to learn a need of the learner.



Factors influencing learning

Check your Progress - 1

1. What are the steps involved in the process of learning?

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2. What are the factors influencing learning?

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1.5 LEARNING PROCESS

1.5.1 Attention

The word ‘attention’ gets attended when called in a public place like railway station, bus stand, airport, and classroom etc. It is to make our mind to get alert on something that we need at the particular time of process. In general if we attempt to learn or know a thing, we

should focus our attention on that particular thing. The verb 'attending' in the learning process involves the act of listening, looking at or concentrating on a topic or concept.

When we look at a thing our sense organs get stimulated by a stimulus among many stimuli present in our environment and generate corresponding sensation which would reach our brain. In the brain, it gets interpreted according to the past experiences so that we perceive meaning of that particular stimulus or object. Hence, 'Attention' is the first step of an individual to make readiness of mind in the process called 'cognition'.

Attention - Definition:

"Attention is the concentration of consciousness upon one subject rather than upon another" – Dumville (1938)

"Attention is the process of getting an object of thought clearly before the mind" – J. S. Ross (1951)

"Attention can be defined as, a process which compels the individual to select some particular stimulus according to his interest and attitude out of the multiplicity of stimuli present in the environment" – R.N.Sharma (1967)

Modern psychologists, emphasised that 'attention' should be considered as an independent capacity or unique power of mind, in the integrated functioning of the mind. There have been controversial proposals and theories to state and conclude how an individual could be able to select one particular stimulus among many stimuli from the environment and ignore the remaining other stimulus at a particular time.

***Attention - Characteristics**:*

- Attention is a process that helps in responsiveness to our environment.
- It is a selective and shifting mental process that moves from one object to another.
- It is attracted by only one new object or thing at a particular time.
- It increases one's efficiency in acquiring new skills or knowledge.
- It involves the special adjustment of sense organs in understanding a particular stimulus or object involved.
- It involves the entire mental (cognition) and physical activity (sensory) by stimulus – response behaviour to make the mind alert or prepared in the cognition process.

Attention - Types:

The types of attention have been classified by the psychologists Ross (1951) as voluntary or volitional attention and involuntary or non-volitional attention.

Voluntary or Volitional Attention: The conscious effort along with our will force of an individual to achieve our goal could be bring about by this type of voluntary or volitional attention. As the name states, this attention is paid by an individual voluntary to accomplish the goal need to be reached. A student trying to solve a mathematical problem which he needs to do it to get succeed is an example for volitional attention.

Volitional attention could be classified as Implicit Attention and Explicit Attention. Implicit attention is that an individual makes by exercising his will power in a single act to assign a work. Ex: A student strives to do a mathematical problem assigned to him. Explicit attention is that an individual makes continuous efforts, and strong motives to do a task. Eg. A researcher making continuous efforts many times to finish his research work against distractions and limitations.

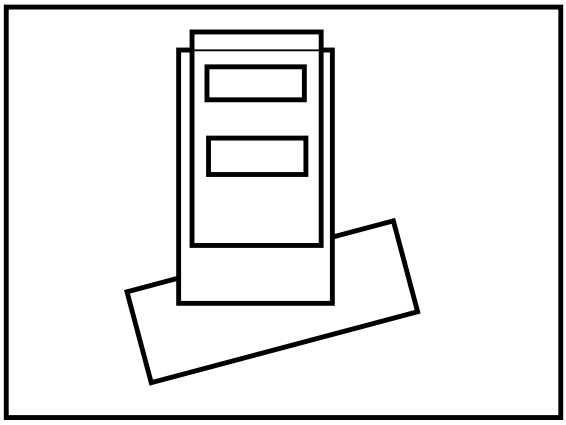
Involuntary or Non Volitional Attention: When an attention is made without the will force or the conscious mind of an individual, then it is called involuntary attention. Ex: Our attention would shift on watching TV while reading a book. The attention to TV is spontaneous.

This involuntary attention is classified as Spontaneous attention, and Enforced attention. Spontaneous attention is based on sentiments. We give an automatic or spontaneous attention to an object or a particular thing with which or whom our sentiments have already tied up. (Eg. A mother's response to the cry of her baby). The attention which is aroused solely by the instincts is known as Enforced attention. (Eg. A child's attention on hearing the voice of his/her mother though she is not close to the child).

The ability of an individual to attend number of different independent stimuli in a given brief period of time varies from person to person and from situation to situation in a same person. Sir William Hamilton in 1859, has experimented span of attention by spreading marbles on the ground before his students. He concluded that the average span of attention is limited to 6 – 7 marbles. That is we are able to identify atleast 6-7 marbles at a time not more than that. This may vary to greater number if these marbles are.

Future researches by other psychologists, to study the span of visual attention gave us an instrument called “Tachitoscope” which could be used in college laboratories .It exposes visual materials to the subject seated in front of it, for a very brief period of time. Cards using dots or digits or small patterns written on cards of different numbers are used, and showed one at a time. The maximum number of dots or digits or small patterns which is denoted on the card that a person can correctly report when he was shown three times each for every 1/10 second in the experiment denotes his span of visual attention.

This span of attention on other sensory organs like auditory span using different techniques like tapping a number of times and asking the subject to identify the number of times tapped was done in further researches.



Tachistoscope

Factors of Attention:

As attention is a process of selection of stimuli, we need to know on basis that we select that particular stimulus among many stimuli present around us in the environment that we are. Actually there are many factors that determine the process of attending. Two types of factors that bring about attention towards an object are ‘External factors’/ ‘objective factors’ and ‘Internal factors’/ ‘subjective factors’.

The factors that operate on an individual from outside the individual to capture their attention are known as ‘External factors. External factors are those factors which compel an individual to attend to an object or stimulus though he /she is not interested to attend to it.

They are nature, intensity, change, contrast, novelty, movement, repetition, systematic form of a stimulus.

The factors that operate within an individual to make them attend to objects are known as 'Internal factors'. The internal factors such as interest, motive or need, mental set, mood and the physiological conditions present in a person to fulfil his desires, urges etc.

1.5.2 Sensation

In general, it is necessary that our brain should recognise and interpret what has been happening around us in the environment where we live. It would make us to experience and feel the surrounding around us. Sensation is the process which allows our brain to take in information from the environment through our sensory system which can be then experienced and interpreted by the brain. It is the first step in the acquisition of knowledge in a conscious mind.

Sensation is defined as the "process by which sense organs gather information about the environment and transmit it to the brain for initial processing" – Kowalski & Western (2009). Sensation occurs through our sense organs.

Stimuli	*Sense Organ(s)*	*Sensation*	*Sense*
Visual Stimuli	Eyes	Aural/Visual sensation	Seeing
Auditory Stimuli	Ears	Auditory sensation	Hearing
Fragrance/odour Stimuli	Nose	Olfactory	Smelling
Taste Stimuli	Tongue	Gustatory sensation	Tasting
Tactile Stimuli	Skin	Tactile sensation	Feeling or touch

In the learning process, the stimuli given through the sense organs would be interpreted in the brain to perceive or realise the information given. Hence the sense organs are the receptors of external stimuli. These sense receptors have specialized cells that respond to environmental stimuli into neural impulse that can be understood by the brain in a process

known as transduction. This is the reason for the effectiveness of instructional process in the classroom through sensory learning style.

1.5.3 Perception

As we know about sensation, now it would be possible for us to relate sensation and perception as two complimentary process playing different roles to enable us how to interpret our world. Perception is the way we interpret the sensations and make sense of everything around us.

The knowledge or information that we got from our sensory system, make us to become aware of that particular thing or object or information. The process of getting aware or meaning of those thing or object or information is known as 'Perception'.

Simply saying, the process of detecting a stimulus and assigning meaning to it is called 'perception'. This meaning is constructed based on both physical representations from the environment and our existing knowledge.

For example, the sound we hear or experience from a distance could be sensed as sound made by a speeding bus not a motorbike. The sound would be sensed by auditory sensation but interpreted as the sound made by a bus is our perception. We should also know that this perception could be made only if we had experienced the same sense before and retained it in our memory.

Perception - Definition:

"Perception is the process of getting to know objects and objective facts by the use of the senses" – R.S. Woodworth and D.G. Marquis (1949).

"Perception is a process by which individuals organize and interpret their sensory impressions in order to give meaning to their environment" – Stephen. P. Robbins (2010).

Perception - Characteristics:

- Perception is a meaningful interpretation of received stimuli through sensation.
- It is objective and needs retention of past experiences.
- It involves selection of particular stimuli received through sensation.
- It last as long as the sensory stimulus is present and makes an experience.
- Analysis and synthesis of sensory stimulus takes place in the process of perception.

Gestalt principles of perception:

The German psychologists of this early century called as Gestalt theorists, proposed theories on visual perception. 'Gestalt' means "pattern" or "configuration" or "unified whole". This theory was propounded to refer the people's tendency to organize sensory information into patterns or relationship. Instead of perceiving bits and pieces of unrelated information, we usually perceive organized, meaningful wholes. The Gestalts principles are reasonable explanations of certain aspects of perception but not on the whole.

The Gestalts principles of perceptual organization are as follows.

1. Law of Similarity: Similarity occurs when objects look similar to one another. People often perceive them as a group or pattern. Many units of distinct objects could form as an whole group.

Fig (a) Law of Similarity

2. Law of Proximity: Proximity occurs when elements are placed close together so that to be perceived as a group. Elements are perceived as separate shapes when placed without proximity but would be perceived as a single group when they are given close proximity.

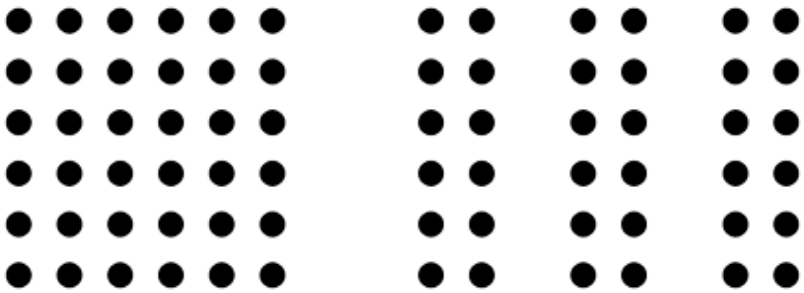


Fig (b) Law of Proximity

3. Law of Continuity: Continuation occurs when perception appears to be going infinitely towards the same direction, movement and continuation. We ignore the gaps when dots are lie along a straight line or curve and see them together.

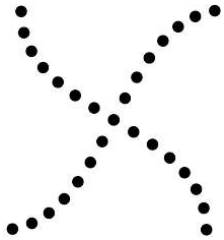


Fig (c) Law of Continuity

4. Law of Closure: Closure occurs when an object in incomplete or a space is enclosed. If enough of shape is indicated, people perceive the whole by filling in the missing information.

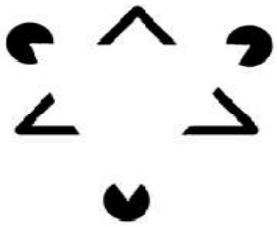


Figure (d) Law of closure

5. Law of Common fate: Common fate occurs when all elements move in a same direction in a same speed. People perceive the elements moving in the same direction, in a same speed as a single group not the elements passing in different directions in different speed.

Figure (e) Law of Common Fate

Errors in perception:

There always exists possibility for wrong interpretation of our sensory input. If so, our perception may not be true and accurate. We know that if a stimulus is interpreted correctly it is known as 'perception' but when a stimulus through sensation is wrongly interpreted then it is known as 'misperception' or 'error in perception'. There are two types of errors of perception. They are: Illusion and Hallucination.

Illusion. Illusion means perception of objects or things or situations which does not really exists. They are wrong or mistaken perceptions which could lead us to false or wrong interpretations of sensory stimulus. Example: Seeing a rope as a snake is optical or visual illusion. Types of illusions are as follows

a. Illusions of movements Eg. A spot of light in dark appears to be moving around.
b. Illusions of perspectives Eg. Two parallel lines appear to meet at along distance
c. Reversible perspective figures
d. Muller - Lyer illusion and Vertical –Horizontal illusion
e. Optical illusion

Hallucination. A stimulus which is perceived without an object is called 'hallucination'. It is only a sense experienced in the absence of an appropriate external stimulus. Hence it is a misinterpretation based on imaginary experience as real perception. Hallucinations occur under particular circumstances in different individuals. Ex: Hearing tapping of sounds of the house door, Seeing a dinosaur from a distance etc.

1.5 CONCEPT

The term concept means "idea underlying a class of things or general notion". It refers to the unified or generalised idea for a group of objects that have general features or characteristics. It gives a whole idea to all our experiences with regard to a particular object, person or event. It is the basic component in all types of learning. On the basis of age, intelligence and experience individuals differ in their levels in the attainment of concept formation.

The ability of our brain to identify a thing and make it as concepts even enables us to divide things into classes. Ex: 'Red'. 'Table', 'Door', 'Animal' etc. are concepts. We can sort

things or objects which are ‘red’ and which are ‘not red’. We can differentiate a ‘man’ from ‘an animal’. The features we select define the concept and form the basis for making classifications. Since concepts are the ways of names for the universal or generalised ideas.

A concept is an idea or understanding of what a thing is. It can be also explained as ‘Ordered information’ about the properties of one or a group of things to be related or differentiated to other things or classes of other things. They are the standard meanings of words. Also these concepts need not be based on our actual experience.

Concept - Definition:

“Concept learning is the acquisition of a common response to dissimilar stimuli. They are associations and they functions as cues or mediators of learned behaviour” – Kendler (1964)

“Concept is an abstraction from a series of experiences which defines a class of objects or events” – Carroll (1964)

“Concept means forming what logicians and mathematicians call an ‘equivalence class’ of stimulus situations, which share some characteristics but are distinct in other respects, and performing the same response to all members of the class” – Berlyne (1965)

Concept - Characteristics:

- Concepts are generalized objects are events from abstracting the critical attributes of classes of related things.
- It is an inferred mental process.
- It requires discrimination of stimulus objects into positive and negative instances.
- It enables a learner to learn the principles of scientific knowledge.

***Concept* - Types:**

The following are the types of concepts.

Conjunctive concepts: The presence of at least two features, which means that a class of object have two or more common features. Eg. Distinguishing a ‘chair’ from a ‘table’.

Relational concepts: It is the relationship between the features of an object or between an object and its surroundings. It is based on how an object relates to something else, or how its feature relates to one another. Eg. Identifying lines to make a triangle or a rectangle.

Disjunctive concepts: Disjunctive concepts have at least one of several possible features. Eg. Identifying a car even if it has one of its attributes.

Concept formation:

The basic unit of all types of learning is concept. A concept is a class of stimuli related to a class of objects or ideas which have one more common characteristic. The stimuli may be a class of objects, events or ideas. From the stage of infancy to old we learn number of concepts which we use old concepts in new situations and also learn new concepts from experiences. A child first learns simple concepts of objects like 'mother', 'doll', 'milk' etc. As it grows it develops its other types of concepts like relational and abstract concepts like 'sun' , 'night' , 'town' etc. and 'honesty', 'loyalty' , 'kindness' etc. respectively.

Child developmentalists, such as Jean Piaget and Lev Vygotsky, have researches the way children form their own concepts through experience, assimilate existing concepts such as cultural values, norms and beliefs from adults, and further create and develop their own concepts as they mature toward adulthood. .

The process of development of concepts involves four elements. They are: Experience, Abstraction, Generalization, and Analysis.

Experience is the process of direct participation in an action. *Abstraction* is the process of discovering the common elements in a large number of situations after experiencing them. One observes that two or more objects are alike or similar in some respects and different in other respects. For example, in acquiring the concept 'milk',a child may hear the word 'milk' while drinking a health drink. Later ,the child hears the same word 'milk' while drinking a milk coffee or while looking at the milk can or milk man .He hears the sound 'milk' over and over again in different situations and learns to apply the word to any object that has the general characteristics as a milk. Thus in the early stages of development ,of the concept ,the child may apply the word to 'water' or any liquid form, because upto that time he has observed only one 'common' element in his experiences, namely liquid form. Additional observations and finer discrimination will 'define' the concept to the point where the word will be applied 'only' to milk.

Generalization is the process of extending the concept to include objects which possess a quality in common with other objects but which have not been experienced as any of the objects in the abstracting process. A concept is learned through trial and error reactions

to objects, situations or events. This refinement and enrichment of a concept depends upon the number and variety of trial and error reactions of experiences involved in the development of the concept. *Analysis* is a systematic procedure applying techniques for analysis of academic content which are similar in intent to those employed by task analysis in designing training sequences for a job.

Concept map:

In explaining the general principles formed out of many related ideas, concept maps could be very useful in teaching process. Concept maps are also used to explain the mutual relationships existing between the various general principles. The relationship between various ideas put forth in a lesson and the way they lead to general principles could be understood with the help of concept map.

In classroom learning, concept map helps not only the students but also the teachers to a large extent. It helps them to understand different general principles by indicating them in 'Linkage' and 'Cross Linkage' by putting every idea in a hierarchical order. The students could also be given concept map to stimulate home assignment. The analytical thinking of students could be developed and promoted by concept maps. It helps learning in a comprehensive and meaningful way.

Check Your Progress - 2

1. What are the types of attention?

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2. Name the various sensation experiences by human brain?

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3. Mention some characteristics of perception.

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4. What are the four elements involved in the process of development of concept?

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1.6 MEMORY AND FORGETTING

1.6.1 Concept of Memory

The development, progress and survival of human beings are based on learning. The ability to recall what we have learnt earlier is called 'memory'. The learned things and experiences are stored in our mind so that it can be utilised at the time of requirement. In psychology, learning, retention, recall and recognition together constitutes memory. Effective learning process needs good memory. We think and reason largely with remembered facts and with the help of our perception and continuity of our memories. Memory is the function of the mind by virtue of which it records, retains and produces ideas by its own activity.

One of the important aims of learning is to acquire and retain acquired knowledge for future use in meeting the day by day life experiences and problems. The experiences or learned knowledge leaves behind memory images or traces .This preservation of memory traces by our central nervous system or brain is known as retention of the learned act. The strength and quality of the memory traces determines the duration of the retention. These retained memory traces are recognised and recalled when need arises.Thus memory involves four stages, learning or experiencing something, its retention, recognition and recall.

Memory - Definitions:

"Memory is a mental power which consists in leaning, retaining and remembering what has previously been learnt" – Woodworth and Marquis (1948).

Memory is the "learning capacity for responding and its persistence over time is measured by the retention test. Memory is the "state of a subject that gives the capability for correct occurrences of a criterion response. There is an initial acquisition session in which the

subject makes a discriminative response to a stimulus, followed by a period of time called the retention interval when the criterion response does not occur." – J. A. Adams (1967)

"Memory can be likened to a giant filing cabinet in the brain, with data sorted, classified and cross-filed for future references. Remembering depends on how the brain goes about coding its input" – Levin (1978)

1.6.2 Concept of Forgetting

When you are not able to remember a learned knowledge or experience, we say it is due to forgetting. Our inability to recall the learned material, when we need it most is called forgetting. Forgetfulness is usually regarded as a liability and memory as an asset .It is the opposite of learning. Forgetfulness is considered as a great evil of life as several times necessary things are forgotten but not the unnecessary ones.

Forgetting is the opposite of learning. In learning, he learner keeps an experience in memory while forgetting he fails to bring it to the conscious plane what he has remembered.

In our daily life, we come across several kinds of experiences. As a matter of fact every minute we get many impressions about many things. We cannot remember all these impressions and it is not essential to do so. We must be selective in remembering and forgetting. It is important for us to forget several experiences daily. To remember we must forget. We forget to remember.

Forgetting - Definition:

"Forgetting is the loss, permanent or temporary, of the ability to recall or recognize something learned earlier" – Munn (1967).

"Forgetting means failure at any time to recall an experience, when attempting to do so or to perform an action previously learned" – Drever (1952).

"Forgetting is the failure of the individual to revive to consciousness an idea or group of ideas without the help of the original stimulus" – Bhatia (1968).

1.6.3 Types of Memory

Psychologists have classified memory into certain types according to its nature and the purpose it serves.

a) Sensory memory or immediate memory:

Sensory or immediate memory is the memory that helps an individual to recall something immediately after it is perceived. In this type of memory, the retention time is extremely brief – generally from a fraction of second to several seconds. Immediate memory is needed when we want to remember a thing for a short time and can then forget it. Ex: We remember telephone numbers till we get connection to that number.

b) Short-term memory:

It is a temporary memory, where the retention is less than one second in immediate memory, the information temporarily stored in short-term memory may last as long as thirty seconds even if the material is not being rehearsed. Ex: Experimental evidences show that "seven plus or minus two" item numbers can be stored in short term memory at one time.

c) Long-term memory:

Long-term memory stores all the significant events that mark our lives and lets us retain the meaning of words and the physical skills that we have learned. Its capacity seems unlimited, and it can last days, months, years, or even an entire lifetime. It sometimes distorts the facts, and it tends to become less reliable as we age. Long – term memory codes information according to meaning, pattern and other characteristics. Ex: The multiplication tables we have learnt, the poem we have memorised, our date of birth, etc.

1.6.4 Applicability to Learning

Memory and learning are so closely connected that we often confuse them with each other. Memory and learning are closely related concepts. Learning is the acquisition of skill or knowledge, while memory is the expression of what you've acquired. Acquisition of skills and knowledge occurs slowly and laboriously in learning. But, if acquisition occurs instantly, that's making a memory.

Learning is a process that modifies a subsequent behaviour. Memory is the ability to remember past experiences. We learn a new language by studying it, but then we speak it by using your memory to retrieve the words that we have learned earlier. Memory is essential to all learning; because it lets you store and retrieve the information that we learn.

Memory is basically nothing more than the record left by a learning process. Thus, memory depends on learning. But learning also depends on memory, because the knowledge stored in your memory provides the framework to which you link new knowledge, by association.

1.6.5 Strategies for Better Management of Memory

Learning is the most important factor of memory. Improvement of memory to a large extent rests upon this factor which can be improved by training. Improving in learning is mainly influenced by the following requirements as follows

a) Will to learn
b) Interest and attention while learning
c) Adopting proper method of memorization
d) Following the principles of association
e) Grouping and rhythm
f) Utilizing as many as senses as possible
g) Arranging better learning situations like calm and quiet atmosphere
h) The learner's internal factor physical and mental health, emotional state etc.
i) Provision for change and proper rest
j) Repetition and practice
k) Use of modern technology
l) Making use of SQ4R technique
m) Making use of mnemonics

1.7 ROLE OF MOTIVATION IN LARNING

As a teacher you need to make students engage in goal - directed behaviour. Goals motivate students to act in order to reduce the discrepancy between "what they are" and "where they want to be". Motivation is hence regarded as something that prompts an individual to attain their specific goal in a particular manner at a particular time. It is the internal force which accelerates a response or behaviour.

Motivation is defined as "an internal state that arouses, directs and maintains behaviour. It may be positive or negative, tangible or intangible, subtle or difficult to identify".

Lewin's theory emphasis that motivation is a drive that inspires to move towards your goal. Motivation is the principal force that governs the learners' progress and ability to learn. It not only sets in motion the activity which results in learning, but also sustains and directs it. In a teaching – learning situation, a learner work longer and harder and with more vigour and intensity when they are motivated than they are do not. Motivation helps individual overcome disinterest or boredom in their learning.

In the learning process, the learner who responds to the external stimulus so that to acquire changes in the behaviour needs motivation. It is the factor that influences the improvement and achievement of the learners. No learning is possible without motivation. In the learning process, the source of motivation may be complex. It may be either intrinsic or extrinsic.

Motivation leads to self-actualization in learning. It helps in satisfying the needs of the learner. It develops an individual to acquire competencies like independent, democratic, adaptable approaches and creative, interpersonal, problem solving skills.

1.7.1 Methods of Improving Motivation

It is the responsibility of the teacher to motivate the learner in the teaching- learning process. By improving the motivational level of the learners, the teacher could develop the self-concept and self- respect of the learners in achieving their needs. Hence it is very important to improve motivation and it could be as follows.

a) Goal – setting
b) Attractive physical and environmental condition
c) Stimulus – variation by the teacher
d) Reinforcement: Praise and Blame.
e) Teaching skills
f) Teachers own motivation and interest in teaching

a) *Goal-setting:* The learners need constant motivation from the teachers so that they efficiently use their talents for their needs and goals. The needs and the goals are the basis of motivation. These needs and goals differ according to their personality and socio-economic background. Hence the learners should be led accordingly to their individual

need and talent to attain their goal by making use of various scientifically proven techniques in motivation like success and reward, failure and punishment etc.

b) *Attractive physical and environmental condition:* The physical and the environment of the learning place should be desirable. Distractions such as noise, heavy light, abnormal temperature should be avoided. It should be ventilated and cleanliness should be maintained.

c) *Stimulus – variation by the teacher:* It is observed and proved that learners cannot be able to attend on one thing for a very long period. The effectiveness of teaching learning process in such a situation depends a great extent on the stimulus variations used by the teacher behaviour. Stimulus variations such as teacher movement, teacher gesture, and change in speech, sensory focus and postures contributes to motivate the learners.

d) *Reinforcement: Praise and Blame.* Positive verbal reinforcement such as use of words like 'excellent' ,'good' etc. and negative verbal reinforcement like 'poor' 'wrong', etc. positive non-verbal reinforcement such as nodding , smiling, friendly look, friendly movement towards the learners, negative non-verbal reinforcement such as expressions of annoyance, frowning, impatience etc.

e) *Teaching skills:* Teaching skills of the teacher greatly influence motivation. Teaching skills includes all the skills of micro teaching. It is not easy to give an exact number of teaching skills involved in motivating learners. Hence it is necessary for the teachers to use the micro teaching skills to the optimal level.

f) *Teachers own motivation and interest in teaching:* The teacher must be interested and passionate towards the profession and with whom he or she is teaching with. If the teacher is not interested in teaching, he or she cannot motivate the learners. The teacher should try to discover new approaches and methods of teaching with the gained experience.

Check Your Progress - 3

1. What are the types of memory?

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2. Define ‘Memory’.

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3. Point out some strategies for better management of memory.

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1.8 LET US SUM UP

In this Unit we have made efforts to know the process and the concept of learning and the factors influencing learning such as psychological individual differences of learners, teachers’ enthusiasm in classroom learning, environment and other factors. The other psychological factors such as attention, sensation, perception and concept formation were well defined and explained.

The concepts of memory and forgetting were described and its applicability to learning was elucidated. Memory is basically the record left in a learning process. It depends on learning. The strategies to improve memory in learning were pointed out. The role of motivation in learning develops an individual to acquire competencies like independent, democratic, adaptable approaches and creative, interpersonal, problem solving skills.

Further the methods to improve motivation were pointed out.

1.9 ANSWERS TO ‘CHECK YOUR PROGRESS’

Check Your Progress - 1

1. The steps involved in the process of learning are
   i. Preparatory phase
      a. A motive or a drive
      b. A goal
      c. A block to the attainment of the goal
   ii. Actual learning phase
      a. Learning situation
      b. Interaction while learning

2. The factors influencing learning are as follows
   i. Psychological individual differences of learners
   ii. Teachers' enthusiasm
   iii. Environmental factors

Check Your Progress - 2

1. Voluntary or Volitional attention and Involuntary or Non-volitional attention

2. The various sensations are aural/visual, auditory, olfactory, gustatory and tactile sensation.

3. Write the characteristics mentioned in the text.

4. The four elements involved in the process of development of concept are – Experience, Abstraction, Generalization and Analysis.

Check Your Progress - 3

1. The types of memory are – Sensory memory or immediate memory, short- term memory, long – term memory.

2. "Memory is a mental process which consists of learning, retaining and remembering what has previously been learnt" – Woodworth and Marquis (1948).

1.10 UNIT-END EXCERCISES

1. Explain the concept and types of learning.

2. Explain the factors influencing the process of learning.

3. Bring out the concept of attention, sensation, perception and concept formation.

4. Point out the strategies for better management of memory.

1.11 SUGGESTED READINGS

1. Beggie, H.L. and Hunt M.P : *Psychological foundations of education*

2. Benjamin S. Bloom et al. (1964). : *Taxonomy of educational objectives*. Longman Group

3. Chauhan, S.S. (1978). : Advanced educational psychology. New Delhi: Vikas Publication House.

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UNIT II - LEARNERS AND PRINCIPLES OF TEACHING - LEARNING

Structure

2.1 INTRODUCTION

In this Unit, you are going to study the characteristics and needs of the learners. As you are now already familiarised with the concept of learning and its process, it is now essential for us to gain knowledge about the characteristics of learners and its different dimensions. According to the individual differences of the learners their learning style differs. Hence it is decisive to know the teaching styles and how to match it to appropriate learning styles of the learners. The cognitive, social, affective and psychomotor needs of the learners are to be explored. The skills of teaching are based on the identification of the characteristics and the needs of the learners. The differences in learners under the physical, cognitive, affective, and psychomotor and socio – cultural dimensions should be known to the evolving teachers. The teachers should be competent to gain the knowledge of essential teaching and learning skills and implement instructional strategies. The concept of transfer of learning and its types are to be discussed in this unit.

2.2 OBJECTIVES

After studying this Unit, you will be able to

- explain the characteristics and needs of the learners
- expound the dimensions of differences in learners
- distinguish between skills of teaching and learning
- clarify the factors affecting learning
- explain transfer of learning and teaching for transfer of learning.

2.3 CHARACTERISTICS AND NEEDS OF THE LEARNERS

The concept of learners characteristics is used in the sciences of learning and cognition to designate a target group of learners and define those aspect of their persona, academic, social or cognitive self that may influence how and what they learn. Learner's characteristics are important for instructional designer as they allow them to design and create tailored instruction for a target group. It is expected by taking account of characteristics of earners, more efficient, effective, and/or motivating instructional materials can be designer and developed.

Learner's characteristics can be personal, academic, social and emotional, and/or cognitive in nature.

- Personal characteristics often relate to demographic information such as age, gender, maturation, language, social economic cultural background and specific needs of a leader group such a particular skills and disabilities for and/or impairments to learning.
- Academic characteristics are more education and/or learning related such as learning goals of an individual or a group, prior knowledge, educational type, and educational level.
- Social and emotional characteristics relate to the group or individual with respect to the group. Ex. of social/emotional characteristics are group structure, place of the individual within group, sociability, self image, feelings of self efficiency and mode etc.,
- Cognitive characteristics relate to such things as attention span, memory, mental procedures, and intellectual skills which determine how the learner perceives, remembers thinks, solves problems, organizes and represents information in her/his brain.

With respect to learner characteristics there are often large differences between the characteristics of different learner and groups of learners such as children, students, professionals, adult, older people and disabled persons. This group differ in their motivation, prior knowledge, expertise level, study time, and physical abilities. The differences within the learner characteristic have an impact on the structure of the instruction and the degree of support and guidance of the learning process. The needs of learner represent the gap between what the learner want to get out the learning experience and his/her current state of knowledge skill and enthusium.eah learner is unique and brings to the learning situation his/her own different learning style, knowledge set, pool of past experiences, and motivation.

In learner-centred instruction, it is important for instruction to consider the level of knowledge and skill development attain by the learner prior to instruction. The best way to get this information is by asking the learner themselves. To determine the readiness of participations for learning, the instructor/ facilitator should decide, prior to the first class workshop, how to collect and use of data on learner needs. The process of collecting and playing back these data can raise the level of participation excitement about the learning experiences. The instructor can use this knowledge throughout the rest of educational process to customise instructional strategies to enable learners to reach shared educational objectives.

The potential learning needs of the learners includes the four different domains: cognitive, affective, and psychomotor;

a) Cognitive need: It involves the progressive building of learning skills such as attention, memory and ability to think.

Attention: When a child learns to pay attention, it enables him to concentrate on the task or conservation for an extended period of time.

Memory: Memory is an important cognitive skill that equips a learner to retain what he was learned and experience and therefore build a future base of knowledge.

Ability to think: The ability includes being able reason out tasks and finds solution. This skill enables a learner to think beyond the limits when learning in groups. These crucial skills enable learners to process sensory information and evaluate, analyse, remember, make comparisons and understand cause and effect in the learning process.

b) Social need: It is the need to develop the ability to understand, manage, and express the social and emotional aspects of one's life in ways that enable the successful management of life tasks such as learning, forming relationships, solving everyday problems, and adapting to the complex demands of growth and development. It includes self-awareness, control of impulsivity, working cooperatively, and caring about oneself and others.

c) Affective need: The affective needs of the learners could be accomplished by creating positive classroom culture and climate which depends upon the mood, interest, attitude of both the students and the teachers, their healthy interpersonal relationship. The effective classroom management by the teachers, standard based goals in the curriculum and high – impact instructional moves contributes to the affective needs of the learners.

d) Psychomotor need: The psychomotor needs of the learners denote the stimulation of the sensory motor skills of the learners together with the muscular movements that could be carried on in a teaching – learning process. The quality of the movement will depend upon the precision of the act required, the learners' past experiences with similar skills, the speed of the movement, the force of the motor act and the body parts to be moved.

Identifying and acknowledging learner needs is a powerful facilitation skill that the teachers and the students need at the start of any learning process. The insights gained can be

used to customize instructional strategies that enable learners to reach and exceed personal as well as curricular objectives.

2.4 DIMENSIONS OF DIFFERENCES IN LEARNERS

It is known to that all individuals born with differences in their physical features and emotional aspect depending upon the hereditary and environmental factors. In this way no one among as is just the same as another. Psychological terminology that has been applied to difference between individuals which makes one as unique individuals is known as individual differences. Being alike in some aspect we are definitely different in many ways. Inspite of belonging to a common species known as human beings have our own individuality which contributes for the variance and differences found among us. The dimensions of differences in learners could be categorized under physical, cognitive, affective, and psychomotor

i. Physical:

The dimensions of physical differences are chronological age, physical maturity, health status, physical fitness and fatigue, appearances.

Chronological age: Children learn better than adults differences in speed of learning and retention does not dependent upon age but on mental age or levels of intelligence. Variation in methods and motivation may make it possible for children to learn a given task event at an earlier or later age.

Physical maturity: The capacity to earn is vitally connected with the growth and maturity of the nervous system, the development of muscle, body proportions and the functioning of the sensory organs. Physical maturity, thus, affects readiness to learn.

Health status: Child's general health status affects his behavior including learning and academic work. Undernourishment or malnourishment of the child affects learning efficiency.

Physical fitness and fatigue: The learner's response in learned situation will be different in quality from those who arrive feeling fresh are tired when they enter into the learning environment. The physical fitness and fatigue of the each and every learner constitutes to the physical dimension of differences in learners.

ii. Cognitive:

It refers to the process behind the transformation of sensory data into retrievable knowledge in long – term memory. It includes attention, rehearsal in working memory, retrieval from long – term memory and metacognitive monitoring.

iii. Affective:

The dimensions of affective differences are emotional, social, aesthetic, moral, spiritual and motivational.

Emotional: It refers to the relationship between emotions and learning. It includes understanding of one's own emotions and others feelings in the learning process, learning to manage those feelings. For instance, becoming aware one's of emotional reactions, being able to describe one's own feelings in a given situation, distinguishing between thinking and feeling, feeling and acting, recognising emotional conflicts, developing empathy and conflicting emotions according to personal value system.Ex., Fear associated with formalizing learning.

Social: It refers to the knowledge of group dynamics, skills in communication, understanding and valuing kindness, self – discipline and demonstrating helpfulness and co- operating in meeting group goals. This dimension requires the ability to resolve conflict creatively and prioritize one's time effectively according to the needs of the family, community, work and self.

Aesthetic: Aesthetic development implies understanding the subjectivity of aesthetics specifically the relationship between values and judgements, requires both critical and creative skills as well as a positive attitude towards beauty. It values intellectual creation of appreciation for the beauty of ideas.

Moral: It includes the understanding of the moral and ethical values as defined in one's culture which could be linked with the skills of moral reasoning and problem solving and desire to live morally. It could be explained as becoming aware of moral values and internalisation of a set of moral values in terms of belief and commitment to action. Ex., Acceptance of professional ethical standards and to display commitment to professional ethical practice.

Spiritual: It refers to the knowledge of religious perception about the spiritual world which includes cultivating an awareness and appreciation of one's soul and the relationship of his

own soul with others, with God and with all creations. Skills required for this development includes the ability to love, self – awareness beyond one's emotions and positive attitude toward the spiritual life and practices.

Motivational: It refers to the understanding of the rewards for sustained activity particularly joy and sense of accomplishment. It directly relates to the long – term interest. It also refers to the plans that are in harmony with one's own abilities, interest and prioritising the facts of frustration and disappointment.

Psychomotor: It refers to the relationship between the cognitive functions and the physical movement. Individual differences between learners varies according to their relatedness of cognitive abilities to their physical abilities such as co – ordination activities involving the arms, hands, fingers, feet but not the verbal practices.

2.5 MATCHING THE TEACHING STYLE WITH THE LEARNING STYLES: Teaching and learning styles are the behaviours or actions that teachers and learners exhibit in the teaching learning exchange. Teaching behaviour reflect the beliefs and values that teachers hold about the learner's role in the exchange of age, educational level and motivation influence each student's learning so that what learning style one preferred may no longer be the student's current preferred learning style. Because learning style is on ongoing process, occurring over the span of one's lifetime and delivered by a variety of instructions with a variety of teaching styles in a variety of situations, learners needed to be able to adjust their cognitive styles.

The term 'learning styles' speak to the understanding that every student learner differently. An individual's learning styles refers to the way in which the student absorbs process, comprehends, and retains information. For example, when learning how to build a block, some students understand the process by following verbal instructions, while others have to physically manipulate the block by themselves. This notion of individualised learning styles has gained widespread recognition in education theory and classroom management strategy.

The learning styles are found within educational theorist Neil Fleming's VARK model of student learning VARK is an acronym that refer to the four types of learning styles. One of the most accepted understanding of learning style is that student learning style fall

into four ‘categories’ such as ‘Visual learners’, ‘Auditory learners’, ‘Read and Write’ and ‘Kinesthetic learners’. The VARK model acknowledges that students have different approaches to how they process information, referred as ‘preferred learning models’. The main ideas of VARK are outlined in Learning Styles as

a) Students’ preferred learning modes have significant influence on their behaviour and learning.
b) Students’ preferred learning modes should be matched with appropriate learning strategies.
c) Information that is accessed through students’ use of their modality preferences shows an increase in their levels of comprehension, motivation and metacognition.

Check Your Progress 1

1. Point out the categories under which the learner’s characteristics could be classified.

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2. Why the educational needs of the learners should be identified?

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3. Point out the four major learning styles.

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2.6 CHALLENGING THE LEARNERS AND EVOLVING TEACHERS

The evolving teachers have to deal with students who many differ in cultures and ethnicity their experience, their learning styles and many other dimensions and all of these dimensions shape who they are and how they learn. The teachers should understand and use a variety of teaching methods to promote student learning. The teacher could overcome the challenges in the classroom following below the strategies. Appreciate the individuality of each student is important. While generalizations sensitize us to important differences between groups, each individual student has unique, perspectives, experiences, and needs.

- The teacher should be committed to meet the needs of all the students and should have a good communication skill.
- As teacher it is important to recognize their own learning styles and cultural assumptions, because these styles and assumptions influence how they teach and what they expect from their students. Being aware of them allows us to develop a more inclusive teaching style.
- The teacher should pan the course and for each class it is necessary to prepare examples to illustrate their points. They should try to have those examples reflect different cultures, experiences, sexual orientations, genders etc., to include all students in learning.
- Help students move between abstract, theoretical knowledge and concrete, specific experiences, to expand every one's learning.
- Use of different teaching methods (lectures, small groups, discussions, team teaching etc) to meet the variety of the needs of students.

2.7 DELINEATION OF INSTRUCTIONAL OBJECTIVES

Blooms Taxonomy was created in 1956 under the leadership of educational psychologist Dr Benjamin Blooms in order to promote higher forms of thinking in education such as analysing and evaluating concepts, process, procedures and principles, rather than just remembering facts (rote learning). It is most often used when designing educational, training and learning process.

The three domains of educational activities or learns are:

Cognitive (mental skill) – knowledge, Problem solving etc.

Affective (growth in feeling or emotional areas) – Attitude, Interest etc.

Psychomotor (manual or physical skills) – Driving car etc.

a) Cognitive Objectives:

The cognitive domain involves knowledge and the development of intellectual skills (Blooms 1956). This includes the recall or recognition of specific facts, procedural patterns, and concepts that are six major categories of cognitive on process, stating from the simplest to the most complex such as.

Knowledge - remembering or recalling information.

Comprehension - the ability to obtain meaning from information.

Application - The ability to use information.

Analysis - the ability to break information into parts to understand it better

Synthesis -the ability to put material together to create something new.

Evolution - the ability to check, judge and critique materials.

b) Affective Objectives:

Affective domain: affective objectives are designed to change an individual's attitude. Affective objectives refer to attitude, appreciations, choices and relationship. Affective domain (Krathwohl, Bloom, Masia, 1973) includes the manner in which we deal with things emotionally, such as feelings, values, appreciation, enthusiasm, motivations, and attitudes. The five major categories are listed from the simplest behaviour to the most complex.

i. Receiving - bring aware of or attending to something environment.
ii. Responding -- showing some new behaviour as a result of experience.
iii. Valuing - showing some new definite involvement or commitment.
iv. Organization –integrating a new value into one's general set of values, giving it some ranking among one's genera priorities.
v. Characterisation by value - acting consistently with the new value.

c) Psychomotor Objectives:

The psychomotor domain is skill based and refers to the learning of physical skills. Physical skills psychomotor objectives are designed to build physical skill. Physical skills are the

ability move, at or manually manipulate the body to perform a physical movement. Dave (1970) developed this taxonomy;

Imitation- observing and copying someone else.

Manipulation- guided via instruction to perform a skill.

Precision - accuracy, proportion and exactness exist in the skill performed without the presence of the original sources.

Articulation- two or more skill combined sequenced and performed consistently. Naturalisation-two or more skill combined sequenced and performed consistently and with ease. The performance is automatic with little physics or mental exertion.

2.8 SKILLS OF TEACHING AND LEARNING

2.8.1 Teaching Skills

Teaching is a process that facilitates learning. Teaching is the specialized application of knowledge, skills and attributes designed to provide unique service to meet the educational needs of an individual and of the society. The effectiveness of the teaching learning process adheres to the teaching skills of the teacher and the learning skills of the learner. Some of the key points of teaching skills are as follows

Interactive Skills: This interactive skill covers interpersonal skills, effective speaking skills and presentation skills in the teaching learning process.

*Confidence**:*** The teacher needs to be confident enough to handle with the subject matter and should be ready to explain and answer to the questions probed by the learners.

Organisational skills: The pre – planned activities for the teaching considering the needs and interest of the learners should be developed by the teachers.

Team work: The skill to work in team and groups in necessary for the teachers.

Conflict management skills: The teacher should possess conflict resolution skills to deal with help for the students or among the peer group.

Motivation skills: It is a pre-requisite skill needed by the teachers since motivation pushes the students to gain interest and attitude towards the subject being taught.

Empathise with the students: The teacher should try to build up trust and rapport with the students .The teacher should feel the emotions of the students in getting into a complicated topic and work with them together towards the goal.

Evaluation and feedback: The teacher should be able to imply appropriate evaluation methods and techniques and give feed back to the students on their performance without any personal bias.

The learning skills are often called the 4 Cs: critical thinking, creative thinking, communicating skill and collaborating skill. These skill help students earn they are vital to success in school and beyond.

i. Critical thinking: Critical thinking is focused, careful analysis of something to better understand it. When people speak of left "left brain" activity they are usually referring to critical thinking. Here are some of the main critical thinking abilities.

a) Analysing is breaking something down into part, examining each part and nothing how the parts fit together.
b) Arguing is using a series of statements connected logically together, backed by evidence, to reach a conclusion.
c) Classifying is identifying the types or groups of something, showing how each category is distinct from others.
d) Comparing and contrasting is pointing out the similarities and differences between two or more subjects.
e) Defining is explaining the meaning of the term using denotation, connation, example etymology, synonyms, and antonyms.
f) Describing is explaining the traits of something such as size, shape, weight, colour, use, origin, value, condition, location, and so on.
g) Evaluation is deciding on the worth of something is or how it works so that others can understand it.
h) Problem solving is analysing the causes and effects of a problem and finding a way to stop the causes or the effects.
i) Tracking is identifying the causes and effects is determining why something is happening and what result from it.

ii. Creative thinking skill: Creative thinking is expansive, open – ended invention and discovery of possibilities. When people speak of "right brain" activity, they most often mean creative thinking. Here are some of the more common creative thinking abilities:

a) Brain storming: It is the process of asking a question by rapidly listening to all answers farfetched, impractical or impossible.
b) Creating: It requires forming it by combining materials, perhaps according to a plan or perhaps based on the impulse of the moment.
c) Designing: It means finding the conjunction between form and function and shaping material for a specific purpose.
d) Entertaining: It involves telling stories, making jokes, signing songs, playing games, acting out parts, and making conservation.
e) Imagining: It is ideas involve reaching into the unknown and impossible, perhaps idly or with great focus, as Einstein did with his thought experiments.
f) Improvising: It is a solution which involves using something in a novel way to solve a problem. Innovation: It is creating something that hasn't existed before, whether an object, a procedure, or an idea.
g) Problem solving: It requires using many of the creative abilities listed here to figure out possible solutions and putting one or more of them into action.
h) Questioning: It actively reaches into what is unknown to make it known, seeking information or a new way to do something.

Communication skill: Analysing the situations means thinking about the subject, purpose, sender, receiver, medium, and context of a message.

a) Choosing a medium: It involves deciding the most appropriate way to deliver a message.
b) Evaluation of messages: It means deciding whether the messages are correct complete reliable, authoritative, and up to date.
c) Following conventions: It means communicating using the expected norms for the medium chosen.
d) Listening actively: It requires carefully paying attention, taking notes, asking questions and otherwise engaging in the ideas being communicated.
e) Reading:

f) It is decoding written words and images in order to understand what their originator is trying to communicate.
g) Speaking: It involves using spoken words, tone of voice, body language, gestures and facial expressions, and visual aids in order to convey ideas.
h) Turn taking: It means effectively switching from receiving ideas to providing ideas, back and forth between those in the communication situation.
i) Using technology: It requires understanding the abilities and limitations of any technological communication, from phone calls to e-mails to instant messages.
j) Writing: It involves encoding messages into words, sentences, and paragraphs for the purpose of communicating to a person who is removed by distance, time or both.
k) Allocating resources: It refers to the allocation of resources and responsibilities to ensure that all members of a team can work optimally.
l) Brainstorming: Ideas in a group involve rapid suggestion and writing down ideas without pausing to critique them.
m) Decision-making: It requires sorting through many options provided to the group and arriving at singe option to move forward.
n) Delectating: It means assigning duties to members of the group and expecting them to fulfil their parts of the task.
o) Evaluating: It refers to the processes in which the members of the group provide a clear sense of what is working well and what improvements could be made.
p) Goal setting: It requires the group to analyze the situation, decide what outcome is desired, and clearly state an achievable objective.

Collaborating skill:

Leading a group means creating environment in which all members can contribute according to their abilities.

Managing time: It involves matching up a list of task to using one of tasks to schedule and tracking the progress towards goals.

Resolving conflicts: It occurs from using one of the following strategies: asserting, cooperating, compromising, competing, or deferring.

Team building: It means comparatively working overtime to achieve a common goal.

2.8.2 Learning Skills

Visual Learners: Learners' who prefers to use images, maps and graphic representations to access and understand new information are referred as visual learners.

Auditory Learners: Learners' who understand new content through listening and speaking in situation such as lectures and group discussions are referred as auditory learners. They use repetition as a study technique and benefit from the use of mnemonic devices.

Read & Write: Learners' with a strong reading/writing preference learn best through words. They present themselves as copious note takers and are able to translate abstracts concepts into words and essays.

Kinesthetic: Learners' who understands information through tactile representations of information are referred as kinesthetic learners. They are hands- on learners and learn best through figuring things out by experiences.

Check Your Progress 2

1. Point out the challenges of evolving teachers in teaching.

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2. What abilities are known as creative skill?

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3. Mention some of the teaching skills.

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2.9 MEANING, PRINCIPLES AND SIGNIFICANCE OF LEARNING

Learning is defined as a relatively lasting change in behaviour that is the result of experience.

Meaning

Learning became a major focus of study in psychology during the early part of the twentieth century as behaviourism rose to become a major school of thought. Today learning remains an important concept in numerous areas of psychology including cognitive, educational, and social and developmental psychology. Measurable and relatively permanent change in behaviour through experience, instruction or study is brought about in group learning whereas individual learning is selective. Group learning depends largely on power playing in the group. Learning itself cannot be measured, but its result can be.

Learning is defined "as detection and correction of error" where an error means" any mismatch between our intentions and what actually happens" - Chris Argyris.

Principles

Educational psychologist and pedagogies have defined several principles of learning which is also referred as 'laws of learning' generally applicable to the learning process. These principles have been discovered, tested and used, in practical situations. They provide additional insight into what makes people learn most effectively. Edward Thorndike developed the first three 'laws of learning' readiness, exercise, and effect. Since Thorndike set down his basic three laws in the early part of the twentieth century, five additional principles have been added; primacy, recency, intensity, freedom and requirement.

i) Principles of primacy:

The state being first often creates a strong almost unshakeable impression. Things learned first create a strong impression on the mind that is difficult to erase. For the instructor, this means that what is taught must be right the first time. For the student, it means that learning must be right. 'Unteaching' wrong in first impression is harder than teaching them right at the first time. For instance, a student learns faulty technique, the instructor will have a difficult task correcting bad habits and 'reteaching' correct ones. The student's first experience should be positive, functional, and lay the foundation for all that is to follow.

ii) Principles of Recency:

The principles of recency states that things most recently learned are best remembered. For example it is fairly easy to recall a telephone number dialled few minutes ago, but it is usually impossible to recall a new number dialled last week. The closer the training or learning time is to the time of actual need to apply the training, the more apt will to perform successfully.

iii) Principle of Intensity:

The more intense the material taught, the likely it will be retained. A sharp, clear, vivid, dramatic, or exiting learning experience teaches more than a routine or boring experience. The principle of intensity implies that a student will learn more from the real thing than from a substitute. For example a student can get more understanding and appreciation of a movie by watching it than by reading the script. Likewise, a student is likely to gain greater understanding of task by performing them rather than merely reading about them. The more immediate and dramatic the learning is to a real situation, the more impressive the learning is upon the student. Real world applications that integrate procedures and tasks that students are capable of learning will make a vivid impression on them.

iv) Principle of Freedom:

The principle of freedom states that things freely learned are best learned. Conversely, further a student is coerced, the more difficult is for him to learn, assimilate what is learned. The greater the freedom enjoyed by individuals within a society, the greater the intellectual and moral advancement enjoyed by society as a whole.

Since, learning is an active process, students must have freedom: freedom of choice, freedom of action, freedom to bear the results of action – these are the three great freedoms that constitute personal responsibility. If no freedom is granted, students may have little interest in learning.

v) Principles of Requirement:

The law of requirement states that "we must have something to obtain or do something." It can be ability, skill, instrument or anything that may help us to learn or gain something. A starting point or root is needed; for example, if you want to draw a person, you need to have the materials with which to draw, and you must know how to draw a point, a line, a figure and so on until you reach your goal, which is to draw a person

***Significance of learning*:**

i. Learning helps us understand basic necessities of life, and gives us a way of acquiring and mastering of knowledge.
ii. Learning helps to adapt to a new environment. We know how to change our ways according to changes in our locale, we will survive.
iii. Learning helps respond to dangers and rear. Survival even in normal life is impossible without learning. Earning helps in becoming more efficient and helps attain great positions.
iv. Learning can provide you with deeper knowledge of subject, which cannot be imparted from bookish education. In totality your ability and inclination to learn determines the course that your life takes and the success that you achieve.
v. Learning is never complete unless we have both experiences and education. A lack of either can impair the use of other. For we learn rights and duties of a citizen through education in schools, but good morals come the family and good behaviour from company through experience. Unless we have all of these, we cannot become better individuals.

2.10 FACTORS AFFECTING LEARNING

Learner is the key figure in any learning task. The learner has to learn or bring desired modification in his behaviour. The factors that affect the learning process or as follows.

Learner's physical and mental health: Learning is greatest affected by the learners physical and mental health maintains by him particularly, at the time of learning. A simple headache or stomach-ache can play havoc with the process and products of learning. A child who does not maintain satisfactory physical health, have to suffer adversely in terms of gain in learning. Similarly the mental state and the health of a learner at the time of learning become potent factors in deciding the outcomes of learning.

The basic potential of the learner: Learner's innate abilities and aptitudes for learning a thing affect the learning process. Learner's basic potentials general intelligence and specific knowledge, interest, aptitudes and attitudes related to a particular thing or area also could be included.

The level of aspiration and achievement motivation: A person has to maintain the level of his aspiration and achievement motivation at a reasonable level. That is to say, his aspiration should be neither too high which will result in non achievement of any of his goals, nor too low as not to try to achieve goals which he is quite capable

Goals of life: The goals of one's life affect the process and product of learning. The inclination towards learning a particular subject and patience and persistence in pursuing depends on the goals of the learners.

Readiness and will power: A learner's readiness and power to learn is a great deciding factor of his results in learning. No power on earth health can help a learner if he is not ready to learn. Certainly, if he was a will to learn a thing then automatically, he will himself find a ways for effective learning.

2.11 RELATIONSHIP BETWEEN TEACHING AND LEARNING

Learning and teaching are the foundation of education and training. Most of us tend to place teaching first in the paradigm and say teaching and learning. It is can through there is an understood belief that teaching is more important of the two activities. Both learning and teaching are extremely important and generally go together but it can be easily argued

Learning often occurs without teacher in situations where students learn by experience or by their own efforts.

- Teaching is not a goal in itself. The purpose of teaching is to bring about learning.
- Teaching needs a formal set-up but learning could happen either formally or informally.
- Teacher does not control the entire learning process. There are many other factors which determine whether students learn various subjects or not, such as future career goals, parental or peer influence, and how they feel about the teachers.
- Students have to want to learn. They must be motivated one way or another. Teacher cannot teach those who are unwilling to learn.
- Teaching methodologies must be varied by teachers to accommodate the different individual learning styles of student. There is no one- size- fits –all teaching method. Learning style indicates teaching style.

- Teaching performance is generally measured by gains in student learning. Learning is also not measurable.
- The ultimate goal of teaching is to enable learner to teach themselves, in order to become life-long learner.
- Teaching should be student and learning centred.
- Teachers and school administrator exist because of students or closely connected and effective teaching is a vital component of education.

2.12 TRANSFER OF LEARNING

Our old Vedic system and the Greek system of education give notion to transfer of learning. It is emphasised that mind need to be trained in all facilities to enable learning of new knowledge from the previously trained manner to get knowledge. It was considered that memorisation, chanting, geometric etc. play a crucial role in training the mind to memorise. It was William James (1890) who made attempts to tests and found that practice memorising Milton's paradise Lost did not produce any improvement in memorising French poetry.

We need to learn in order to prepare ourselves perform effectively in many tasks of our life. We learn different things on various subjects. On the basis of their utility and wide applicability based on subjects and objectives, an individual use the learned knowledge, skills, tasks and information to solve problems in life. This learning occurs not only from life situations but also through education from our pre-primary to higher education. It could be formal or informal.

Many psychologist and educators have had many different theories concerning the subjects that should be included in the curriculum to make the students learn all the basic skills essential to their life. They believe that subjects such as mathematics, English language and science etc. would help the learners more in sharping the intellect of the students. Ex. Learning of mathematics helps a learner to solve problems in physics. Learning the skill of driving a car helps the learner in driving a bus. From these examples we could know how learning or training in one situation influences our learning or performance in some other situations. This influences are usually refers to the carryover of learning from one task to another. This carry- over of knowledge could be termed as 'transfer'. Transfer of learning happens when the application of skills, habits, attitudes, interest etc. from situation in which

they were initially acquired to some other situations for which they were not specifically learned.

Definitions:

"Transfer of learning occurs when a person's learning in one situation influences his learning performance in other situations".-B.L. Bigge (1964).

"Transfer of learning means that experience and performance on one task influences performance on some sequent task".-H.C. Ellis (1965).

"Transfer of learning is the effect of some particular course on learning or execution of a performance such effect may be of a helpful nature or it may hinder" -K. Lovell (1970).

Types of Transfer of learning:

Transfer is said to have eight types namely positive transfer, negative transfer, zero transfer, lateral transfer, sequential transfer, horizontal transfer, vertical transfer and bilateral transfer.

a. Positive transfer: It refers to the transfer of previously learned knowledge, skill or experience to a new learning situation in a positive way. Ex: Skill in riding a bicycle helps or facilities learning to ride a motor bike.

b. Negative transfer: It refers to the transfer of hindrance of previously learned knowledge skill or experience to a new learning situation. Ex: Mother language hinders learning a foreign language.

c. Zero transfer: It refers to neither influence nor obstruction of previously learned knowledge skill or experiences to a new learning situation. Ex: Learning to dance neither helps nor hinders driving a car.

d. Lateral transfer: It refers to the transfer of knowledge and skills learned specifically in school, applied by a child in a learning situation outside the school. Ex: A child who was taught the concept of 'addition' or 'subtraction' in the context of beads or blocks or other subjects in the classroom by the teacher, could be able to apply the learned knowledge of the same in real life or outside the school situations like paying money to buy things in a shop or counting the appropriate time in a non-digital clocks.

e. Sequential transfer: It refers to the transfer of ideas in a sequential manner to get knowledge in a broad discipline. Ex: In our school curriculum, the contents of the subjects are arranged in a sequential manner, so that an idea taught today will have some relation to an idea to be taught tomorrow and both ideas will have some relationship to the ideas taught the next day.

f. Horizontal transfer: It refers to the transfer of knowledge and ideas where the learner stays within the same behavioural category in making the transfer. Lateral and sequential transfers are called horizontal transfer.

g. Vertical transfer: It refers to the transfer of learning that implies facilitating the higher behavioural level by the lower level of learning in a vertical manner.

h. Bilateral transfer: It refers to the transfer of learning that takes place when training imparted to one lateral automatically to another lateral, human body could be divided into two laterals; right and left. Ex: The classical experiment of mirror drawing test.

Areas of Transfer of learning:

The scope of transfer of learning is very wide. Some of the important areas of transfer of learning areas under as;

i) Transfer from knowledge to knowledge
ii) Transfer from knowledge to skill
iii) Transfer from knowledge to behaviour
iv) Transfer from attitude to attitude
v) Transfer from attitude to behaviour.

2.13 TEACHING FOR TRANSFER OF LEARNING

Transfer of Learning or transfer of knowledge or transfer refers to learning in one context and applying it to another, i.e. the capacity to apply acquired knowledge and skill to new situations, 'transfer of training is of paramount concerns for training research efforts there is a growing concern over the "transfer problem". There are three kinds of transfer: from prior knowledge to learning to new learning, and from learning to application" (Simons, 1999). The issues of transfer of learning are the central issue in both education and learning psychology. There is a probably a subtle difference between transfer of learning that address what is learnt in the classroom and transfer of learning that address the general issue of

applying knowledge to new situation. Transfer of knowledge is very much related to the problem of knowledge integration, knowledge application and knowledge use in "the real world".

Teaching of transfer of knowledge could attempt from the following instructional strategies.

Principles of instruction: The first Principles of instruction is attempt by M. David Merrill to identify fundamental invariant principles of good instruction design, regardless pedagogic strategy .it can be used both as an instructional design model and as evaluation grid to judge the quality of a pedagogical design.

The demonstration principle: Learning is promoted when learners observe a demonstration

The application principle: Learning is promoted when learners apply the new knowledge

The active principle: Learning is promoted when learners active prior knowledge or experience.

The task-centered principle: Learning is promoted when learners engage in a task-centered instructional strategy.

Check Your Progress 3

1. Point out the principles of learning.

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2. Mention the areas of transfer of learning.

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3. What is known as zero–transfer of learning?

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2.14 LET US SUM UP

In this Unit we have examined the needs of the learners and the dimensions of differences in learners according to the physical, cognitive, affective, psychomotor and socio cultural aspects. The learning style was described in the view of Neil Fleming's VARK model. The learning style of the learners could be identified so that the teacher could make out strategies for implementing appropriate teaching style for better outcome of teaching – learning process. The instructional objectives were discussed with the proposed theory of Bloom's taxonomy. The principles and significance of learning were examined in detail.

The teaching skills are explained with the four C's namely Creative thinking skills, Critical thinking skills, Communication skills and Collaborating skills of the evolving teachers. The principles and the significance of learning were elaborately explained. The knowledge gained from one situation of learning implemented to another situation of life is known as transfer of leaning. The types of transfer of learning were described and the strategies of teaching for transfer of teaching were also briefly explained.

2.15 ANSWERS TO 'CHECK YOUR PROGRESS'

Check Your Progress 1

1. Learner's characteristics can categorised under personal, academic, social and emotional, and/or cognitive aspects in nature.

2. Identifying and acknowledging learner needs is a powerful facilitation skill that the teachers and the students need at the start of any learning process. The insights gained can be used to customize instructional strategies that enable learners to reach and exceed personal as well as curricular objectives.
3. The four major learning styles are
    a. Auditory style
    b. Visual style
    c. Reading and Writing style

d. Kinesthetic style

Check Your Progress 2

1. Write down the mentioned points on the challenges of the evolving teachers in the text (2.6).
2. The abilities of creative skills are analysing, arguing, classifying, comparing and contrasting, defining, describing, evaluation, problem solving, tracking.
3. Some of the teaching skills that could be mentioned are Interactive skills, Confidence, Organizational skills, Team work, Conflict management, Motivation, Empathising with the students, Evaluation and Feedback.

Check Your Progress 3

1. The principles of learning are principles of primacy, principles of recency, principle of intensity, principle of freedom and principle of requirement.
2. The important areas of transfer of learning areas under as;
    a) Transfer from knowledge to knowledge.
    b) Transfer from knowledge to skill.
    c) Transfer from knowledge to behaviour.
    d) Transfer from attitude to attitude.
    e) Transfer from attitude to behaviour.
3. Zero transfer of learning refers to neither influence nor obstruction of previously learned knowledge skill or experiences to a new learning situation. Ex: Learning to dance neither helps nor hinders driving a car.

2.16 UNIT END EXERCISES

1. Explain the characteristics of the learners.

2. Explain the dimensions of differences in learners.

3. Discuss the teaching and the learning styles.

4. Point out the factors affecting learning.

5. Discuss the relationship between teaching and learning.

2.17 SUGGESTED READINGS

1. Benjamin S. Bloom et al. (1964) : *Taxonomy of educational objectives.* Longman Group.
2. Bruce Joyce (1985) : *Models of teaching* (2nd ed.). Prentice Hall.
3. Ebel, R.L. & Freshie, D.A. (2009). : *Essentials of educational measurement.* New Delhi: PHI Learning.

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UNIT 3 - THEORIES OF LEARNING

Structure

3.1 INTRODUCTION

The adaptability of man's adjustment to diverse environments and the impressive achievement in all the fields of life was accomplished by his learning capacity. Learning is said to occur whenever one adopts new behavior patterns or attitudes. The mechanism of behavior involved in the learning process is explained by Theories of Learning. Psychologists have formulated different theories of learning with the result that it is not possible to give a theory which satisfies learning needs of all the people.

Theory is defined as "a provisional explanatory proposition or a set of propositions, concerning some natural phenomena and consisting of symbolic representation of the observed relationships among the independent and dependent variables, the mechanisms or structures presumed to underlie such relationships or inferred relationships and underlying mechanisms intended to account for observed data in the absence of any direct empirical manifestations of the relationships" – Melvin H. Marx (1970) .

What happens in a learning process? How does an individual learn concepts, skills, habits, interests, attitudes and similar other changes in life? How learning in one area is transferred to other area? What are the ways of motivating pupils to learn? In this Unit, we are going to meet with these questions and find out answers which will be useful in knowing about the learning process.

3.2 OBJECTIVES

After learning this unit, you will be able to

- describe the theories of learning;
- elucidate the behaviorists, cognitive and humanist perspectives of learning;
- state the importance of learning theories ;
- list out the implications of learning theories in classroom;
- identify the need for reinforcement, rewards and punishments in the learning process.

3.3 BEHAVIORIST PERSPECTIVES OF LEARNING

Behaviorism was founded by John B. Watson in the early part of the 20th Century. This was the earliest formulation of a coherent theory of learning, at least in modern Western society. A variety of perspectives emerged over the next few decades including the work of Thorndike, Tolman, Guthrie, Hull, Skinner and others.

From the behaviorist perspective, three assumptions are held to be true. First, the focus was on observable behavior rather than on internal cognitive processes. If learning has occurred, then some sort of observable external behavior is apparent. Second, the environment is the modifier of learning and behavior, not individual characteristics. Third, principle of contiguity and reinforcement are central to explaining the learning process.

The behaviorist orientation is fundamental to much current educational practice, including adult education. Skinner believed the ultimate goal of education was to train individuals to behaviors which would ensure their personal survival, as well as the survival of cultures and the species. The teacher's role in this perspective is to provide an environment that elicits the desired behaviors and extinguishes the undesirable ones.

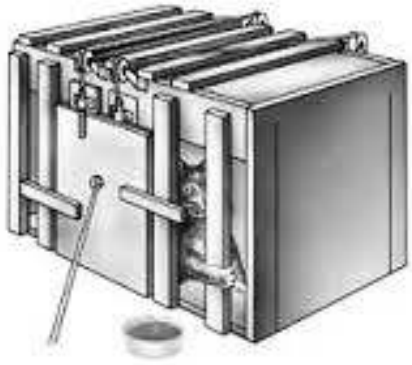
Educational practices which have these notions at their core include systematic design of instruction, behavioral and performance objectives, programmed instruction, competency-based instruction, and instructor accountability, training for skills and vocations are particularly heavily saturated with learning and being reinforced for "correct responses and behaviors".

3.4 TRIAL AND ERROR - THORNDIKE

E. L. Thorndike (1874-1949) was the chief exponent of the theory of Connectionism or Trial and Error. The basis of learning accepted by Thorndike is an association between the sense, impressions and impulses to action. This association came to be known as a 'bond' or a 'connection'. Since it is these bonds or connections which become strengthened or weakened in the making and breaking of habits, Thorndike's system is some-times called a 'bond' psychology or simply 'connectionism'. As it believes in stimulus and response type of learning it is also called S. R. Psychology of learning. Thorndike called it learning by selecting and connecting. It is also known as Trial and Error theory as learning takes place through random repetitions.

3.4.1 Experiment

Once he locked a hungry cat in puzzle box and showed a meat outside. The ultimate aim of the hungry cat was to obtain the meat. The cat could come outside only when it opens the door by removing the latch, but it was unaware as to how to remove the latch. The cat did not know how to remove the latch at first but it involved in random activities like scratching the box, trying to bend the bars and stretching the feet outside. At last in its random activities it lifted up the latch and obtained the meat. He repeated the experiments and found out that the cat released the latch itself easily. The cat realized association between lifting of the latch and opening of the door. The random activities are called errors. Finally he concludes that the numbers of trails will reduce the wrong responses and finally correct response is found. Hence, a



bond is established between stimulus and correct response through elimination of wrong responses.

3.4.2 Laws of Learning

Thorndike draws three laws of learning:

Law of Readiness:

If a bond is ready for its establishment, it has to give satisfaction but not annoyance. If a learner has to learn an action or activity he should be mentally and physically fit for the action he desired. His mental set should have the capacity to do the work. A two year boy cannot be admitted in the school since he is not matured enough. A child of one year cannot speak since his vocal cards, larynx are not grown enough. Hence, maturity is essential.

Law of Effect:

If the result of the bond created between stimulus and a response leads to happiness it will strengthen the bond and if he result is contrary the bond will be weakened. A child will be in a happy mood if he finds out correct answers from his mathematical exercises but will be unhappy if the answers are wrong. If a student passes his examination he will feel happy and he will be unhappy if he fails. "Nothing succeeds like success". This proverb is applicable to this law. This law is also called "**law of stratification and annoyance or reward and punishment".**

Law of Exercise*:*

The bond of stimulus and a response will get strengthened if it is repeated. It will lose its strength if the bond is not repeated. The law of exercise emphasizes that "Practice make a man perfect". This law of exercise is also known as "Law of use and disuse".

3.4.3 Concepts and Principles

1. *Learning involves trial and error or selection & connection:* In the experiment, the cat tried for correct response by stamping in and out, attempted to reach the meat. Selection and connection of proper responses to connect or associate them with adequate stimuli, Example:

Subsequent trials, cat tried to avoid the erroneous moves and to repeat the correct manner manipulating the latch.

2. Learning is the result of formation of connections: Mind is associated with the connection in the nervous system between stimuli and response. Mind is man's connection system where there is association between senses, impressions, impulses and actions. This association may be strengthen or weaken resulting in making or breaking habits. This type of association is known as connectionism or bond psychology.

3. Learning is incremental, not insightful: Learning performance depends on number of trial or opportunities. Increase in number of trial or practice performance gradually improves known as incremental performance. Such type of learning is called incremental learning. Example: Solution of a problem does not strike the mind of the animal at one & the time an animal needs to find a solution to a problem depends on the number of trials it get to solve it.

4. Learning is direct not by ideas: Learning is direct not mediated ideas reasoning or thinking. Learning is simple mechanical phenomenon a process of establishing a simple a connection between sensory stimuli and appropriate responses. Example: That cat does not look over the situation, much less think it over, and then decide what do it. It burst out once into the activities helped by instincts & experiences.

3.4.4 Classroom Implications

Thorndike's Theory of trial and error and laws of learning have great educational significance. Thorndike's findings have made the learning purposeful and goal directed. Trial and error, coupled with insight will make the process of learning more effective, important educational implications are:

i. This theory substantiated that readiness is preparation for action which is very essential for learning. If the child is ready to learn, he learns more quickly, effectively and with greater stratification than if he is not ready to learn. He warns us not to make the child learn till he is ready to learn and also not to miss any opportunity of providing learning experiences if he child is, already prepare to learn. The right movements concerning the learning situation and the learner's state of mind should be very well recognized and

maximum use of this knowledge should be made by the teacher. He should also make an attempt to motivate the students by arousing their attention, interest and curiosity.

ii. The law of effect emphasizes the role of rewards and punishment in the process of learning. Getting reward as a result of some learning motivates and encourages the child to proceed on the same path with more intensity and enthusiasm while the punishment of any sort discourages him and creates distaste and distraction towards that learning.

iii. In the teaching – learning process, the teacher try to strengthen the bonds and connections between the stimuli and the responses those things which are to be remembered by the learners. This could be done through drill, repetition and reward. For forgetting he should make attempts to weaken the connections through disuse and annoying elements. \

iv. Repetitions in learning strengthen the connections in achieving the goal which could be achieved by rewarding the correct responses.

v. The child should be encouraged to do his work independently by the strengthening effect of rewards rather than weakening effect of punishment.

3.5 CLASSICAL CONDITIONING – PAVLOV

In 1904, Russian psychologist lvan Pavlov, during his experimental work on dog's digestive process, accidentally noticed the secretion of saliva in the dog on the sight of food or hearing the footsteps of the caretaker. Conditioning can be defined as "a process in which a neutral stimulus which is not associated with any specific natural response, on pairing with a natural stimulus acquires all the characteristics of natural stimulus." for example, if food is presented, saliva flows. Food is the 'natural stimulus' (or unconditioned stimulus-U.C.S.) that can elicit the 'natural response' (or unconditioned response-U.C.R) salivating'. The sound of a bell which is a neutral stimulus, not associated with any specific response originally, when paired with food a number of times, acquires the characteristics of food and starts eliciting the response of salivation, even when presented alone. Now we say the dog has been conditioned to the sound of bell and we refer the bell sound as 'conditioned stimulus' (C.S.) and salivation as 'conditioned response' (C.R.). Classical conditioning of Pavlov is also called 'stimulus substitution' because

we substitute a neutral stimulus, through the process of ‘contiguity’ (occurrence of two events in quick succession).

3.5.1 Experiment

A hungry dog was brought into a laboratory and food was shown. The sight of food is smell of the food made the dog salivate. The amount of saliva secreted was measured. The real experiment started. At one stage before offering the food, the small sound of bell was given to the dog. When a number of trials continued like this, the dog salivated even without seeing the food but by just hearing the bell. This is because the dog made an association or connection between the sound of the bell and the arrival of food. The sequence is as follows:

Food (US)	Salivation (UR)
Bell (CS)	Listening
Bell (S1) (CS) + Food (S2) (US)	Salivation (UR)
Bell (CS)	Salivation (CR)

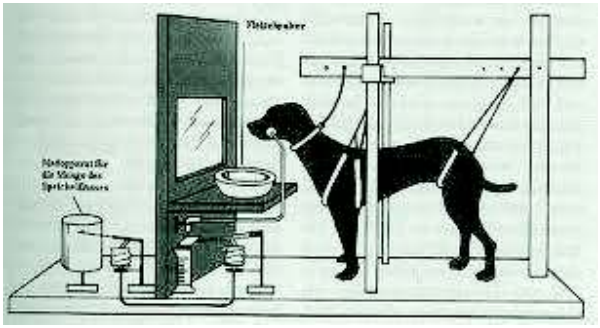
Where,

US means Unconditioned Stimulus i.e. natural

CS means Conditioned Stimulus i. e. artificial

UR means Unconditioned Response

CR means Conditioned Response



Experiment for Pavlov’s Classical conditioning

Conditioning means making a connection between an artificial stimulus and natural response. This becomes possible because a connection is made between an artificial stimulus and a natural stimulus.

3.5.2 Concept and Principles

i) Principle of Acquisition:

Acquisition is the initial stage of learning when a response is first established and gradually strengthened. For example, imagine that you are conditioning a dog salivate in response to the sound of a bell. You repeatedly pair the presentation of food with the sound of the bell. You can say the response has been acquired as soon as, you can gradually reinforce the salivation response to make sure the behavior is well earned.

ii) Principle of Extinction:

Extinction is when the occurrences of conditioned response degrease or disappear. In classical conditioning, this happens when a conditioned stimulus is no longer paired with an unconditioned stimulus. For example, if the smell of food (unconditioned stimulus) had been paired with the sound of a whistle (conditioned stimulus), it would eventually come to evoke the conditioned response of hunger. However, if the unconditioned stimulus (the smell of food), were no longer paired with the conditioned stimulus (the whistle), eventually the conditioned response (hunger) would disappear.

iii) Principle of spontaneous recovery:

Spontaneous recovery is the reappearance of the conditioned response after a rest period or period of lessened response. If the conditioned stimulus and unconditioned stimulus are no longer associated, Extinction will occur very rapidly after a spontaneous recovery.

iv) Principle of Stimulus Generalization:

Stimulus generalization is the tendency for the conditioned stimulus to evoke similar response after the response has been conditioned. For example, if a child has been conditioned to fear a suffered white rabbit, the child will exhibit fear of objects similar to conditioned stimulus.

v) Principle of Discrimination:

Discrimination is the ability of differentiate between a conditioned stimulus and other stimuli that have not been paired with an unconditioned stimulus. For example, if the bell tone were the

conditioned stimulus, discrimination would involve being able to tell the difference between the bell tone and other similar sounds.

3.5.3 Classroom Implications

1) Classical conditioning is used in language learning by associating words with picture or meanings.
2) It can be used to develop favorable attitude towards learning, teacher's subjects and the school.
3) Developing good habits in children such as cleanliness, respect for elders, punctually, etc. through the use of conditioning.
4) Breaking of bad habits and elimination of conditioned fear, through the use of reconditioning process.

3.6 OPERANT CONDITIONING - B. F. SKINNER

Prof. Skinner started his research work on behavior while he was a graduate in the department of psychology of the Harvard University. In 1931, he wrote his thesis entitled, *The Concept of the Reflex in Description of the Behavior*. Skinner was a practical psychologist who conducted several experiments on rats on pigeons. He popularized 'teaching machines' in learning in 1954.

3.6.1 Experiment

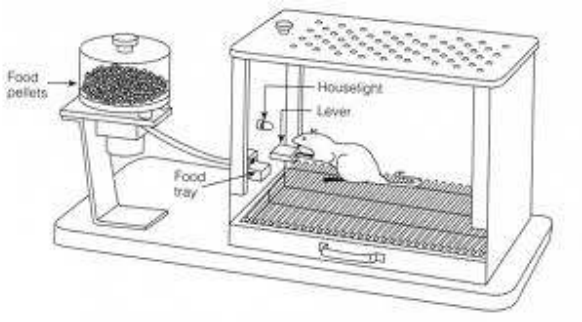
Skinner at first tested this theory with rats. Later, he experimented the test with pigeons. With bar and a food tray he constructed a puzzle box and drove a hungry rat into the puzzle box.

The hungry rat wandered here and there and pushed the bar. The bar and the food tray had its connections. When the rat pushed the bar down a food pellet fell into the tray and it ate the food. The rat learned the task of pressing to get food on needs from which we can understand that reinforcement is needed to achieve a task.

In experiments on pigeons a pigeon was rewarded with a food pellet when it approached a disc and pecked it. Skinner was able to shape even the behavior of birds.

In the theory of skinner's operant conditioning, giving correct response is more important. This type of conditioning is called instrumental conditioning since the response is

instrumental in drawing unconditioned stimulus. Here stimulus's is only one. In Pavlov's classical conditioning theory, we have two conditioned stimuli which precede the response whereas in Skinner's operant conditioning theory. It is one unconditioned stimulus which come later, desired response is reinforced by unconditioned stimulus.



An illustration showing Skinners Classical conditioning theory

3.6.2 Concepts and Principles

i) Positive reinforcement

Skinner showed how positive reinforcement worked by placing a hungry rat in his skinner box. The box contained a lever on the side and as the rat moved about the box it would accidently knock the lever. Immediately it did so a food pellet would drop in to a container next to the lever. The rat quickly learned to go straight to the lever after a few times of being put in the box. The consequence of receiving food if they pressed the lever ensured that they would repeat the action again. Positive reinforcement strengthens a behavior by providing a consequence an individual finds rewarding.

ii) Negative reinforcement:

The removal of an unpleasant reinforce can also strengthen behavior. This is known as Negative reinforcement because it is the removal of an adverse stimulus which is "rewarding" to the animal or person. Negative reinforcement strengthens behavior because it stops or removes an unpleasant experience.

iii) Punishment (weakens behavior)

Punishment is defined as the opposite of reinforcement since it is designed to weaken or eliminate a response rather than increase it .it is an adverse event that decreases the behavior that it follows.

3.6.3 EDUCATIONAL IMPLICATIONS

i. For developing the motivation in the students for classroom work by reinforcement like praise, blames, grades etc., should be used.
ii. Skinner's principles of learning focus attention on the individual's pace of learning. Teaching machines and the programmed learning system have been devised on the basis of the theory of learning founded by skinner.
iii. In the classroom, the principle of immediacy of reinforcement is very important. Praise for a job done well given immediately can be a stronger reinforce or motivator than a grade given much latter.
iv. The schools should practice the principle of operant conditioning namely to destroy the elements of fear from school atmosphere by using positive reinforcement.
v. Desired behaviors of students should be reinforced at once to increase the likelihood or reoccurrence of the behavior in future. Each step of the behavior is to be reinforced.

Check Your Progress – 1

1. State the laws of learning.

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2. Mention the principles of Pavlov's classical conditioning theory.

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3. Who popularized ‘teaching machines’ in learning?

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4. Point out the classroom implications of classical conditioning theory.

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3.7 COGNITIVE PERSPECTIVES OF LEARNING

We learnt the behaviorists’ perspectives of learning and the theories supporting its insights. The next perspective of educational psychology is the cognitive perspective. Cognitive psychology is the theoretical perspective that focuses on learning based on how people perceive, remember, think, speak, and problem solve. The Cognitive perspective differs from the behaviorist perspective into two distinct ways. First Cognitive psychology acknowledges the existence of internal mental states discharged by behaviorist. Examples of these states are belief, desire, ideas and motivation (non-observable states).second cognitive psychologist claim memory structures determine how information is perceived, processed, stored, retrieved and forgotten. Cognitive psychology encompasses perception, categorization, memory, knowledge representation, language and thinking process.

The major cognitive psychologist you should be familiar with includes Jean Piaget who developed Piaget's theory of Cognitive Development and Stages of Cognitive Development. Lev Vygotsky, best known for his Socio Cultural Development theory; Noam Chomsky, referred to as the father of modern linguistics; and Jerome Bruner, who coined the term ‘scaffolding’.

3.8 INSIGHT LEARNING - KOHLER

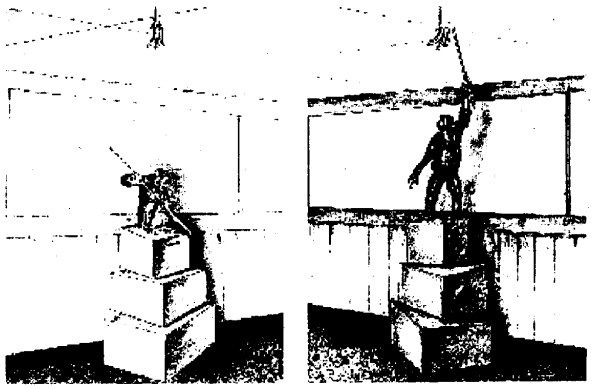
This theory is related to the cognitive type of theory of learning. It was developed by Gestalt psychologist. The main exponents are Wolfgang Kohler, Kurt Koffka and Max Wertheimer.

This theory advocates that when a particular situation is being learnt, it does not help to learn it in parts but it helps to learn its whole. Learning is an exploratory, purposive and creative

activity but not a trial and error method of activity. Learning means, 'Reorganization of the perceptual field". Learning is dependent upon intelligence of the individuals.

3.8.1 Experiment

Wolfgang Kohler conducted experiments through Chimpanzees in a laboratory at Canary Islands. He conducted the following experiments based upon box-problems and some others on stick problems. He inserted hungry Chimpanzees (Sultan) in a cage and hung bananas at the ceiling and paced a stick and a wooden box inside. It tried to catch the banana by standing on the box but it could not. The hungry Chimpanzees sat in a corner and tried to grasp the situation by analyzing hoe to takes the bananas. A student insight appeared in its mind and it jumped at the top of wooden box and hit the bananas with the help of stick.



An illustration of Kohler's Insight Learning Theory

Instead of the above method, Kohler also conducted the various experiments by placing the bananas outside the box and placing two sticks inside the box and by removing the wooden box.

The results of the experiment are:

i. Learning is achieved not only by trial and error method but on the Chimpanzee's intelligence.
ii. The whole situation has to be understood along with the inner relations involved therein. One can solve the problem through the experience gained.

3.8.2 Classroom Implications

i. Learning and teaching should be in total and not in part
ii. The learner should be motivated by arousing the interest and curiosity to well acquaint with the specific aims and purposes of the learning process
iii. The teacher should adhere to inter-disciplinary approach in teaching
iv. Learning should be in an intelligent from and not in a mechanical form

3.9 DISCOVERY LEARNING BY BRUNER

Discovery Learning is the active process of inquiry based instruction that encourages that learners to build on prior knowledge through experience and to search for new information and relationships based on their interests.

Bruner was one of the founding fathers of constructivist theory. Bruner theoretical framework is based upon the theme that learner construct new ideas or concepts based upon existing knowledge. Learning is an active process. Bruner‘s theory emphasis the significance of categorization in learning. “To perceive is to categories, to conceptualize is to categories, to learn is to form categories to make decisions is to categories”. Interpreting information and experiences by similarities and differences is a key concept.

3.9.1 Theory

Four features of Bruner’s theory of instruction.

1. Predisposition to learn: This feature specifically states the experiences which move the earner toward a love of learning in general, or of learning something in particular. Motivational, cultural and personnel factors contribute to this. Bruner emphasized social factor and early teachers and parents influence on this. He believed learning and problem solving emerged out exploration. Part of the task of a teacher is to maintain and direct a child’s spontaneous explorations.

2. Structure of knowledge: It is possible to structure knowledge in a way that enables the learner to most readily grasp the information. This is a relative feature, as there are many ways to structure a body of knowledge and many preferences among learners. Bruner offered considerable detail about structuring knowledge.

Understanding the fundamental structure of a subject makes it more comprehensible. Bruner viewed categorization as fundamental process in the structuring of knowledge. The discrepancy between beginning and advanced knowledge in a subject area is diminished when instruction centers on a structure and principles of orientation. This means that a body of knowledge must be in a form recognizable to the student's experience.

3. Modes of representation: The representations could be visual, words, symbols.

4. Effective sequencing: Every learner adheres to sequencing according to their individual differences in learning. Sequencing can make learning and lack of sequencing could make the learning process difficult. Form and pacing of reinforcement:

Categorization:

Bruner gave much attention to categorization of information in the construction of internal cognitive maps. He believed that perception, conceptualization, learning, decision making, and making inferences all involved categorization.

Bruner suggested that a system of coding in which people from a hierarchical arrangement of related categories. Each successively higher level of categories becomes more specific, echoing Benjamin Bloom understands of knowledge acquisition as well as the related idea of instructional scaffolding (Bloom's Taxonomy).

Categories are "rules" that specify four things about objects.

1. Critical attributes required characteristics for inclusion of an object category.
2. The second rule prescribes how the critical attributes are combined.
3. The third rule assigns weight to various properties.
4. The fourth rule sets acceptance limits on attributes.

There are several kinds of categories:

Identity categories-categories include objects based on their attributes or features. equivalent categories (provide rules for combining categories. equivalence can be determined by affective criteria, based on related functions(for example, "car" "truck" "van" could all combined in an exclusive category called "motor vehicle") or by formal criteria, for example by science,

law or cultural agreement. For example, ‘an apple’ is still ‘an apple’ weather it is green, ripe, dried etc (identity), it is food (functional) and it is a member of a botanical classification group (formal).

Coding systems are categories serve to recognize sensory input. They are major organizational variables in higher cognitive functioning. Going beyond immediate sensory data involves making inference on the basis of related categories. Related categories form a “coding system”. These are hierarchical arrangements of related categories.

Application:

Burner emphasized four characteristic of effective instruction which emerged from his theoretical constructs.

1. Personalized: instruction should relate to learners. Predisposition, and facilitate interest toward learning.
2. Content structure: content should be structured so it can be most easily grasped by the learner.
3. Sequencing: sequencing is an important aspect for presentation of material
4. Reinforcement: rewards and punishment should be selected and paced appropriately.

Intellectual development

Bruner postulated three stages of intellectual development.

- The first stage he termed “Enactive”, when a person learns about the world through actions on physical objects and the outcomes of these actions.
- The second stage was called “Iconic” where learning can be obtained through using models and pictures.
- The final stage was “Symbolic” in which the learner develops is the capacity to think in abstract terms. Based on this three stage notion, Burner recommended using in a combination of concrete, pictorial then symbolic activates will lead to more effective learning.

Types of discovery learning

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

3.9.2 Classroom Implications

- Actively engages students learning process
- Motivates students to participates
- Encourages autonomy and independence
- Promotes the development of creativity and problem – solving skills
- Provides an individualized learning experience.

3.10 DEVELOPMENTAL THEORY - PIAGET

The most influent exponent of cognitivism was Swiss child psychologist Jean Piaget. Piaget rejected the idea that learning was the passive assimilation of given knowledge. Instead, he proposed that learning is a dynamic process comprising successive stages of adoption to reality during which learners actively construct knowledge by creating and testing their own theories of the world.

3.10.1 Theory

Piaget's theory has two major parts: an "ages and stages" component that predicts what children can and cannot understand at different ages and a theory of development that describes how children develop cognitive abilities. It is the theory of development that will be the focus here because it is the major foundation for cognitive constructivist approaches to teaching and learning.

Piaget's theory of cognitive development proposes that humans cannot be "given" information which they immediately understand and use. Instead, humans must "construct" their

own knowledge. They build their knowledge through experience. Experiences enable them to create "Schemas"-mental models in their heads. The schemas are the representation in the mind of a set of perceptions, ideas and actions which go together. These schemas are changed, enlarged and made more sophisticated through two complimentary processes given below

i. Assimilation - The process by which a person takes material into their mind from the environment, which may mean changing the evidence of their senses to make it fit.
ii. Accommodation –The difference made to one's mind or concepts by the process of assimilation.

The basic principle underlying Piaget's theory is the principle of equilibration:

All cognitive development including both intellectual and affective development progresses towards increasingly complex and stable levels of organization. Equilibration takes place through a process of adoption, that is, assimilation of new information to existing cognitive structures and the accommodation of that information through the formation of new cognitive structures.

For example, learners who already have the cognitive structures necessary to solve percentage problems in mathematics will have some of the structures necessary to solve-time-rate-distance problems, but they will need to modify their existing structures to accommodate the newly acquired information to solve the new type of problem. Thus, learners adapt and develop by assimilating and accommodating new information into existing cognitive structures. It should be noted that assimilation accommodation goes together.

Piaget suggested that there are four main stages in the cognitive development of children as follows,

i. The Sensory motor stage (0 – 2 yrs)
ii. The Preoperational stage (2 to 7 yrs)
iii. The Concrete Operational stage (7 to 12 yrs)
iv. The Formal Operational stage (12 yrs and above)

i. The Sensory motor stage (0-2yrs)

In the first two years, children pass through a sensory motor stage during which they progress from cognitive structures dominated by instinctual drives and undifferentiated emotions to more organized systems of concrete concepts, differentiated emotions, and their first external affective fixations. At this stage, children's outlook is essentially egocentric in the sense that they are unable to take into account other's point of view.

ii. The Preoperational stage (2 to 7 yrs)

The second stage of development lasts until around seven years of age. Children begin to use language to make sense of reality. They learn to classify objects using different criteria and to manipulate numbers. Children's increasing linguistic skills open the way for greater socialization of action and communication with others.

iii. The Concrete Operational stage (7 to 12yrs)

Children at this point of development begin to think more logically, but their thinking can also be very rigid. They tend to struggle with abstract and hypothetical concepts. At this point, children also become less egocentric and begin to think about how other people might think and feel. They begin to understand that their thoughts are unique to them and that not everyone else necessarily shares their thoughts, feelings and opinions.

iv. The Formal Operational stage (12 yrs and above)

From the age of twelve to adolescent, the final stage of Piaget's theory involves an increase in logic, the ability to use deductive reasoning and an understanding of abstract ideas. At this point, people become capable of seeing multiple potential solutions to problems and think more scientifically about the world around them.

3.10.2 Educational Implications

- Focus on the process of children's thinking ,not just its products
- Recognition of the crucial role of children's self-initiated, active involvement in learning activities
- Emphasis on practices aimed at making children adult like in their thinking
- Acceptance of individual differences in developmental progress

3.11 SOCIAL LEARNING - BANDURA

The social learning theory proposed by Albert Bandura has become perhaps the most influential theory of learning and development . While rooted in many of the basic concepts of traditional learning theory, Bandura believed that direct reinforcement could not account for all types of learning. While the behavioral theories of learning suggested that all learning was the result of associations formed by conditioning, reinforcement and punishment, Bandura's social learning theory proposed that learning can also occur simply by observing the actions of others.

His theory added a social element, arguing that people can learn new information and behaviors by watching other people. Known as observational learning (or modeling), this type of learning can be used to explain a wide variety of behaviors.

3.11.1 Theory

There are three concepts at the heart of social learning theory. First is the idea that people can learn through observation. Next is the notion that internal mental states are an essential part of this process. Finally, this theory recognizes that just because something has been learned, it does not mean that it will result in a change in behavior.

Let us explore each of these concepts in greater depth.

1. People Can Learn Through Observation
2. Observational Learning

In his famous Bobo doll experiment, Bandura demonstrated that children learn and imitate behaviors they have observed in other people. The children in Bandura's studies observed an adult acting violently toward a Bobo doll. When the children were later allowed to play in a room with the Bobo doll, they began to imitate the aggressive actions they had previously observed.

Bandura identified three basic models of observational learning:

1. A live model, which involves an actual individual demonstrating or acting out a behavior.
2. A verbal instructional model, which involves descriptions and explanations of a behavior.

3. A symbolic model, which involves real or fictional characters displaying behaviors in books, films, television programs, or online media.

Bandura noted that external, environmental reinforcement was not the only factor to influence learning and behavior. He described *intrinsic reinforcement* as a form of internal reward, such as pride, satisfaction , and a sense of accomplishment. This emphasis on internal thoughts and cognitions helps connect learning theories to cognitive developmental theories. While many textbooks place social learning theory with behavioral theories, Bandura himself describes his approach as a ‘ social cognitive theory’.

The Modeling Process:

Not all observed behaviors are effectively learned. Factors involve both the model and the learner can play a role in whether social learning is successful. Certain requirements and steps must also be followed. The following steps are involved in the observational learning and modeling process.

a) Attention: In order to learn, you need to be paying attention. Anything that distracts your attention is going to have a negative effect on observational learning. If the model interesting or there is a novel aspect to the situation , you are far more likely to dedicate your full attention to learning.

b) Retention: The ability to store information is also an important part of the learning process. Retention can be affected by a number of factors, but the ability to pull up information later and act on it is vital to observational learning.

c) Reproduction: Once you have paid attention to the model and retained the information, it is time to actually perform the behavior you observed. Further practice of the learned behavior leads to improvement and skill advancement.

d) Motivation: Finally, in order for observational learning to be successful, you have to be motivated to imitate the behavior that has been modeled. Reinforcement and punishment play an important role in motivation. While experiencing these motivators can be highly effective, so can observing other experience some type of reinforcement or punishment. For example, if you

see another student rewarded with extra credit for being to class on time, you might start to show up a few minutes early each day.

3.11.2 Classroom Implications

i. Students learn a great deal simply by observing others.
ii. Describing the consequences of behavior increases appropriate behaviours, decreasing inappropriate ones; this includes discussing the rewards of various behaviours.
iii. Modeling such as attention, retention, motor reproduction and motivation provides an alternative to teaching new behaviours.
iv. Students must believe that they are capable of accomplishing a task; it is important to develop a sense of self- efficacy.
v. Teachers should help students set realistic expectations; ensure that expectations are realistically challenging.
vi. Self-regulation techniques provide an effective method for improving student behaviours.

3.12 SOCIAL CONSTRUCTIVISM THEORY - VYGOTSKY

The psychologist, Lev Vygotsky shared many of Piaget's views about child development, but he was more interested in the social aspects of learning. Vygotsky differs from discovery learning, which is also based on Piaget's ideas, in that the teacher and older children play important roles in learning. He argued that all cognitive functions originate in, and must therefore be explained as products of social interactions and that learning was not simply the assimilation and accommodation of new knowledge by learners; it was the process by which learners were integrated into a knowledge community.

The teacher is typically active and involved. The classroom should provide variety of learning materials (including electronic) and experiences and the classroom culture provides the child with cognitive tools such as language, cultural history and social context.

The Zone of Proximal Development (ZPD) is a concept for which Vygotsky is well-known. It refers to the observation that children, when learning a particular task or body of information, start out by not being able to do the task. Then they can do it with the assistance of an adult or older child mentor, and finally they can do it without assistance. The ZPD is the stage

where they can do it assisted, but not alone. Thus the teacher often serves to guide a child or group of children as they encounter different learning challenges.

Vygotsky's observations led him to propose a complete relationship between language and thought. He observed egocentric speech and child monologues such as Piaget wrote about, as well as internal speech. He proposed that speech (external language) and thought have different origins within the human individual. He described thought as non- verbal, and speech as having a pre-intellectual stage, in which words are not symbols for the objects they denote, but are properties of the objects. Up to about age two, they are independent. After that thought and speech become connected. At this point, speech and thought become interdependent, and thought becomes verbal. Thus, children's monologues become internalized as internal dialog.

Vygotsky differed from Piaget in that he considered development after age 2 as at least partially determined by language. He believed that egocentric speech serves the function of self- guidance, and eventually becomes internalized. It is only spoken aloud because the child has not yet learned how to internalize it. He found that egocentric speech decreased when the child's feeling of being understood diminished, as when there was no listener or the listener was occupied with other matters. These ideas, while intriguing, have never been adequately researched, so it is difficult to evaluate their significance.

3.12.2 Classroom Implications

i. Learning and development is a social , collaborative activity
ii. The Zone of Proximal Development can serve as a guide for curricular and lesson planning.
iii. Classroom activity should be reality – based and applicable to the real world.
iv. Learning extends to the home and other out –of – school environments and activites and all learning situations should be related.

Check Your Progress – 2

1. Name the familiar cognitive psychologists with their propounded theory.

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2. Who are the main exponents of Gestalt's psychology?

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3. What are the classroom implications of insight theory.

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4. What are the stages of intellectual development by Bruner?

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5. Point out the four stages of cognitive development by Piaget.

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3.13 HUMANIST PERSPECTIVES OF LEARNING

Humanistic "theories" of learning tend to be highly value – driven and hence more like prescriptions (about what ought to happen) rather than descriptions (of what does happen). The school is particularly associated with Rogers, Abraham Maslow, John Holt and MalcolmThey emphasize the "natural desire" of everyone to learn. Whether this natural desire is to learn whatever it is you are teaching, however, is not clear.

- It follows from this, they maintain, that learners need to be empowered and to have control over the learning process.

- So the teacher relinquishes a great deal of authority and becomes a facilitator.

3.13.1 Learner – Centered Approach

Learner – centered approach also known as student –centered approach involves the methods of teaching that shifts the focus of instruction from the teacher to the learner. It aims to develop learner autonomy and independence by putting responsibility for the learning aims to develop learner autonomy and independence by putting responsibility for the learning by the learner himself. It focuses on skills and practices that enable lifelong learning and independent problem-solving. This approach and practice are based on the constructivist learning theory that emphasizes the learner's critical role in constructing meaning from new information and prior experiences.

Carl Roger's notions about the formation of the individual also contribute to this learner – centered learning. It means inverting the traditional teacher-centered understanding of the learning process and putting the learners in the centre of the learning process. Roger emphasized that significant learning is acquired through doing. The concept is placing a teacher closer to a peer level to the learner as peer-to-peer interaction can lead to an abundance of knowledge through collaborative thinking.

In learner - centered approach, the learners choose what they will learn, how they will learn and how they will assess their own learning. Here the teacher as a facilitator acts the passive role and the learners acts the active role, contrast to the traditional teacher - centered approach.

3.13.2 Classroom Implications

- The learners should be provided with rich educational environment
- Teacher should be a facilitator of learning, guiding and nurturing the learners in order to build their talent
- The relationship between the learner and the teacher should be positive
- Curriculum should be new and modern
- Teacher should be an active listener
- Education should nurture rather than construct learners.

Check Your Progress – 3

1. Name the psychologists who supported humanist perspectives of learning.

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2. Who propounded learner – centered approach of learning?

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3.14 LET US SUM UP

In this Unit, we have examined different theories of learning and learning approaches. Factors affecting learning like learner's cognitive abilities, previous experiences and the content of the subject determine the method of learning preferred by the learner. In order to enable the learner to learn by their own learning style, the teacher should have the knowledge of different learning theories as well as their classroom implications. The contribution of these theories had their impact on the process of teaching and learning. Each of the approaches in the learning theories has added something to the understanding of the learning process which is so complex. A thorough understanding of the different phases and various types of learning could be brought by getting a in-depth knowledge of the various approaches of the different learning theories.

The Behaviorist, Cognitivist school of psychology was explained by illustration of important theories advocated by renowned psychologists' belonged to that particular school of psychology. Also this Unit covered the humanist perspectives of learning, illustrated by the learner – centered approach put forth by Carl Rogers. The process of teaching and learning could be made more effective and efficient by combining all the described approaches rationally

3.15 ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress – 1

1. The three laws of learning are
   i. Law of Readiness,

ii. Law of effect
iii. Law of Readiness.

2. The principles of Ivan Pavlov's classical conditioning theory are

i. Principle of Acquisition

ii. Principle of Extinction

iii. Principle of spontaneous recovery

iv. Principle of Stimulus Generalization

v. Principle of Discrimination

3. The practical psychologist Ivan Pavlov popularised 'teaching machines' in learning.

4. The educational implications of classical conditioning theory are

i. Develops motivation in the student class work by reinforcement like praise, blame, grade etc.,
ii. Focuses on individual's space of learning
iii. Emphasizes on principles of immediacy of reinforcement
iv. Practice of operant conditioning theory principles to destroy the elements of fear from school atmosphere.

Check Your Progress – 2

1. The cognitive psychologists were Jean Piaget – Theory of cognitive development AND Stages of Cognitive Development, Lev Vygotsky – Socio Cultural theory, Noam Chomsky – Modern Linguistic theory, Jerome Bruner – Scaffolding.

2. The main exponents of Gestalts' psychology were Wolfgang Kohler, Kurt Koffka and Max Wertheimer.

3. The classroom implications of insight theory are
   i. Learning and teaching should be in total and not in parts.
   ii. The learner should be motivated by arousing the interest and curiosity to well acquaint with the specific aims and purposes of the learning process.
   iii. The teacher should adhere to inter-disciplinary approach in teaching.
   iv. Learning should be in an intelligent from and not in a mechanical form.
4. The three stages of intellectual development by Bruner are – Enactive – Iconic – Symbolic.

5. The four stages of cognitive development by Piaget are
   i. The Sensory motor stage (0 – 2 yrs)

ii. The Preoperational stage (2 – 7 yrs)
iii. The Concrete Operational stage (7 – 12) yrs
iv. The Formal Operational stage (12 yrs and above)

Check Your Progress – 3

1. The psychologists who supported humanists' perspectives of learning are Rogers, Abraham Maslow, John Holt and Malcolm.

2. Learner – centered approach was propounded by Carl Rogers.

3.16 UNIT-END ACTIVITIES

1. Describe classical conditioning and operant conditioning theories. Assess the educational significance of each.
2. State which theory appeals to you most. Give reasons in support of your answer.
3. Compare S- R theories and cognitive field theories.
4. Describe the dimensions of mental development of children and their educational implications.

3.17 SUGGESTED READINGS

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UNIT IV - PROCESS OF TEACHING

Structure

4.1 INTRODUCTION

Teaching is an integral part of the process of education. It is a system of actions intended to induce learning. Its special function is to impart knowledge, develop understanding and skill. In teaching an interaction occurs between the teacher and the students, by which the students are diverted towards the goal. Thus the sole element of teaching is the mutual relationship or the interaction between the teacher and the students which students towards advances the goal. Teaching can be considered as the art of assisting another to learn by providing the information and appropriate situations, conditions or activities. It is an intimate contact between a more mature personality and a less mature one which is designed to further the education of later.

You are familiar with the concept of learning and the required skills for teaching. In this Unit, you are going to examine the concept of teaching, its aspects as a profession, art and science and clarify the distinctions between instruction, training and teaching. As teachers play the vital role in the process of teaching, the different roles of teachers in the process of teaching and learning and their functions in the classroom, school and community is also discussed here.

4.2 OBJECTIVES

After studying this Unit, you will be able to,

- explain the meaning of teaching
- examine teaching as a profession
- gain knowledge about the professional commitment of teachers
- distinguish between teaching, instruction and training
- bring out the role of teachers in the teaching learning process
- point out the functions of teachers in classroom, school and community.

4.3 CONCEPT OF TEACHING

Teaching is a complex, goal oriented; multifaceted activity. Teaching and learning are the set of events that are designed to bring about behavioral changes in instruction. It is an event that happens outside the learners supports the internal process which modifies the behavior of an individual through learning. Hence, teaching is an internal process of learning.

Psychologist found different concepts of the process of teaching. Those who see learning as a process of conditioning define teaching in terms of what teachers do in various stimuli of their environmental. Psychologists who see learning as an individual's personal discovery of meaning emphasis teaching as procedure designed to involve learners in defining their own purpose and problems and in formulating and testing plans for achieving those purposes and solving those problems.

Teaching is a process which usually takes place in the classroom situations. It is a formal process through which the teacher interacts with the students to give what he/she wants the learners to learn according to their learning needs. It is a systematic way to attain some pre-determined goal. Teaching is to cause motivation to learn and to fill the minds of the learners by information knowledge of facts. It imparts understanding of concepts and basic life skills.

The role of the teacher in the teaching – learning process can be categorized as follows

- Traditional Role – Teacher - Centred
- Modern Role - Facilitator (Student – Centred)

There has been a change from the traditional role to the modern role in the present context. The learning increases when the teacher builds on the previous experience of the student. However, individual's learning differs and each individual learns at his or her own pace. Thus, effective learning is to a great extent based on experiences. Direct experiences are student - centred and the teacher should carefully design and organize the contents for direct and indirect experiences of learning.

4.3.1 Teaching as a Profession

Teachers' involvement of intellectual competence, the ability to perform all their skilled service upon which continued functioning of modern society depends therefore we can say the meaning thereby that teaching is a profession. Effective teacher provide the students opportunities for learning. Teacher facilitates the interaction among the students. Teacher organizes to construct the knowledge. In short, teaching is effective to the extent that the teachers' art in ways that are favourable to the development of basic skill, understanding, work habits, desirable attitudes, and value judgments of students. Teaching profession is related to teaching job. The profession can be started at job—role of teaching. Teaching profession requires education and training and attitudes toward his students. Teaching is

considered as a noble profession. There are several professions which have different job roles.

Characteristics of a profession:

- It has long term education and training for a job-role.
- It should cater the needs of the society and the nation.
- There should be social accountability.
- There should be some ethical norms or considerations.
- There should be a professional association.
- There should be autonomy and self regulations.
- There should be freedom to charge reasonable fee for the service.

4.3.2 Teacher as a professional

Teaching as a profession implies that a candidate who has joined teaching, he should take it us vocation that he has the aptitude of teaching. Teaching skills can be developed with the help of feedback devices. It involves more than job skill and aptitude teaching. There are some ethical considerations and social accountability and responsibility. He should look like a teacher and behave like teacher. It should be an ideal person of society as his students follow or imitate to a teacher. He is an architect of young generation. Education is the creature and creator of the society. Education is the powerful instrument for social change and social control. Thus a teacher has the great responsibility of a society as well as the nation. Teaching as a profession consist of teaching aptitude, teaching skills, social responsibility programme these factors should be included and awareness can be about provided about the teaching profession.

i) Professional commitment:

- Teacher should have the professional commitment and enthusiasm for accomplishing their responsibilities as well as their duties.
- They should give priority to his professional commitment and development.
- The teacher should be enthusiastic towards his teaching and teaching programmes.
- Teacher should have emotional tie with his students. He should provide educational guidance to his students.
- Teacher should have a positive out-look and sympathetic attitude toward his children.

- Teacher should try to understand his students with regard to their abilities, capacities, needs, aims, weakness and their level of aspirations and beliefs because there is a great variation among the student, knowledge, expression and rapid change in the society.

ii) Professional norms:

The human behaviours are relative; therefore group behaviours are the frame of reference. The norms indicate acquired behaviours or attainable behaviours. Similarly every profession has group of workers. They are required to behave and act in specific manner. The average behaviour s of profession is known as professional norms. It is basis for assessing the job predominance of an individual. The professional behaviour is the manifestation of the aptitude required for the jobs.

There are most essential qualities for performing a job successfully but other characteristics are significant for a profession

- Code of conduct of a profession or values.
- Terms and conditions for the profession.
- Roles, responsibilities and duties.
- Attitude, values and beliefs for the professional values. The professional norms are specific but has wide field to develop. Every professional group has own code of conduct, roles and responsibilities.

iii) Professional ethics:

Professional ethics give a certain set of broad principles, derived in turn from a spectrum of values which are arrived at after deep philosophical reflection on the mature and role of the profession in the life of mankind. The teaching profession has slowly evolved a code of conduct and Professional ethics is in the offering. The profession is lagging behind other profession in this respect because the philosophy of education, being one of the oldest branches of philosophy, was learnt and taught by every philosopher who invariable was teacher. Therefore the teaching profession should have taken the leads in the matter of offering its own professional and arriving explicitly at a code of professional ethics. It does not mean that the teaching profession has not any ethical basis. The professional ethics has to the following components;

- Roles and responsibilities of a school teacher
- Functions and duties of a teacher
- To follow the norms of teaching or teacher council.
- To follow the values, beliefs and ideals of a teacher
- To follow the terms and conditions of teaching procession.

In our context teacher has wide responsibilities and considered to be an ideal for the student as well as to the society. The following code may suggest which each teacher should understand and should try to adapt as his professional ethics.

Attitude towards students - It shall be our primary duty to understand to be just, courteous, to promote a spirit of enquiry, fellowship and joy in them to do are say anything that would determine their personality, not to exploit them for personal interest and to test before them a high standard of character, discipline and personality.

Attitude towards profession - It shall be our primary duty to be sincere and honest our work and to go thoroughly prepared to the class, to endeavour to maintain our efficiency by study and other mean; not to do say anything which may lower our prestige in the eyes of our students; not to write or encourage the use of help-books; not to exact any pressure upon our students their engage private tuition, not to act as an agent or accept commissions and other compensation for recommending books.

Attitude towards society - It shall be our primary duty to set an example in citizenship, to endeavour to promote the public good, to uphold the dignity of our calling on all occasion's .to size up the demands and aspirations of the society, to be dynamic leaders when required and to be ideal followers when desired.

Teacher's union- Teachers' union can also play a very significant role in creating an atmosphere in which shirkers and other people with doubtful intentions may not find a congenital environment. Union should create a public opinion which should serve as an adequate sanction against such unsocial acts. Now teachers unions are merely used as a forum for ventilating their grievances and otherwise trying to promote service conditions. In addition, these unions should also take steps which may help the teachers in projecting their proper image among the people.

4.3.3 Teaching as an Art and Science

The teaching is considered to an art because it involves skill to dissimilate language, to maintain the interest and attain of the learner and the decide handling of the problems of the learners to modify his behaviour.

The teaching is an applied science because it incorporates systematic and methodological approach. The system and method, the experimentation and trial, the probing and ensuing are the basis of teaching leaning process hence we can say that teaching is definitely a science.

4.4 DISTINCTION BETWEEN INSTRUCTION, TRAINING AND TEACHING

i) Instruction:

- Instruction is suggesting directions in the teaching – learning process
- Instructions are systematically designed action in a classroom
- It is to adopt a specific method of teaching to attain the goal
- It is for specific as well as broader area
- It differs according to the goals and needs of the learners
- It is telling how something is done
- It may not be based on individual differences on learning
- It deals with varied instructional materials that enhances learning
- It may ends in the learning process inside a classroom
- Instructions may not be possible in informal education
- Teacher – centred learning
- It should be strictly followed to accomplish a particular task.

ii) Training:

- Training is by instruction, disciple or drill
- It is practical oriented
- It is to make prepared for a test of skill
- It covers a specific area of skill
- It trains the shape of habits of an individual
- It stresses on skills and abilities of a learner
- It is a subset of teaching

- It enhances skills and abilities in a short period of time
- It focuses on an intensive information on a specific domain
- Training is related to functional area
- It could be on pre-service or in-service phases
- It imparts the hidden talents and skills of an individual

iii) Teaching:

- Teaching is more complex in nature
- It is theoretical oriented
- It is to impart knowledge
- It covers broader area of knowledge
- It fills the cognitive, affective and psychomotor domains of learning
- Teaching is a methodically planned activity in a classroom
- It varies according to the learner's learning style
- It is explaining how something is done
- It is based on individual differences on learning
- It deals with different techniques, strategies and approaches that facilitate learning
- It is a never ending process
- It takes place on both formal and informal education
- Learner- centred learning
- It may not be strictly followed to accomplish a task.

Check Your Progress – 1

1. What do you know about the concept of teaching?

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2. Explain how teachers could develop professional commitment.

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3. Differentiate ‘instruction’ from ‘training’.

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4.5 PHASES OF TEACHING

Teaching is a complex task. For performing this task, a systematic planning is needed. Teaching is to be considered in terms of various steps and the different steps constituting the process are called the phases of teaching.

The process of teaching can divide into three phases:

i) Planning phase of teaching

ii) Execution Phase of teaching

iii) Reflection Phase of teaching

4.5.1 Planning Phase of teaching

Pre-Teaching consists essentially of the planning of a lesson. The planning of lesson needs to be seen in the broader terms, not merely the designing of a lesson plan. Planning includes identifying the objectives to be achieved in terms of a lesson plan. Planning includes identifying the objectives to be achieved in terms of students learning, the strategies and methods to be adapted, use of teaching aids and so on. It is the planning phases of instructional act. 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

i) selection of the content to be taught

ii) organization of the content

iii) justification of the principles and maxims of teaching to be used

iv) selection of the appropriate of methods of teaching

v) decide about the preparation and usage of evaluation tools.

Suggested activities in the planning phases of teaching are

- Determining goals/ objectives: First of all, the teacher determines the teaching objectives which are ten defined in terms of expected behavioural changes. Thus he ascertains the teaching objectives and what changes he expects in the students by achieving those objectives. These objectives are determined according to the psychology of the pupil and needs of the school and society, in the form of entering behaviours of the pupils and in the form of terminal behaviours of the students.

- Selection of the content to be taught: after fixing the teaching objectives, the teacher makes decisions about the content which is to be presented before the pupils and as result he wants to bring the changes in their behaviours. This decision is taken by the teacher by considering the following points-

  a) Level need and importance of the curriculum proposed by the teacher for the students.

  b) The expected terminal behaviour of the students and the level and mode of motivation be used for the students should be considered by the teacher in the planning phase.

- Selection of appropriate instrument and methods: The teacher should use to evaluate the knowledge related to the content.

- Sequencing the elements for presentation: After making selections regarding the contents to be presented to the students, the teacher arranges the elements of contents in logical and psychological manner, so that this arrangement of content may assist in transfer of learning.

- Selection about the instructional methodology: After sequencing the contents, the teacher makes decisions regarding the proper methods and strategies by keeping in view the contents, entering behaviour and the level of the students.

- How and when of teaching strategies: Decision making regarding the teaching methods and strategies for presenting the sequenced contents to the students is not sufficient. So the teacher should also decide how and when he will make use of the previously selected method and strategy during the classroom teaching.

4.5.2 EXECUTION PHASE OF TEACHING

The second phase includes the execution of the plan, where learning experiences are provided to students through suitable modes.

As instruction is the complex process by which learners are provided with a deliberately designed environment to interact with, keeping in focus pre-specified objective of bringing about specific desirable changes. Whether instruction goes in a classroom, laboratory, outdoors or library, this environment is specifically designed by a teacher so that students interact with certain specific environmental stimuli, like natural components (outdoor). Ex. Looking for information from books, certain equipment (laboratory) etc.

Learning is directed in pre-determined directions to achieve certain pre-specific goals. This does not, however, mean that, in the pre-determined environment no learning other than what a teacher has decided upon as instructional objectives does not takes place. The variety of experiences that students go through with a teacher, among them- selves provide learning opportunities. All those activities which are performed by a teacher after entering in a lass are clubbed (to combine together) under interactive phase of teaching. Generally these activities are concerned with the presentation and delivery of the content in a class. The teacher provides pupil verbal stimulation of various kinds, makes explanations, ask questions, listen to the student's response and provide guidance.

The following activities are suggested in the interactive phase of teaching

Sizing up of the class: As the teacher enters the classroom, first of all the teacher perceives the size of class. The teacher throws his eyes on all the pupil of the class in a few moments and comes to know the pupils who can help him in his teaching and the pupils who can create a problem for him as a result of his perception. In the same way, the students can feel the personality of the teacher. Hence at this stage, the teacher should look like a teacher. The teacher should exhibit of course in a veiled manner all those characteristics which are supposed to be present in good teacher. In nut- shell the teacher should appears as an efficient and impressive personality.

Knowing the learner: After sizing up the class, the teacher makes effort to know how many new comers or pupils have previous knowledge about the subject to be taught. He tries to know the abilities interests and attitudes and academic background of learners.

The teacher starts teaching activities after diagnosing by questioning regarding action and reaction; two types of activities are involved here in the teaching-

i. Initiation

ii. Response

Both these activities are known as verbal interaction. Both of these activities occur between the teacher and the students. In other words, when a teacher performs some activities, the student reacts or when students perform some activities, the teacher reacts.

The teacher performs the following activities in order to analyze the nature of verbal and non verbal interaction of teaching activities-

Selection and presentation of stimuli

The teacher should select the appropriate stimulus as soon as the situation is created for desired activities. After selecting the stimuli, the teacher should present them before the students. The teacher should present that form of the stimulus which can motivate the students for learning. During such presentation of stimuli, the teacher should keep in mind the form context and order of the stimuli.

Feedback and Reinforcement

Feedback or reinforcement is that condition which increases the possibility for accepting a particular response in future. In other words, the condition which increases the possibility of occurrence of a particular response is termed as feedback or reinforcement.

These conditions may be of two types which are as follows-

i) Positive reinforcement: these are the conditions which increase the possibility of recurrence of desired behaviour or response.

ii) Negative reinforcement: these are the conditions which increase the possibility of recurrence of undesired behaviour or response is decreased, such as punishment or reprimanding etc.

Reinforcement is used for three purposes such as

i. strengthening the response

ii. for performing the response

iii. modifying or correcting the response deployment of strategies; the teaching activities are directly related to the learning conditions.

Therefore, at the time of interaction the teacher produces such activities and conditions by the reinforcement strategies which affect the activities of the pupils. The development of the teaching strategies turns the pupil-teacher interaction impressive. From the very moment, the teacher starts the teaching task and till the movement that task goes on, the verbal and nonverbal behaviours of the pupils are controlled by the reinforcement strategies and cooperates in presenting the contents in an impressive way.

Deployment of strategies, selection and presentation of stimuli

The deployment of the teaching strategies, three areas should be considered as follows

i. presentation of subject manner

ii. levels of learning

iii. Level or context of learners their background, needs, motivation, attitudes, cooperation and opposition. In the interactive stage, these activities are carried on not only by the teacher, but also carried by the students. The students also feel about teacher and diagnose his personality as a teacher. In order to be impressed themselves and to improve the teaching they deploy the various strategies by selecting the different stimuli.

Operations at the execution phase:

This second phase of teaching is concerned with the implementation and carrying out what has been planned or decided at the planning stage. It is the stage for actual teaching.

Major operations in this phase are-

i. Perception

Interaction process demands an appropriate perception on the part of teacher as well as the students. When a teacher enters the class, his first activity is concerned with a perception of classroom climate. He tries to weight himself, his abilities for teaching against the class group. Similarly students also tries to have perception of the abilities, behaviour and personality characteristic of the teacher.

ii. Diagnosis

A teacher tries to access the achievement level of his students with regards to their abilities, interest and aptitude. The teacher can ask several questions to know how far students know about topic.

iii. Reaction process

Under this stage teacher observes the students that how they response to the teacher's questions. The student has to learn the prober way of teaching and responding to the various stimuli and teaching techniques presented to it. This phase is responsible for establishing appropriate verbal and non verbal classroom interaction between teacher and pupils.

4.5.3 REFLECTION PHASE OF TEACHING

The Reflection phase is the one that involves teacher's activities such as analysing evolution 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 instruction period.

The reflection phase concerns with the evolution activities. This can be done in number of ways including tests or quizzes or by observing student's reaction of questions, comments, structures and in structured situations.

In this phase as the teaching task sums up, the teacher asks the questions from the pupil, verbally or in written form, to measure the behaviour of the pupils so that their achievements may be evaluated correctly. Therefore, evaluation aspect includes all those activities which can evaluate the achievement of the pupils and attainment of the objectives. Without evaluation teaching is an incomplete process. It is related with both teaching and learning. The following activities are suggested in the post - active phase of teaching

- Defining the exact dimensions of the changes caused by teaching
- Selecting appropriate testing devices and techniques.
- Changing the strategies in terms of evidence gathered.

i. Defining the exact dimensions of the changes caused by teaching

At the end of the teaching, the teacher defines the exact dimensions of changes in the behaviour as a result of teaching; this is termed as criterion behaviour. For this that teacher compares the actual behavioural changes in the maximum numbers of pupils, he concludes that his teaching strategies and tactics worked effectively with the help of which teaching objectives have been achieved.

ii. Selecting appropriate testing devices and techniques

The teacher select those testing devices and techniques to compare the actual behavioural changes with the desired behavioural change with the desired behavioural change which are reliable and valid and which can evaluate the cognitive and non cognitive aspect of the pupil therefore criterion test are more preferred than the performance tests.

iii. Changing the strategies in terms of evidence gathered

While, by using the reliable and valid testing devices, the teacher gets the knowledge regarding the performances of pupils and attainment of objectives on one hand, and on the other hand he also gets clarity regarding his instruction, teaching strategies and tactics. He also come to know about the require modification in the teaching strategies and situation along with the drawbacks of his teaching in order to achieve the teaching objectives. In this way, through evaluation the teaching activities are designed and these can be made effective by necessary modification and changes in them.

Check Your Progress -2

1. What is the planning phase in the process of teaching?

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2. State the need for reinforcement in the interactive phase of teaching.

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3. What are the activities in the post – active phase of teaching?

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4.6 ROLE OF TEACHER IN TEACHING LEARNING PROCESS

Teaching is viewed as a comprehensive process, and there has been a tremendous change in the way of understanding teaching and a teacher's roles.

4.6.1 Teacher as a Model

Teachers typically do not think of themselves as role models, however inadvertently they are. Students spent a great deal of time with their teacher and therefore, the teacher becomes a role model to them. This can be a positive or negative effect depending on the teacher. Teachers are there not only to teach the children, but also to love and care for them. Teachers are typically highly respected by people in the community and therefore become a role model to students and parents.

Teacher serve as role models not only when they teach students or while they perform their duties, but also when they fulfill their role as a teacher in the classroom .teacher play a significant role of model in both learner - centred and teacher - centred learning process. The good teacher in any other profession like physician or an engineer can describe in a lecture to a class of students their approach to the problem being discussed in a way that captures the importance of the subject and the choices available. The teacher has a unique opportunity to share some of the magic of the subject with the students. They can kindle, in the students a curiosity and quest for a better understanding of the topic and the relevant to their subject by their own personnel example that is difficult to reproduce in an instructional text or computer programme.

Teachers are expected to be morally upright individuals who display good characters they are expect to teach and discipline their students to be respectful of authority and responsible in their learning process. As teacher interact with students, it is vital for them to serve as role models of characters by making professional judgments and decision based on societal and moral virtues. Teachers with character serve as role models for telling the truth, respecting others, accepting and fulfilling responsibilities, being honest learning.

4.6.2 Teacher as a Facilitator

The interaction between the teacher and the learner in a teaching – learning process plays an important in making teaching as an active process. The modern academic world has introduced constructivism, which emphasizes inquiry based learning making teaching learner – centred. In this concept, the learners have become the prime focus of all the teaching learning activities in the classroom. Here learners play the role of active participant in the teaching learning process and teacher conduct classes based on experiment and practice using simulation, role – play, dramatization, strip story, group work, pair work, elicitation and project work. Hence, teachers are more popularly known as facilitators.

Teaching and learning in the old paradigm was considered as a task in which instructors were assumed as an expert and they were supposed to transfer knowledge to students. But at present, it is considered differently as a complex job. Now a teacher is not a source of knowledge but a facilitator. These days, an instructor is also considered as an inspirer who is supposed to inspire learners by creating a favourable environment. The knowledge is constructed by learners from experiences; the instructor needs to "be a guide on the side, rather than a sage on the stage". If teaching is a professional job, facilitating is the role of the teacher.

According to constructivists, who believe in the Vygotsky's social development theory, learners play an active role in learning. It indicates that now the focus of teaching has been shifted from a teacher – centred environment of "transmitting" to a more collaborative student – centred learning environment where discovery and inquiry are key strategies for learning. Teacher's role is to help students to construct meaning rather than provide the meaning they know or familiar with. As there are students having mixed ability in a single classroom, interaction is essential in which one can help others.

4.6.3 Teacher as a Negotiator

One of the most important skills teachers need for classroom management is negotiation. Teachers and students have very different relationship than in past generations. The relationship between the teachers and the students' gets stronger if the student feel like they are being heard and respected as teachers teach and model good communication skills to students. Learning the art of negotiation can make the classroom a place of constant learning

enriched with teaching and learning moments. The teachers could develop and utilise their skill of negotiation

a) With students
b) Between students
c) With parents
d) With other professionals

a) *Negotiating with students*: Learning to negotiate with students through all of their emotional ups and downs helps teachers to stay balanced, focused and in control. Establishing clear policies, procedures and expectations at the beginning of each term will help cut down on conflicts. Conversations with positive language skills, asking learners to response about their feelings about a problem, letting the students to gain some control of their own problems are some of the tactics to help in negotiation with students.

b) *Negotiating between students*: Conflicts in the classroom often arise between students and teachers can find themselves mediating to keep control. Modelling strong negotiating skills along the way prepare when conflicts need to be dealt with. In some cases the help of the counsellor may be sought.

c) *Negotiating with parents*: Teaching requires good communication skills, including when negotiating with parents when they feel their child has been treated unjustly. Communicating with parents at any time, providing them e-mail address for providing information about their wards and to ensure all students have equal opportunities to get information for successful progress.

d) *Negotiating with other professionals*: Negotiation skills are important for teachers when communicating with other teachers while sharing classrooms, multipurpose rooms, computers and other resources. Teachers should keep the professional relationship positive and encouraging. Teachers should encourage and respect others in the opportunities to negotiate and solve problems.

4.6.4 Teacher as a Co-learner

The role of teachers in the changing environment of science and technology has been transmitted to transmitter or facilitator of textual materials including electronic resources emphasizing technology knowledge and skills. Here the teachers' role is different as "co – leaner" rather than information provider. Apart from implementing various models and approaches of teaching, the teachers should be ready to move ahead instead of staying ahead with the students and the colleagues of dynamic learning communities around the world. The digital age teaching professional must demonstrate a vision of technology infusion and develop the technology skills of others.

Five indicators of teachers for being a co-learner

1. *Facilitate and inspire student learning and creativity:* Teacher's use subject matter and technology to facilitate experiences that advance student learning, creativity, innovation, inventiveness, reflection, conceptual understanding and thinking, planning and creative processes.
2. *Design and develop digital age learning experiences and assessments*: Teachers develop and evaluate technology – enriched learning and assessments by incorporating the latest tools and resources to maximize learning and develop knowledge, skills and attitudes.
3. *Model digital age work and learning:* Teachers exhibit knowledge, skills and work representative of an innovative professional in a global and digital society.
4. *Promote and model digital citizenship and responsibility:* Teachers understand the responsibilities and risks in an evolving digital culture and exhibits legal and ethical behaviour in their professional practices.
5. *Engage in professional growth and leadership:* Teachers continuously improve their professional practice, model lifelong learning and promote effective use of digital tools and resources.

4.6.5 Teacher as a Reflective Practitioner

Reflective teaching means looking at what you do in the classroom, thinking about why you do it, and thinking about if it works – a process of self – observation and self – evaluation. Every teacher has a professional responsibility to be reflective and evaluative about their practice. As a result of this reflection teachers will be able to indentify how to improve their

professional activity in order to improve the quality of the learners' learning. Reflection causes teachers to evaluate what happened and why; it encourages teachers to try out new ideas and promote changes in learner's learning behaviour.

Reflective partnerships between teachers are particularly effective. Peer mentoring partnership will support individual teachers in reflection on and describing their practice. As a result of these focussed discussions a teacher is able to better understand practice and be able to take steps to improve practice. A further extension of this formative analysis is for the peer partnership to engage in supported school – based enquiry. An enquiry may relate to individual teacher or whole school practice; the issue or question to be investigated may become the focus for a piece of collaborative action research. The teacher should collect information about what goes on in the classroom and by analysing and evaluating the information, the teacher should identify and explore their own practices and underlying beliefs. Thus changes and improvements in teaching may be made.

4.6.6 Teacher as a Classroom Researcher

The concept of teacher as researcher (also called "teacher-researcher") is that idea that classroom teachers on conduct their own studies to improve 5their teaching practices (Creswell, 2005). This is an important outgrowth of action research. Some educational experts believe that the increasing emphasis on the teacher –as - teacher reinvents the teacher's role fuels schools renewal and improves teaching and student learning.

It is increasingly that the most effective teachers routinely ask questions and monitor problems to be solved, then collect data, interpret them and share their conclusions with other teachers (Cochran-smith, 1995).To obtain information, the teacher- researcher uses methods such as participant observation, interviews, and case studies. One good, widely used technique is the clinical interview, in which the teacher makes student feel comfortable, shares beliefs and expectations and asks questions in a nonthreatening manner. Before conducting a clinical interview with a student, the teacher usually will put together a targeted set of questions to ask. Clinical interviews not only can help you obtain information about a particular issue or problem but also can provide you with a sense how children think and feel.

In addition to participation observation the teacher might conduct several clinical interviews with a student, discuss the student's situation with the child's parents, and consult with a school psychologist about the student behavior. Based on this work as teacher-

researcher, the teacher may be able to create an intervention strategy that improves the student's behavior. Thus learning about educational research methods not only can help you understand the research that educational psychologist conduct but also another practical benefit.

4.7 FUNCTIONS OF A TEACHER IN CLASSROOM, SCHOOL AND COMMUNITY

Teachers play vital roles in the lives of the student in their classrooms. Teachers are best known for the role of educating the students that are placed in their care. Beyond that, teachers serve many other functions in the classroom. teacher function as a planner of activities and instructions, source of knowledge, creator of classroom setting environment, as role model, a supporter of student interaction, mentor in the classroom.

Planner of activities and instructions: Teachers play multiple roles as a planner of activities and classroom instructions. They attend professional development sessions to learn the latest practices and strategies for effective teaching. They collaborate with one another to gain new ideas for teaching, planning instruction combining subjects to enhance the learning experience, they analyze test results and other data to help determine the course of their instruction and make changes in their classroom. Teachers also design lesson plans to teach the standards and provide engaging activities, while taking into account each student with the information and activities they need to master a subject. At the times, teachers act like tutors, working with small groups of students or individual students within the classroom or after class. Teacher also functions as evaluators constantly assessing students' abilities through formal and informal assessments, providing suggestions for improvement and assigning grades.

Resource of knowledge: The most common role a teacher plays in the classroom is to teach knowledge to learners. They need to follow the given the curriculum throughout the year, so that all pertinent knowledge is dispensed to the learners. Teachers teach in many ways including lectures, small group activities and hands-on learning activities.

Creator of classroom environment: The function of a teacher in a creating positive classroom environment is very important. Students often mimic a teacher's actions. If the teacher prepares a warm happy environment students environment set by the teacher can be either positive or negative. If students sense the teacher is angry, students may react negatively to

that and before learning can impaired. Teachers are responsible for the social behaviour is primarily reflection of the teacher's actions and environment provide.

Supporter of Student's Interaction: The most important function of a teacher involves interacting with learners. Teachers must be leaders in the classroom and in the school, learning the respect of students and setting a positive example. They must be disciplinarians, doing out fair and consistent punishments to students who break the rules. At the same time, teachers must show care and concern for students. Learners need support when the learner needs this help. Support can come in many forms such as a coach, leader or a counsellor .In professional circles, a teacher may even have to support other teachers leading a particular subject matter.

Mentor: Mentoring is a natural role taken on by teachers, whether it is international or not. This again can have positive or negative effects on children. Mentoring is a way a teacher encourages students to strive to be the best they can. This also includes encouraging students to enjoy learning. Part of mentoring consists of listening to students. By taking time to listen to what student say, teachers impart to students a sense of ownership in the classroom. This helps build their confidence and helps them want to be successful.

Check Your Progress - 3

1. What are the processes in which teachers could acts a facilitator of learning?

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2. Mention some skills of negotiation of the teacher.

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3. Point out the criteria to demonstrate teacher as a co – learner.

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4.8 LET US SUM UP

Teaching means teacher doing the act of teaching to make the learners learn. Instead of providing answers to learners need to learn, teachers should provide opportunities for the learners need to learn. The role of teacher is changing in smart and active learning methodologies. Teaching and learning are being modified due to innovations in education. Teachers should know the concept of teaching and know how to perform teaching.

In this unit, we explored the aspect of teaching as a profession, different phases of teaching, various roles played by the teacher in changing learning environment. Teacher imparts knowledge or skill through while facilitators create an environment where students acquire knowledge by doing activities by themselves. By being a reflective practitioner, the teacher should be able to develop their professional development activities which emphasise the teachers as a learner and also as a professional. The recent changing role of teacher has been identified as co – learner rather than a facilitator as new technologies have been making tremendous changes in the instructional strategy of teaching.

4.9 ANSWERS TO 'CHECK YOUR PROGRESS'

Check Your Progress - 1

1. Teaching is a process which usually takes place in the classroom situations. It is a formal process through which the teacher interacts with the students to give what he/she wants the learners to learn according to their learning needs. It is a systematic way to attain some pre-determined goal.

2. The teachers' could develop their professional commitment by
   i. Developing enthusiasm for accomplishing their responsibilities and duties
   ii. Developing passion towards his teaching and teaching programmes
   iii. Building up an emotional tie with his students
   iv. Providing educational guidance to his students
   v. Initialising a positive out-look and sympathetic attitude toward his children.
3. Write any four differences referring to sub – section 4.4

Check Your Progress – 2

1. Planning is done for taking decision in the teaching process for the following aspects

   i. Selection of the content to be taught

ii. Organization of the content

iii. Justification of the principles and maxims of teaching to be used

iv. Selection of the appropriate of methods of teaching

v. Decide about the preparation and usage of evaluation tools.

2. Reinforcement is used for three purposes such as

iv. Strengthening the response

v. For hanging the response

vi. Modifying or correcting the response deployment of strategies; the teaching activities are directly related to the learning conditions.

3. The following activities are suggested in the post - active phase 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 evidence gathered.

Check Your Progress – 3

1. Teachers acts as facilitators in processes like simulation, role – play, dramatization, strip story, group work, pair work, elicitation and project work

2. The negotiation skills could be categorised as skill of

i. Negotiation with students

ii. Negotiation between students

iii. Negotiation between parents

iv. Negotiation between other professional

3. The criteria's that demonstrate a teacher as a co – learner are as follows

i. Facilitate and inspire student learning and creativity
ii. Design and develop digital age learning experiences and assessments
iii. Model digital age work and learning
iv. Promote and model digital citizenship and responsibility
v. Engage in professional growth and leadership

4.10 UNIT- END EXERCISES

1. Describe teaching as a profession and teacher as a professional.
2. Explain the various roles of a teacher.

3. Describe the functions of a teacher in classroom, school and community.

4.11 SUGGESTED READINGS

1. Karthikeyan, C. (2004) : *A text book of instructional technology*, RBSAE.

2. Ebel, R.L. & Freshie, D.A. (2009). : *Essentials of educational measurement*. New Delhi: PHI Learning.

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UNIT V - LEARNING ENVIRONMENT AND LEARNING ENGAGEMENT

Structure

5.1 INTRODUCTION

Effective classroom management maximizes learners' learning opportunities. Experts in classroom management report that there has been a change in thinking about the best way to manage classrooms. The older view emphasized that creating and applying rules to control learners' behaviour. The newer view focuses more on learner's needs and nurturing relationships and opportunities for self – regulation. Classroom management that orients students towards passively and compliance with rigid rules can undermine learner's engagement in active

learning, higher –order thinking, and the social construction of knowledge. Learning environment influences the learners to actively engage in meaningful learning tasks, think reflectively and critically and gain collaborative learning experiences. It enhances the interaction with their peers and with their teachers in a positive way to construct their knowledge and understanding skills.

In this unit, we will know about effective learning environment and leaning engagement, role of culture in developing responsive learning and various strategies to enhance motivation and learning.

5.2 OBJECTIVES

After studying this Unit, you will be able to

- elucidate the meaning of learning environment and learning engagement
- explain how to create positive and productive environment
- gain knowledge about development of emotional intelligence
- point out the role of culture in the educative process
- examine assisted performance, supervised discussion and reciprocal teaching

5.3 MEANING OF LEARNING ENVIRONMENT AND LEARNING ENGAGEMENT

5.3.1 Learning Environment

Every individual is supposed to spend a great deal of time in the classroom, beginning in kindergarten and extending for years beyond. The prevailing environment in the classroom influences the teaching-learning process. Learning environment includes physical, psychological and instructional atmosphere of a classroom. Learning environment in the classroom is vital to student success and impacts students in many ways. A positive learning environment is the environment in the classroom that allows students to feel comfortable and confident as learners. A negative learning environment or setting is that adversely affect student learning such as low student achievement, poor behavior, student anxiety, or depression.

The learning environment refers to the whole range of components and activities within which learning happens. The learning environment refers to the diverse physical locations, contexts, and cultures in which students learn. Since students may learn in a wide variety of settings, such as outside of school locations and outdoor environments, the term is often used as

a more accurate or preferred alternative to classroom. The term also encompasses the culture of school or class its presiding ethos and well as the ways in which teachers may organize an educational setting to facilitate learning e.g., by conducting classes in relevant learning materials, or utilizing audio, visual and digital technologies. And because the qualities and characteristics of a learning environment are determined by a variety of factors, school policies and other features may also be considered elements of a 'learning environment'.

Learning environment influences on student's learning both directly and indirectly. It includes the student engagement in what is being, belonging and personal safety. For example, learning environment filled with sunlight and stimulating educational materials would likely be considered more conductive learning than spaces without windows or decoration.

Components of an effective learning environment:

Learning environment is the most creative part of teaching. It includes the

- Characteristics of the learners
- The goals for teaching and learning
- The activities that support learning
- The assessment strategies of learning.

5.3.2 Learning Engagement

Conducive learning environment motivates the learners to engage in learning and it refers to the degree of attention, curiosity, interest, optimism and passion that learners show when they are learning or being taught. The concept of learning engagement is predicated on the belief that learning improves when inquisitive, interested, or inspire, and that learning tends to suffer when students are bored, dispassionate, disaffected. In education, the process of learning engagement indicates intellectual, emotional, behavioral, physical, cultural and social factors of the learners in the learning process. For example, a wide variety of research studies on learning have revealed connections between so called 'non cognitive factors' or 'non cognitive' skills. Ex. motivation, interest, responsibility, determination, perseverance, attitude, work habits, self regulation, social skills etc., and 'cognitive' learning results e.g., improved academic performance, test scores, information recall, skill acquisition ,etc., The concept of learning engagement typically arises

when we prioritize educational strategies and teaching techniques that address the intellectual, emotional, behavioral, physical, cultural and social factors that either enhance or undermine learning for students.

Learning engagements includes:

***Intellectual engagement*:**

To increase student engagement in a course or subject, teachers may create lessons, assignments, or projects that appeal to student interests or that stimulates their curiosity.

For example, teachers may give students more choice over the over the topics they are asked to write about where students can choose a topic that specifically interest them or they may let students choose the way will investigate a topic demonstrate what they have learned. Students may choose to write a paper, other may produce short video or audio, documentary, and still others may create a multimedia presentation.

Teacher may also introduce unit of study with a problem or question that students need to solve. For example, student might be asked to investigate the causes of a local environment problem, determine the species of an unknown animal from a few short descriptions of its physical characteristics and behaviors, or build a robot that can accomplish a specific task. In these cause, sparking student curiosity can increase "engagement" in the learning process. Learning engagement could be found in authentic learning community-based learning, differentiated learning, personalized learning and project based learning.

Emotional engagement:

Teachers could use wide variety of strategies to promote positive emotions in students that will facilitate the learning process, minimize negative behaviors, or keep students from dropping out. For example, classroom and other learning environments may be redesigned to make them more conducive to learning, teachers may make a point of monitoring student moods and asking them how they are feeling, or school programs may provide counseling, peer monitoring, or other services that generally seek to give students the support they need to succeed academically and feel positive, optimistic, or excited about school and learning.

***Behavioral engagement**:*

Teacher could establish classroom routines, use consistent cues, or assign students roles that foster behaviors more conducive to learning. For example, elementary school teachers may use cues or gestures that help young students refocus on a lesson if they get distorted. Teachers may also establish consistent routines that help student stay on task or remain engaged during a class. For example the class my regularly break up into small group or move their seats into circle for a group discussion, or the teacher may ask students on rotating basis to lead certain activities.

Physical engagement:

Teacher should use physical activities or routines to stimuli learning or interest. For example, "kinesthetic learning" refers to the use of physical motivations and activities during the learning process. Instead of asking students to answer questions aloud, a teacher might ask students to walk up to the chalkboard and answer the questions verbally while also writing the answer on the board. Teacher may also introduce short periods of physical activity or quick exercises, particularly during the elementary years, to reduce antsy, fidgety, or distracted behavior.

Social engagement:

Teachers may use variety of strategies engagement through social interactions. For example, students may be paired or grouped to work collaboratively on projects or teacher may create academic contests that student's complete in – e.g., a friendly competition in which teams of students teams of student build robots to complete specific task in the shortest amount of the time. Academic and o curricular activities such as debate teams, robotics clubs, and science fairs also bring together learning experiences and social interactions. Learning about societal problems, or participating actively in social causes, can improve learning engagement.

***Cultural engagement**:*

School may take active steps to make students from diverse cultural backgrounds. Students, families, and local cultural leaders from diverse backgrounds may be asked to speak about their experiences to students and school staff and teacher may internationally modify lessons to incorporate the history, literature, arts and perspectives of the student ethnicities and nationalities represented in their classes.

5.2.3 Creating Positive and Productive Environment for Learning

The environment of a classroom directly impacts the active engagement of the learners in the learning process. Learners need a positive environment for learning. Teachers should know some general classroom strategies for providing positive and productive environment for getting students participate and cooperate in the teaching-learning process.

***Strategies for positive and productive environment for learning**:*

The key strategies for positive and productive environment for learning are: i) Using an authoritative style; ii) Effectively managing the classroom activities; iii) Creating, teaching, managing rules and procedures; iv) Getting students cooperation in the teaching- learning process

i) An authoritative style:

The authoritative classroom management style is derived from Diana Baumrind's parenting styles. Like authoritative parents, authoritative teachers have students who tend to be self-reliant, delay gratification, get along well with their peers, and show high self- esteem. An authoritative strategy of classroom management encourages students to be independent thinkers. Authoritative teachers engage students in an effective way and show a caring attitude towards them. An authoritative style helps students become active, self- regulated learners.

The authoritative style contrasts with two ineffective strategies - Authoritarian and Permissive. The *authoritarian* classroom management style mainly focus on keeping order in classroom rather than on instruction and learning. Authoritarian teachers place firm limits and controls on students and have minimal students' interaction. Students in authoritarian classroom tend to be passive learners, fail to initiate activities, express anxiety about social comparison and have poor communication skills. The *permissive* classroom management style offers students considerable autonomy but provides them with little support for developing learning skills or managing their behaviour. Students in permissive classroom tend to have inadequate academic skills and low self- esteem.

ii) Effectively managing the classroom activities

The work on classroom management by Jacob Kounin describes that effective teachers differ from ineffective teachers not in the way they respond to learners' misbehaviour but, instead, in how competently they manage the classroom activities. The teachers should monitor the learners' behaviours in the classroom on a regular basis. Teachers should keep the flow of lesson in a way that maintains learner interest and needs. They could engage the learners in a variety of challenging activities. They should make the learners to work independently rather than being directly supervised in the learners attempt in their individualised learning styles.

iii) Creating, teaching, managing rules and procedures:

Learners should know the rules and regulations of the classroom and how they need to behave for the responsibility of their own behaviour. Rules and regulations could be focused on the general and specific expectations or standards of behaviour of the learners. For a productive classroom environment rules should not be changed but procedures could be changed according to the changes in the routine and activities of the classroom. Teachers should clearly present the reasonable rules and regulations of the classroom according to the cognitive and socio-emotional knowledge and skills of the learners to make a positive classroom environment.

iv) Getting learners' cooperation in the teaching- learning process:

The cooperation of the students to abide by the classroom rules and disciple to maintain order is very essential. There are three main strategies as: a) Developing a positive relationship with students; b) Getting students to share and assume responsibilities; and c) Reward appropriate behaviour.

a) Developing a positive relationship with students - Teachers should show care and concern towards the individual learners to accomplish their academic work which helps in getting cooperation to maintain effective classroom management. The teachers should know the needs and limitations of the students in their skills and should have an effective communication skill. The classroom atmosphere should be pleasant so that focus could be on academic work with given needed time to take break, time to read or to use computer etc. Learning methods like project method, collaborative learning would make the learners participate in better social

understanding towards one another and towards the teacher with more positive values and conflict resolution skills.

b) Getting students to share and assume responsibilities - Some experts on classroom management believe that sharing responsibility with students for making classroom decisions increases learners' commitment to cooperate in the teaching- learning process. The learners' should be involved in the planning and implementation of the school and the classroom initiatives. William Glasser (1969) in his book "Schools Without Failure" argued that class meetings can be used to deal with student behaviour problems or any issues related to the concern of teachers and learners. The students should be encouraged to judge their own behaviour.

c) Reward appropriate behaviour - Behavioural and Social Cognitive Approaches in learning theories has given importance and explanations about how rewards can be used in effective classroom management. The teacher should find out the effective individualized rein forcers to motivate the students in active classroom participation while learning. Rewards that impart information about students' mastery can increase their intrinsic motivation and sense of responsibility. However, rewards that are used to control students' behaviour are less likely to promote self-regulation and responsibility.

5.2.4 Creation of Emotionally-safe Learning Environment to Increase Learning

In a learning process, it is essential to make the learners to feel safe both physically and emotionally. It is the responsibility of the teacher to provide an environment that helps the learners feel comfortable to participate enthusiastically in the learning process. The following strategies could help to build up emotionally – safe learning environment.

Creative a positive atmosphere:

The classroom should be well ventilated and with natural lighting to create a positive environment. Arrangement of the classroom in a way to promote interaction and active student participation could bring energy and motivation towards learning. a notice board, that displays the student creative works, will encourage and inspire them to contribute more to the less.

Structured programmed:

Students would feel at ease with the curriculum and the classroom instructions if it is followed in They should be intimated about the norms and behaviors that are expected to be followed in the classroom. This would prepare them emotionally ready to get on with their routine behavior in the classroom.

Consistent model behaviour:

The teacher should be consistent in their attitudes, behavior and action towards students. Avoid outbursts of anger, harsh disciplinary methods raised voices and incentive comments as it may harm a healthy teacher student relationship. The teacher should rely on firm instructions and kind gestures and actions to convey messages to the class. Model positive behavior and provide opportunities for students to demonstrate the same. The teacher should praise and reward the students for acts of goodness and appreciate student for their behavior, effort and participation in individuals and group activities.

Promote social behaviour:

Teaching of different social behaviors is essential to the learners. Encourage learners to treat each other with respect and use appropriate communication. The teacher should instruct the learners, skills necessary for conflict resolution and also look out signs of bullying, excessive teasing etc and take necessary action to prevent the same. In a class with students from different backgrounds, it is essential that we control and maintain cohesiveness with the class. Students are motivated to perform well in a class when provided emotionally safe environment free from negative emotions and stress.

Check Your Progress - 1

1. What do you know about learning environment?

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2. What are the types of learning environment?

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3. What is meant by ‘learning engagement’?

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4. Point out some cognitive and non cognitive skills.

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5. What are the strategies for positive and productive environment for learning?

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5.4 DEVELOPMENT OF EMOTIONAL INTELLIGENCE

Psychologist’s John Mayer and Peter Salovey (1990) published the first definition of emotional intelligence as “the ability to reason with emotion”. Mayer and Salovey believed that emotional intelligence is a subset of social intelligence and is about person’s ability to;

- perceive emotions in oneself and others
- integrate emotion into thought
- understand emotion in oneself and others
- manage or regulate emotion in oneself and others.

They also described emotional intelligence as being knowledge of self and other' and more specifically, 'the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking'.

Although theories of emotional intelligence have been around since the 1920s, writers such as Howard Gardener and Daniel Goleman have championed the importance of emotions and feelings in learning more recently. Gardener's theory of multiple intelligence pioneered the view that intra and interpersonal intelligences were as important as other forms such as linguistic and logical.

Goleman broadened the definition of emotional intelligence devised by Mayer and Salovey. He defined it as 'understanding one's own feelings' empathy for the feelings of others and the regulation of emotion in a way that enhances living'. Goleman also identified what he called the 'the five domains of emotional intelligence' namely:

- knowing one's emotions
- managing one's emotions
- motivating oneself
- recognizing emotions in others
- handling relationships.

The implications of emotional intelligence for learners:

Emotional intelligence can be thought of as a set of skills that help learners to be successful in school, at work and in relationships. As a consequence of this, they are more likely to have a robust self esteem and be better placed to cope with disappointments and setbacks.

To become effective learners, young people need to develop a strong sense of worth and confidence in their abilities. They need to learn to take responsibility for their own learning and performance, and demonstrate persistence and resilience in the face of obstacles or setbacks.

They must also be able to manage their emotions and help others to do the same. It is less to do with controlling emotions and more to do with recognizing and understanding the effects of these emotional states and developing coping strategies .learners must also come to understand

that negative feelings can be valuable sine they provide personal insights into thoughts, feelings and motivation to learn.

Development of emotional intelligence by teachers and schools:

The foundation for emotional intelligence, self esteem, happiness and success in life are laid in childhood and adolescence. Schools and teachers can play a significant part in helping young learners to establish these foundations for themselves.

Many proponents of emotional literacy believe that schools must set time aside specifically to teach learners strategies for managing their emotional states and developing empathy with others. Emotional intelligence should not be treated as a separate area of the curriculum, rather developing emotional literacy ought to be a core part of every teachers work with young people. Schools must establish classroom environments that enable teachers and learners to discuss and share the feelings, beliefs and values openly and honestly. Schools should develop structures that strengthen the emotional bonds between teachers and learners. It should encourage teachers to use their emotions in their teaching. Many schools also advocate the teaching of positive strategies in order to promote optimism and positive thinking, and to create resilient and confident learners. Teachers can support this approach by relating classroom climates that promote optimism and by using language rich with optimism.

5.5 ROLE OF CULTURE IN THE EDUCATIVE PROCESS

Education is a continuous process by which people learn new ways of thought and action. It encourages changes in behaviour which aim at improving the human conditions. Education belongs to the process of enculturalization where the students are introduced into the culture of the society. Schools selectivity transmits those values and knowledge that a society determines as appropriate through programmes in it. Culture determines the standards of behaviour. For a person to perform skillfully in the society as expected of an educated person, one must have been fully brought up and trained in that culture.

Education is a process by which the society through education at different levels like schools, colleges, universities and other institutions deliberately transmit its cultural heritage.

Education is initiation into the culture of the particular society into which a child is born. Culture is the content of education and has a bearing on the school administration.

Impact of culture on education:

The culture of a society must provide its members with the tools of communication language become crucial for socialization and education. The material traits of the culture in terms of disciplines such as agricultural sciences, vocational and technical courses are essential. The society must also teach its members the aesthetic values. The teaching of arts is very essential.

The culture of a society must prepare its members to be masters of their own physical environment. Geography and natural sciences are therefore needed by the society. Religious studies are also taught to meet the spiritual needs of the learners. The society prepares its members to live under acceptable society conditions with other members. History, civics, sociology and anthropology are taught to achieve this. It must produce people to improve on the living physical environment. It must provide courses in building and surveying. The society regulates itself in order to maintain its continued existence. It needs good government and a study of procedures for social control. Individuals in a society should be prepared to fight against external and internal forces that threaten the continued existence of the society. This could be taught by making know the learners about the culture of the society in which they live in.

5.5.1 Creating Culturally Responsive Learning Environment

Meaningful learning happens in environments where creativity, awareness, inquiry, and critical thinking are part of instruction. Responsive learning environments adapt to the individuals needs of each student and encourage learning by promoting collaboration rather than isolation of learners. Learning environments, whether classrooms, schools, or other systems, should be structured to promote engaged teaching and learning. Research on culturally responsive teaching emphasise the importance of teacher' understanding the cultural characteristics and contributions of various ethnic groups (Smith, 1998) and showing respect towards these students and their culture.

Culturally responsive teaching is defined by as "using the cultural characteristics, experiences, and prospective of ethnically diverse students as conditions for teaching them more effectively"- Gay. "It is an approach that empowers students intellectually, socially, emotionally,

and politically by using cultural referents to impart knowledge, skill and attitudes"- Gloria Ladson.

The following strategies could be followed to -

i. Match classroom instruction to cultural norms for social interaction to enhance students' social skills development and problem solving ability.
ii. Teacher can make positive instructional use of these skills and behaviors by creating assignments that require group interaction. They should make strategies to enhance the learner's classroom participation and the development of critical thinking skills among culturally different groups.
iii. Teachers need to be sensitive to transition challenges and collaborate with families to develop cultural shifts to case the stress caused by them.
iv. Teacher need to communicate high expectations for all students and use active teaching methods and act as facilitator. In classroom culturally responsive and respectful approaches should be used in character education, social skill instruction, and discipline.

This enhances the students' self esteem and their willingness of culture of the students in their classrooms. They should reshape the curriculum to include culturally diverse topics.

- Culturally sensitive instruction that includes student controlled discussion and small group work would create culturally responsive education.
- Embracing the strengths and addressing the diverse learning needs of our increasingly multicultural, multilingual student population requires major transformation of our current school practices can establish a learning environment that promotes success for all students to promote harmony with one other.

5.5.2 Creating Cultural Congruity between Home & School

Cultural congruity between home and school is another element of culturally responsive teaching and equity pedagogy. This involves making the classroom a place where students feel comfortable, see themselves represented in the curriculum and classroom environment, and engage with materials that provide connections to their home and community experiences. Such congruity may serve to support learning in multiple ways—by increasing students' interests in learning and by offering a bridge to help students move from the familiar to the unfamiliar. Many children, particularly those from mainstream backgrounds, come with experiences that

prepare them to be successful in school. They are used to the modes of communication often used in classrooms—questions about specific facts, requests for opinions, and expectations for certain kinds of behavior. However, these expectations are not widely shared in all homes and cultural contexts. Different cultures have different norms for social interaction. Some students may be uncomfortable working alone because their experience is that tasks are usually communal, while others may be uncomfortable working in groups because that has not been part of their experience. Some children may not be comfortable being singled out and praised for their abilities.

Researchers have found that some immigrants are uncomfortable with the relative informality of U.S. schools, the friendliness of the teachers, and the expectation that students ask questions and speak in front of the class, rather than listening to lectures and memorizing information (Nieto, 2000).

Some researchers observed that Asian American communities often perceive schooling as a very formal process and expect teachers to demonstrate a certain kind of authority in the classroom (Chinn & Wong, 1992).

Nieto describes the new teacher who did not understand that many Puerto Rican children wrinkle their noses to signify nonverbally that they do not understand something. When her students did not respond verbally to her question, "Do you understand?" she assumed wrongly that they understood (Nieto, 2000).

Similarly, Shirley Brice Heath discovered that African American children in the South did not answer obvious, factual questions to which they assumed the teacher knew the answer. This kind of questioning ("What color is the dish?""How many fingers do I have?"), common in many White, middle-class homes, was not part of their experience where questions were used only when the asker genuinely did not know the answer. The result was that teachers assumed the children who did not respond to obvious questions were slow or less-abled learners (Heath, 1983). Awareness of the range of communication and participation styles can provide a basis for building communication and understanding among teachers, students, and parents.

Cultural congruity does not just refer to being aware of differences in communication and interaction styles. Teachers can also work with the content of the curriculum itself to make it more congruent with students' home experiences. Anthropologists Luis Moll and James Greenberg demonstrated how the activities children experience at home can be accessed and built on for academic instruction. They studied how households accumulate and share "funds of knowledge," based on the work-related activities of family members, their schooling experiences, and other life experiences (Moll & Greenberg, 1990). For example, families who have members who are farmers possess a particular body of knowledge (e.g., about different soils, plant cultivation, and water management). Other families might possess knowledge about mechanics, carpentry, or midwifery. Such knowledge is distributed, available, and accessible among social networks of families with similar areas of expertise. These funds of knowledge can be seen in the common events and activities of a household.

The work of the teachers was to reflect on this knowledge and to determine how to use it pedagogically—how to take advantage of it in their instruction. Ex: If a teacher develops a unit on construction and building, based on her students' interests and he or she could observe that knowledge about construction as a prominent fund of knowledge in the students' homes. It could be observed that students conducted initial research on the history of dwellings and different ways of constructing structures, built model houses, and wrote brief essays describing their research and explaining their models. Parents could be invited to speak to her class as experts on construction, tools, and architecture.

Another way teachers can use the idea of funds of knowledge is by relating it to the literature that learners are reading. Students can conduct research on a particular theme in literature, analyze the text, and then connect that text to the text of their lives and the text of their family experiences. Creating connection between text and life experiences helps learners to think about art and science and analyze the literature.

Every lesson that the teacher organizes does not have to have a connection to the household, just as everything that the teacher introduces does not have to have immediate relevance for the learners. But creating some strategic connections beyond the classroom walls makes it clear to teachers and learners that they bring to school a worthwhile intellectual and

cultural resource, including their families and their experiences. Personalizing instruction in this way make students attentive in the classroom, engages them in their schoolwork, and encourages inquisition of knowledge.

Check Your Progress – 2

1. Name the psychologists who first defined emotional intelligence.

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2. Define 'Emotional Intelligence'.

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3. Mention the domains of emotional intelligence.

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4. Point out the probable impacts of culture on education?

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5. What are the strategies to create culturally responsive learning environment?

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5.6 ASSISTED PERFOMANCE, SUPERVISED DISUSSION AND RECIPROCAL TEACHING AS STRATIGIES TO ENCHANCE MOTIVATION AND LEARNING

When learning is considered in an aspect of a social process means the primary role of teacher is to assist the learner. The teacher's task is to continually move the students ZPD toward higher levels of competence and complexity.

The zone of proximal development (ZPD) has been defined as "the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers" Vygotsky, (1978). Vygotsky believed that when a student is in the ZPD for a particular task, providing the appropriate assistance will give the student enough of a "boost" to achieve the task. A teacher can provide several kinds of assistance to the learner on how something could be done to achieve the task, or they can demonstrate a process or skill both physically and by talking aloud about how an expert thinks. A teacher can also assist by breaking up a task into smaller units or reorganizing the sequence of a complex task.

A teacher might assist through questioning, feedback, encouragement, and praise. Each of these forms of assistance depends on clear and effective communication with students. Perhaps the most important form of assistance is the well-timed question, which can serve a number of purposes. Questions can determine when and what a student is ready to learn and can provide information about the developmental level of each student in particular domain. Questions can also serve to extend student's thinking further and provide opportunities for them to articulate and reflect on their thoughts. Questions can serve as "scaffolds" by guiding the student through a logical thinking process or by promoting the learner to think about a problem in a new day.

Scaffolding is the general team for the work the teacher does to provide just enough support, depending on the needs of the student, to move students' skills and understanding within the ZPD. In a mathematics class, for example, the teacher may scaffold a multiplication problem by relation the problem to an activity that is very familiar to the students, by reviewing skill needs to solve the problem by providing tools for students to work with, and by offering support

while allowing the students to find their own solutions (Brown, Collins, & Duguid, 1989). Scaffolding is a process of assessing and assisting and being sensitive to the needs and the readiness of the learner to learn with less experience in an area, a field or domain. They may need more sequenced supports, more attempts, and more opportunities to revise to develop expertise.

Assistance can also be provided by more capable peers, by resources in the classroom, or by internet, software, and books. The teacher's role is to make sure that the student has access to a variety of resources appropriate to the student's needs and understanding of how to use them. Inherent in the notion of Scaffolding is the idea that the teacher eventually fades her support as students become more skilled. The process of Scaffolding is not necessarily a linear one. In facts, it is probably best compared to a spiralling process were the teacher anticipates when the students will be competent enough to work independently, but it is also prepared to step back in to support students who are not quite ready. Instead of designing a particular time they will relinquish control to the learners, effective teachers are mindful that they are always trying to release control of the learning to the students, while being available for needed assistance.

Supervised discussion:

Teacher's role in a classroom is multifaceted, charged not only with creating and designing a learning environment that maximizes learners' opportunities to interact with each other and other experts, but also with the job of acting as an expert, model, guide, and facilitator of these social interactions. The teacher takes the lead to design the tasks, develop resources and establish the classroom culture and norms for interactions. This includes identifying roles and appropriate behaviour for students as they interact with one another, fostering discussion between and among learners and managing the complexities of multiple ongoing tasks and activities. The teacher role in a socially interactive classroom is to let students discover their needs of learning by themselves in an almost planned way. In supervised discussion, teachers are very much involved in shaping the learning environment like gather and arrange resources, and watch diligently to figure out where learners need help. The engage in a complex balancing act of knowing when to take centre stage-when to act as an expert- and when to give up control and step back as a facilitator so that students can learn by teaching themselves and each other.

The learner or student also takes on more responsibility –as a teacher of his peers, on emerging expert, and individual a group member, and an individual response for his own learning and interests. Students take on active role that depends on working with others as well as independently. Learning occurs within these interactions, as learners with different strengths support their peers in developing understanding and skills. These new role are often seen in project-based settings, such as the community of learners model, where researchers have documented improvements in literacy and problem-solving skills as well as gains on standardized achievement tests (Thomas, 2000). These kinds of interaction an also be seen in classrooms where teachers create supervised discussion-based or problem based learning environments.

In a supervised discussion based settings, although deferring in the kinds of tasks that learners may be asked to carryout, share the following features:

- Learners work to be driven by authentic, challenging questions.
- Inquires are carried out in depth and over time.
- The completer task cannot be accomplished by individuals alone.
- There are many opportunities for feedback on performance.
- Teacher act as involved supervisors in the discussion as students develop expertise.

Reciprocal teaching (RT) is a method of group instruction that enables the teacher to fade from a central role and builds in a structure for students to teach their peers. RT is a term used both because it embodies the generic idea that students can learn by taking responsibility for acquiring knowledge and teaching it to others (e. g, the expert jigsaw described in community learners classrooms) and because it is a specific strategy for teaching reading comprehension. In the latter case, RT involves student working on the deep reading of text in next in any content area using four expert strategies: questioning, clarifying, summarizing and predicting.

These are strategies expert use to make sense of texts monitor their own comprehension as they read. The ultimate goal of RT for students to teach each other, but initially the teacher is heavily involved in demonstrating how to create a summary of a passage, offering questions about the main ideas, encouraging students to ask clarification questions and posing predications about what is coming next. In RT learners take on the teaching role by offering their own

summaries and questions to the group. The structure of the four strategies provides a way for students to assume the role of dialogue leader, which is initially quite difficult. Palincsar and Brown (1984) reported significant improvement in students' comprehension when they practiced this approach to reading. Other researchers have confirmed these findings, and a number of reading programmes have incorporated the use of this strategy.

In a typical RT session, the teacher would offer a question about the text early on in the process to the strategy to her students. as students become familiar with the strategy, they would began to pose their own questions. The teacher's role is to assist the student leaders by offering partial questions, helping them to rephrase their questions, and generally encouraging their progress. According to Palincsar and Brown, the teacher plays three roles in her facilitation of RT.

- Teacher models expert behavior by making reading strategies "overt, explicit and concrete".
- Teacher should have clear instructional goals to keep the discussion focused on the text.
- Teacher monitors the student leaders, giving them feedback as they develop competence.

Palincsar and Brown describe the fading process where the responsibility for the comprehension activities is transferred to the student as soon as they can take charge of their own learning. The idea is for the teacher to take control only when needed and to hand over the responsibility to the student whenever they are ready. Though interaction with the supportive teacher, the learners are guided to perform at an increasingly mature and challenging level. In response, the adult teacher gradually fades into the background and acts as a sympathetic coach, leaving the student to handle their own learning. Like a coach, the teacher is always monitoring the discussions and is ready to step back and relinquish control or step forward to take up the reins again when necessary. RT provides a good model for the teacher's role in classroom based on social interactions and communication among teachers and students. The teacher's job is to assess and assist, provide models and feedback, and create carefully designed opportunities for students to learn from one another.

The strategies mentioned above namely assisted performance, supervised discussion and reciprocal teaching mentions the role of communication and conversation in the learning process,

the design of the learning environment, and the ways in which teachers' and students' interactions can facilitate learning. The lens of learning in a social context helps us to think about how, through engagement in purposeful tasks, with expert assistance, and by collaboration with others, the learner is encouraged to operate "as though he was a head taller than himself" (Vygotsky, 1978).

Check Your Progress – 3

1. What do you mean by ZPD?

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2. How a teacher could assist a learner to achieve a task?

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3. What is meant by 'Scaffolding'?

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4. Who first developed the concept of reciprocal teaching?

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5. Mention the strategies in reciprocal teaching?

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5.7 LET US SUM UP

Learning environment refers to the diverse physical locations, contexts and cultures in which the students learn. It influences the students' learning both directly and indirectly. It could be classified into positive learning environment and negative learning environment. It also includes the physical, psychological and instructional atmosphere of the classroom.

The cognitive and the non – cognitive skills could be developed by the 'learning engagement'. The intellectual, emotional, behavioural, physical, social and cultural factors of the learners in the learning process are known as 'learning engagement'. The importance of emotionally – safe learning environment to increase learning and the role of culture in the educative process and how to create culturally responsive learning were discussed. The strategies to create culturally responsive learning include culturally sensitive instruction and promotion of harmony among multicultural, multilingual student population in current school practices.

In this Unit, we have examined the assisted performance, supervised discussion and reciprocal teaching as strategies to enhance motivation and learning. The teachers' role to assist the students in achieving the task was discussed in assisted performance. The teachers' role in a socially interactive classroom to make students discover their needs of learning by themselves in a planned way and their involvement in shaping the learning environment and arrange the resources according to the needs of the learners was examined in the supervised discussion.

Reciprocal Teaching provides a good model for the teacher's role in classroom based on social interactions and communication among teachers and students. The teacher's job is to assess and assist, provide models and feedback, and create carefully designed opportunities for students to learn from one another.

5.8 ANSWERS TO 'CHECK YOUR PROGRESS'

Check Your Progress - 1

1. The physical, psychological and instructional atmosphere of a classroom is known as learning environment. It also refers to the diverse physical locations, contexts and cultures in which the students learn.

2. i) Positive learning environment which allows students to feel comfortable and confident as learners; ii) Negative learning environment which adversely affect student learning.
3. The intellectual, emotional, behavioral, physical, social and cultural factors of the learners in the learning process are known as learning engagement.
4. Cognitive skills – Academic performances, test scores, information recall, skill acquisition etc., Non – Cognitive skills – Motivation, interest, responsibility, attitude etc.
5. Write down the strategies mentioned in the text.

Check Your Progress – 2

1. John Mayer and Peter Salovey (1990)
2. Goleman defined Emotional Intelligence as " Understanding one's own feelings, empathy for the feelings of others and the regulations of emotions in a way that enhances living"
3. The domains of emotional intelligence are
    i. knowing one's emotions
    ii. managing one's emotions
    iii. motivating oneself
    iv. recognizing emotions in others
    v. handling relationship
4. Write the impacts mentioned in the texts
5. The strategies to create culturally responsive learning environment are
    i. Matching classroom instructions to cultural norms for social interaction
    ii. Positive instructional use of skills and behaviors from assignments of culturally different groups
    iii. Transition and collaboration with families to develop cultural shifts
    iv. Character education, social skill instruction and discipline through culturally responsive and respectful approaches.

Check Your Progress – 3

1. The Zone of Proximal Development is the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers.

2. A teacher can provide several kinds of assistance to the learner on how something could be done to achieve the task, or they can demonstrate a process or skill both physically and by talking aloud about how an expert thinks. A teacher can also assist by breaking up a task into smaller units or reorganizing the sequence of a complex task. A teacher might assist through questioning, feedback, encouragement, and praise
3. Scaffolding is a process of assessing and assisting and being sensitive to the needs and the readiness of the learner to learn with less experience in an area, a field or domain. They may need more sequenced supports, more attempts, and more opportunities to revise to develop expertise.
4. Palinscar and Brown in 1986 first developed the concept of reciprocal teaching.
5. Reciprocal Teaching involves student working on the deep reading of text in next in any content area using four expert strategies – questioning, clarifying, summarizing and predicting

5.9 UNIT – END EXCERCISES

1. Explain the meaning of learning environment and learning engagement.
2. Bring out the strategies to create positive learning environment.
3. With suitable example illustrate how to create emotionally and safe learning environment.
4. Discuss the role of culture in the educative process.
5. Describe how to create cultural congruity between home and school.

5.10 SUGGESTED READINGS

1.Gardner, H. (1980). : *Frames of mind: The theory of multiple intelligence*. London: Paladin Books.

2. Ann L. Brown, Annemarie Sullivan Palincsar (1980). : *Reciprocal teaching of comprehension strategies. A natural history of one program for enhancing learning*. University of Illinois Publisher, Urbana – Champaign.

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UNIT VI - APPROACHES AND MODELS OF TEACHING

STRUCTURE

6.1 INTRODUCTION

In this Unit, you are going to examine how teaching plays on integral part in the process of education. It is a systematic procedure intended to induce learning. Its function is import to knowledge, develop, understanding and skill. In teaching an interaction occurs between the teacher and the students, by which the students are diverted towards the goal. In the process of teaching, it is the interaction between the teacher and the learners that enables the learners to advance towards the goal of learning.

Teaching is viewed as a comprehensive process, and there has been a tremendous change in the way of understanding teaching and a teacher's roles. Teaching is conceptualized as an active interactive process that goes on between the consciously designed environment and the student with a define purpose. It includes all the activities organized by a teacher to bring about learning, be it inside or outside a classroom, with or without the presence of the teacher. You have to raed and understand this unit carefully so that you would understand the various approaches and methods in teaching.

Teaching can be considered as the art of assisting another to learn by providing the information and appropriate situations, conditions or activities. It is an intimate contact between a more mature personality one which is designed to further the education of later. It is the process by which one person helps other in the achievement of knowledge, skill and aptitudes. In this Unit, you are going to learn the nature and different phases of learning.

6.2 OBJECTIVES

After learning this unit, you will be able to

- describe the nature of teaching
- identify the phases and levels of teaching
- illustrate the various approaches to teaching
- elucidate the models of teaching
- mention appropriate models of teaching according to the learners need.

6.3 NATURE OF TEACHING

Teaching is a process that facilitates learning. Teaching is the specialized application of knowledge, skills and attributes designed to provide unique service to meet the educational needs of the individual and of the society. The choice of teaching activities varies depends

upon the goals of education and the responsibility of the teachers in the teaching profession. In addition to providing students with learning opportunities to meet curriculum outcomes, teaching emphasizes the development of values and guides the learners in their social relationships. Teachers employ practices that develop positive self- concept in students. As teaching takes place in a classroom setting, the direct interaction between the teacher and the learner is the most important element in teaching.

Teaching is a comprehensive process which involves systematic approach to accomplish the goals and aims of education. It is a goal driven process where the teacher plays an eminent role in the process. It is more than telling, but achieving behavioural changes. Teachers should be effective in their profession.

6.4 PHASES AND LEVELS OF TEACHING

Teaching is a complex task which needs a systematic panning. Teaching is to be considered in terms of various steps and different steps constituting the process are called the phases of teaching. The teaching can be divided into three phases as follows

i. Pre - active phase of teaching

ii. Interactive phase teaching

iii. Post active phase of teaching

i) Pre - active phase of teaching - In the pre-active phase of teaching, the planning of teaching is carried over. This phase includes a those activities which a teacher perform before classroom. This phase includes planning a classroom, strategies and methods to be adopted, sequencing the selected content, use of teaching aids and so on.

ii) Interactive phase of teaching - The second phase includes the execution of the plan, where earning experiences are provided to students through suitable modes such as classroom, laboratory, outdoors or library. All those activities which are performed by a teacher after entering in cases are combined together under interactive phase of teaching. Generally these activities are concerned with the presentation and delivery of the content in a class. The teacher provide learners, verbal stimulation of various kinds, make explanation, ask questions, listen to the student's response and provide guidance. This phase includes activities like sizing up of the ass, knowing about the previous knowledge, interest, attitude etc, about the earners by probing questions and diagnosing, section, and presentation of thee stimuli, feedback and reinforcement. It is the stage for actual teaching.

iii) Post active phase of teaching - Post teaching phase, is the phase that involves teacher's activities such an analysing the result to determine learners especially their problem 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. In this phase as the teaching task sums up, the teacher asks the questions from the learners, verbally in the written form, to measure the behaviour's of the pupils so that their achievements may be evaluated correctly.

6.4.1 Levels of Teaching

In the teaching- learning process, the teacher can present the content in different levels. The levels of teaching could be classified as follows

i. Memory level
ii. Understanding level
iii. Reflective level

i) Memory level of teaching- In this level emphasis is laid down on the presentation of the facts and information's and its cramming. Herbart is the exponent of memory level of teaching.

Steps in Memory Level:

a) Focus: Emphasis on cramming of facts and development of the following capacities,

1. Training of mental aspects
2. Providing knowledge facts
3. Retaining the learnt facts
4. Recalling the learnt facts

b) Syntax: Herbatian steps

1. Preparation –questions asked to test the previous knowledge
2. Statement of Aim – to acquaint the name of the topic
3. Presentation – Stimulating the mental activity ,the pupils are provided with opportunities for self- learning
4. Association – Mutual relationship is established among facts, events etc by comparison
5. Generalization - Principles and laws are formulated for the future life situations
6. Application – New learnt knowledge is used in new situations

c) Social system

1. Pupil
2. Teacher

d) Support system

1. Oral
2. Written
3. Essay type examination

ii) Understanding level of teaching - Memory level of teaching is a prerequisite for the understanding level of teaching. In understanding level of teaching, teacher stresses to make understand the learners the generalizations, principles and facts.

Model of Understanding level of teaching:

a) Focus – Mastery of the content

b) Syntax – Morrison has divided understanding level of teaching into five steps

1. Exploration – testing previous knowledge, analysing the content
2. Presentation – content is presented, diagnosis and recapitulation till the students understands
3. Assimilation – generalization, individual activities, working in laboratory and library, test of content
4. Organization – learners are provided with the occasions for representation
5. Recitation – learner present the content orally

c) Social system – Teacher control the behaviour of the learner, learner and teacher remain active in assimilation, learners works with full involvement.

d) Support system - Learner pass in presentation to enter into assimilation, to enter into organization and recitation, at the end written test is taken. Similarly recitation is followed by the oral test. Essay and objective type questions asked.

iii) Reflective level of teaching - It includes both understanding level and the memory level of teaching. Reflective level of teaching means 'problem - centre' teaching. In this the classroom environment is open sufficiently. The teacher creates such a problem before the learner, which arouses so much tension in the learners that they start solving their problems by formulating and testing their hypothesis as a result of their motivation and activeness.

Model of Reflective level of learning:

Hunt developed reflective model of teaching.

a) Focus – to develop problem solving, critical and constructive , independent, original thinking.

b) Syntax steps –

1. Creating a problematic situation
2. Formulation of hypothesis
3. Verifying hypothesis
4. Collection of data
5. Testing hypothesis

c) Social system – learner occupies the primary place and teacher, secondary place.

d) Support system – objective type is not used but essay type is used. Attitude, beliefs and involvement is evaluated.

6.5 VARIOUS METHODS IN TEACHING

The term teaching method refers to the general principle. Pedagogy and management are the strategies used for class room instructions. The teacher's choice of teaching method depends on what fits the learner to educational philosophy, classroom demographic, subject areas and educational goals. Teaching theories- primarily fall into two categories or 'approaches' teacher - centred and student - centred.

i) Teacher - centred approach: Teachers are the main authority figure in this model students are viewed as 'empty vessels' whose primary role is to passively receive information (via lectures and direct information) with an end goal of testing and assessment. It is the primary role of teachers to pass knowledge and information on to their students. In this model teaching and assessment are viewed as two separate entitles. Student learning is measured through scored test assessment.

ii) Student - centred approach: While teachers are an authority figure in this model, teachers and students play an equally active role in the learning process. The teachers primary role is to coach facilitate learning and overall comprehension of material. Student learning is

measured through both formal and informal of assessment are connected; student learning is continuously measured during teacher instruction.

Check your Progress – 1

1. What are the different phases of teaching?

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2. What are the various levels of teaching?

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3. Point out the methods of teaching.

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6.5 VARIOUS APPROACHES TO LEARNING

Furthermore, based on the above two approaches in the teaching – learning process, various approaches to teaching were put forward by scholars, psychologists and educationists in the field of philosophy and education. Some of them are as follows.

6.5.1 Behaviourist

Behaviourist approach to learning is based upon the idea that learners respond to stimuli in their environment. The behaviour approach to learning is to specify clear behavioural objectives in the beginning and then supply learning opportunities that ensure that the

objectives are met. In this approach, role of the facilitator is to provide relevant and useful stimuli so that the learner respond and gain the required knowledge or experience. Learning occurs could be conditional or unconditional.

The behaviourist approach to learning emphasis the belief that appropriate behaviour can be taught through constant repetition of a task combined with feedback. Positive feedback encourages and reinforces sues while negative feedback and immediate correction discourages the repetition of a mistake or undesirable behaviour.

In 1927 Ivan Pavlov conducted a famous experiment with dogs. Pavlov taught the animal to salivate on hearing a ringing bell by linking the time of their feeing of to their bell being rung. Later he stopped feeding them in this way, but the dogs continued to salivates when they heard the bell, in other words the learned behaviour was a result of a sequence of events experienced, rather than the conscious thought process.

The association between stimulus – response can be made more effective by reinforcement. Reinforcement can work in both positive and negative ways. A positive reinforcement is anything that strengthens the desired response. In teaching were aim is earning for example, this might be stimulated by verbal praise, a good mark, or a feeling of achievement. On the other hand if verbal praise with drawn this will have a negative effect and motivation to learn will decrease. Hence the teacher needs to give external reinforcement to motivate and encourage earners to reach the stated objectives.

6.5.2 Cognitivist

Cognitive approach is concerned with the role of active mind in grasping the knowledge from the process of learning from opportunities. Focus on process by which student build knowledge rather than receive it. This approach emphasises the learners to continuously check new information against our mental rules in order to internalize and act on information.

Here, the teacher and the learner are engaged with gaining knowledge; the role of the teacher is choosing the best method to convey understanding. Dewey (1938) believes learning involves “learning to think”. He says the process of learning is more than doing a task or activity; it also requires reflection and learning from this. To Dewey, the purpose of thought is attaining a state equilibrium, enabling an individual to solve problems and to prepare them for further inquiry.

His approach is associated with “progressive education he said that learning only occurs if the student plays an active role in the processes”. For learning individual should

critically reflect on information presented; they have to be able to 'experience' the information and the way to facilitate this is to draw on past experience.

Teachers employing Dewey's approach to teaching pay a key role in learner's development. But in a more indirect way, than that implies in the behaviourist model. For example, planning sessions that encourage interaction with the material presented and reflective thinking as well as creating a climate where learner can structure their own learning.

6.5.3 Constructivist

Constructivist teaching approaches are based on constructivist learning theory. Along with John Dewey, Jean Piaget researched childhood development and education and suggested that we learn by expanding our knowledge by experiences which are generated through play from infancy to adulthood which are necessary for learning. Their theories are now encompassed in the broader movement of progressive education.

According to the theory, students learn by building on their previous knowledge and experiences and by actively engaging in the learning process, instead of receiving knowledge passively though lectures and memorization. Constructivist teaching uses guided discovery, discussions on thoughts and ideas as well as activities to help students learn.

Constructivist learning theory says that all knowledge is constructed from a base of prior knowledge. Children are not a blank slate and knowledge cannot be imparted without the child making sense of it according to his or her current conceptions. Therefore, children learn best when they are allowed to construct a personal understanding based on experiencing things and reflecting on those experiences.

Constructivist teaching fosters critical thinking, and creates motivated and independent learners. This theoretical framework holds that learning always builds upon knowledge that a student already knows this prior knowledge is called a schema. Because all learning is filtered through pre-existing schemata, constructivists suggest that learning is more effective when a student is actively engaged in the learning process rather than attempting to receive knowledge passively. A wide variety of methods claim to be based on constructivist learning theory. Most of these methods rely on some form of guided discovery where the teacher avoids most direct instruction and attempts to lead the student through questions and activities to discover, discuss, appreciate, and verbalize the new knowledge.

Advantages

i. This method of teaching is effective for students who learn better in a hands-on environment and helps students to better relate the information learned in the classroom to their lives.
ii. The constructivism curriculum also caters to the students prior knowledge encourages teachers to spend more time on the student's favourite topics and allows teachers to focus on important and relevant information.
iii. In a constructivism classroom, students often work in groups. This helps students learn social skills, support each other's learning process and value each other's opinion and input.

Disadvantages

i. The training necessary for constructive teaching is extensive and often requires costly long-term professional development.
ii. With an average number of students in one classroom, teachers are unable to customize the curriculum to each student, as their prior knowledge will vary.
iii. The constructivism curriculum also eliminates standardized testing in evaluation.

6.5.4 Connectionism

Connectionism is a set of approaches in the fields of artificial intelligence, cognitive psychology, cognitive science, neuroscience and philosophy of mind that models mental or behavioural phenomena as the emergent process of interconnected networks of simple units. The term was introduced by Donald Hebb in 1940's.There central connectionist principle is that mental phenomena can be described by interconnected networks of simple and often uniform units. The form of the connections and the units can vary from model to model. For example, units in the network could represent neurons and the connections could represent synapses.

The weights in a neural network are adjusted according to some learning rule or algorithm, such as Hebbian learning. Thus, connectionists have created many sophisticated learning procedures for neural networks. Learning always involves modifying the connection weights. In general, these involve mathematical formulas to determine the change in weights when given sets of data consisting of activation vectors for some subset of the neural units.

By formalizing learning in such a way, connectionists have many tools. A very common strategy in connectionist learning methods is to incorporate gradient descent over an error surface in a space defined by the weight matrix. All gradient descent learning in connectionist models involves changing each weight by the partial derivative of the error surface with respect to the weight. Back propagation (BP), first made popular in the 1980's, is probably the most commonly known connectionist gradient descent algorithm today.

Advantages

i. The network a correctly predict if the data given is incomplete or incorrect and provide right learning algorithm.
ii. It is a clear traditional nation of cognitive presentations.
iii. The presentations adapts to the need of the real world from natural language.

Disadvantages

i. The symbol structures could not be capable of learning. Hence the algorithmic symbol systems in written from cannot be solved.
ii. These neural networks are not explanatory.

6.5.5 Anticipatory

In today's classrooms one of the most important aspects of teaching children gains their attention from the outset. This approach focuses on the activity or event at the beginning of the lesson that effectively engages student, attention and efforts their thought on learning objective. Gaining the students attention is important activities that provoke curiosity, questioning and the recall newly leaned information. The anticipatory emphasises to have direct relevance to the instructional object whether that objective is implied or started in the objectives of the teaching learning process. It include review of significant or related information to establish continuity with previous lessons, allusion to familiar frames of reference, or demonstrations to ground the lesson in concrete operations. This provides with student a label for the lesson, vocabulary, name, title, overall direction or context for the objective of the lesson.

Methods: Questions, demonstration (especially one with a result the students do not expect); story or anecdote; shock; humour; pertinent news item; role-playing; modelling/ visualization; quiz. Be creative in planning your anticipatory test.

Student's attention gained through anticipatory activities, which should be tied to instruction of the next lesson, not just an activity that takes up the first five minute of classroom. There are several anticipatory activities available to teachers, which include:

i) Demonstration
ii) Discrepant events
iii) Anticipation guides
iv) Visual displays

Thought-provoking questions these types of anticipatory strategies can enhance the learning and retention of student knowledge, and can help to motivate and stimulate student curiosity in participating in the in the learning process.

Advantages

i. It ensures effectiveness of learning.
ii. It allows student to demonstrate their successful engagement of the lesson.
iii. It develops retention and transfer of learning.

Disadvantages

i. Time management skill is required.
ii. Inter-personal relationship between the teachers and the learners should be a constraint when teaching involves a heterogeneous group.

6.5.6 Cooperative

With inclusion on the rise, teachers are sharing classroom more than ever and becoming an effective co-teaching partner is a teaching essential, with the onset of a new school year right around the corner, meanwhile, it's imperative to begin devising and building positive co-teaching strategies.

A co-teaching term typically includes general and a special education who teaches the general education curriculum to all students as well as implement individual education programme (IEPS) for students with disabilities. Both educators on the co-teaching term are responsible for differentiating the instructional planning and delivery, assessment of student achievement and classroom management.

Several collaborative teaching approaches have proven to be successful to guide educators who work together in co –teaching partnership to differentiate instruction. The approaches include;

1. Supportive co-teaching: where the one member of the team takes the lead role and other member rotates among students to provide support.
2. Parallel co-teaching: where support personnel and the classroom teacher instruct different heterogeneous groups of students.
3. Complementary co-teaching: where a member of the co-teaching team does something to supplement or complement the instruction provide by other member of the team (e.g. models note taking on transparency, paraphrases the other co-teacher's statements).
4. Team teaching: where the members of the team co-teach alongside one another and share responsibility for planning, teaching and assessing the progress of all the students in the class.

Advantages

i. It shows a positive effect on student learning when compared to individual teaching.
ii. Learners get the opportunity of interacting with more teachers to widen their subject knowledge.
iii. Interactive skills and interpersonal skills of the teachers as well as the learners develop
iv. The learners could develop in depth knowledge in the specific subject taught by cooperative teaching from the various methods and techniques used by the teachers.
v. Collaboration skills can be learned by the teachers in a co-operative teaching activity.

Disadvantages

i. The learners may sometimes get bored by the same topic if taught repeatedly in this approach
ii. Teachers need to be alert in planning, teaching, assessing as there may arise overlapping of responsibilities.
iii. Sometimes conflict resolution for conflict resolution skills may be required

6.5.7 Personalized and Wholistic

The term personalized teaching, or personalization, refers to a diverse variety of educational programs, learning experiences, instructional approaches, and academic- support strategies that are indented to address the distinct learning needs, interests, aspiration, or cultural

backgrounds of individual students. Personalized learning is generally seen as an alternative to so called "one size fits all" approach to schooling in which teachers may, for example, provide all students in a given course with the same type of instruction, the same assignments, and the same assessments with little variation or modification from student to student.

Personalized learning may also be called student centred learning, sine the general goal is to make individual learning needs the primary consideration in important educational and instructional decisions, rather then what might be preferred, more convenient, or logistically easier for teachers and schools.

Personalized learning is indented to facilitate the academic success of each student by first determining the learning needs, interests and aspirations of individual students and then providing learning experiences that are customized – to a greater or lesser extent –for each student.

Advantages

i) Relies more heavily on student's personal interests and innate curiosity.
ii) Responses to students' needs and interest teach them to manage their own learning.
iii) Flexible scheduling and pacing.
iv) Emphasis on learner centred instruction.

Disadvantages

i) Dual role of the teacher as subject-matter coach and facilitator may make them feel tough.
ii) Flexible schedule may take more time to accomplish the goals taken.

Check your Progress – 2

1. What is the concept of behaviourist approach to teaching?

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2. Point out the merits of constructivist.

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3. Mention the approaches in co- operative teaching.

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6.6 MODELS OF TEACHING

In the teaching- learning process, the various approaches to towards contributed to the evolution of various models of teaching. These models could not only help the learners to dynamically involve in the learning process, but also the teachers to adopt the appropriate teaching techniques according to the teaching environment and the curriculum provided.

Models of teaching provide theoretical or instructional frameworks, educational components like curricula, teaching techniques, instructional groupings, classroom management plans, content development, sequencing, delivery, the development of the instructional materials, presentational methods, etc.

"Teaching model is a pattern or plan which can be used to shape a curriculum or course, to select instructional materials and to guide a teachers' action – Joyce and Well

Models of teaching is just a blue print designed in advance for providing necessary structure and direction to the teacher for realizing the stipulated objectives.

Teaching models may vary according to the learner's needs and the existing environment of the teaching – learning process. There exists number of models of teaching in the instructional strategies of education. The teacher could investigate and practice more models for better their choices of optimizing efforts to successfully reach and teach the learners. The models of teaching could be categorised under four families such as

i. Social family - Relationships of the individual with the society.

ii. Informational processing – These model share an orientation towards the information and processing capability of the learners and the ways they can improve their ability to master information.

iii. Personal family – Members of this family share an orientation towards the development of self-hood.

iv. Behavioural family - The emphasis is on changing the visible behaviour of the learner rather than the underlying psychological structure and unobservable behaviour

The teaching models could develop highly tuned and more varied professional repertories. It could enable the teachers to teach larger number of students more effectively. Teaching models creates uniform or varied instructional events guided by targeted subjects, content or processes. It facilitates the teachers to gain the needed insights into different methods of teaching and how and why to adopt a particular method to the learners according to their physical and psychological needs of learning.

6.7 INFORMATION PROCESSING MODEL

The focus of the model is on how information is selectively perceived, stored in memory, and retrieved. The information processing models are more linked to concepts and principles developed in cognitive psychology. Interest in mental processes had been gradually restored through the work of Piaget and Tolman. But it was the arrival of the computer that gave cognitive psychology the terminology and metaphor it needed to investigate the human mind. The start of the use of computers allowed psychologists to try to understand the complexities of human cognition by comparing it with something simpler and better understood i.e. an artificial system such as a computer.

The use of the computer as a tool for thinking how the human mind handles information is known as the computer analogy. Information is received through the senses and then is perceived by the mind. It enters short-term memory either from the process of sensation or from long-term memory. Concepts are stored through schemata. Essentially, computer codes (i.e. changes) information, stores information, uses information, and produces an output (retrieves info). The idea of information processing was adopted cognitive psychologists as a model of how human thought works. The information processing approach is based on a number of assumptions, including:

i. Information made available from the environment is processed by a series of processing systems (e.g. attention, perception, short-term memory)

ii. These processing systems transform, or alter the information in systematic ways.
iii. The aim of research is to specify the processes and structures that underlie cognitive performance.
iv. Information processing in humans resembles that in computers.

Many of the tests used to measure school learning are being modified so that they consider important mental processing skills that these models are designed to address. Inquiry training / Inductive thinking method focus on concept formation, interpretation of data and formation of principles and theories. Concept attainment focuses on categorizing, concept formation and concept implementation.

6.8 PERSONAL DEVELOPMENT AND SOCIAL DEVELOPMENT

This model is the outcome held in high regard by humanistic educators. These models focus on high self-concept and self-esteem positive self-direction and independence creativity and curiosity and the development of affective domain. Most of the methods used are associated with open education. While these models have not demonstrated an ability to impact outcomes associated with traditional education, they do show promise in impacting other outcomes important for the information age.

i. Facilitative teaching student centred, based on the methods of Carl Rogers.
ii. Increasing Personal Awareness focus is on developing an awareness and fulfillment of individual potential.
iii. Synectics focus on the development and application of creativity.

The social development models are associated with the social interaction which is focused on developing the concepts and skills needed to work in groups. Cooperative learning has demonstrated ability to impact standard achievement measures as well as group interaction.

i. Cooperative learning focus is one working in groups based on the methods of Slavin and Johnson and Johnson.
ii. Role playing focus is on the study and development of social behaviour and values.

6.9 ENERGETIC METHOD

The following are the energetic methods in teaching.

6.9.1 Lecture Method

Lecture method of teaching is the oldest method applied in educational institution; this teaching method is one way channel of communication of information. Student's involvement in this teaching method is just to listen and sometimes pen down some notes

necessary during the lecture, combine the information and organized it. In this method, techniques of instructional strategies showed are implemented along with the lecture to grasp the attention of the earners and make them.

Advantages

i) Large amount of topics can be covered in a single class.
ii) This method excludes the using of lab or equipment.
iii) Learning material is not required.
iv) Language learning could be developed.

Disadvantages

i) Changes of teaching without recognizing the individual differences of the learners.
ii) Learner's role could be passive.
iii) Attention level of the students may not be the same listening the lecture.
iv) Lectures are after forgotten by the students soon after while learning is retained is activities are experienced.

6.9.2 Lecture-cum-Demonstration Method

It is one of traditional method this is also known as Chalk and talk method. Teacher centred method. In this method Teacher is active and learners are passive. The essentials qualities in learning science such as independent thinking, power of observation and reasoning can be developed in this method.

The teacher perform the experiment in the class and goes on explain what he does here the students see the actual apparatus and operation and help the teacher in demonstrating the experiment. This method words on the principles of concrete to abstract, and learning by doing.

Steps in Lecture-cum-demonstration

a. Planning and Presentation: While planning a demonstration the following points should be kept in mind,

i. Subject matter.
ii. Lesson Planning.
iii. Rehearsal of experiment.
iv. Collection and arrangement of apparatus.

b. Introduction of lesson:

The lesson may be introduced on the following basis,

i. Students' personal experience.

ii. Students' environment.
iii. Telling story.
iv. A simple and interesting experiment.

c. Presentation of the subject matter:

The subject should consists of the following things,

i. The teacher must study the subject matter on broad basis taking into consideration the interest and experience of students.
ii. While demonstration is going on question should also be asked which help the student to understand the principles.
iii. The teacher should try to illustrate the facts and principles.
iv. Languages used by teacher should be simple and clear.

d. Experimentation:

i. Demonstration should be properly spaced and striking, clear and convincing.
ii. The demonstration table should have only apparatus.
iii. The experiment should be simple and speedy.
iv. All the apparatus should not be displayed at once.

e. Blackboard work:

A big blackboard behind the demonstration table is necessary in order to summarize the principles and other matters of demonstration and also to draw necessary diagrams and sketches.

Advantages

i. Save time and money.
ii. Emphasis on student participation.
iii. Helpful to promote use.ful discussion.
iv. More efficient method.
v. Activity method.
vi. Helpful for teacher.

Disadvantages

i. Visibility is main problem for a teacher because all the students may not be able to see the details and results of a demonstration.
ii. Speed of experiment: Either too fast or too slow speed of demonstration sometimes may create trouble.
iii. Ignore individual differences.

iv. This method would somehow hinder the development of laboratory skills among the students.
v. Not useful for developing scientific attitude.

6.9.3 Laboratory Based Teaching Method

This method is one of the important methods of teaching science and it forms an integral part of effective science teaching. Under this method, teacher encourages the students to derive various scientific laws and principles on their own by getting personally involved in the experiment work.

For this, provision of a well-equipped laboratory is made by the teacher. Along with such materials and facilities, proper instructions are being provided by the teacher to the students by which they can carry out their experiments self-independently. They carry on the experiments and record the observation properly, on the basis of which they infer their results or draw conclusions.

Entire work of the students is being supervised and controlled by the teacher, as a result of which, probability of meeting with any kind of accident reduces to considerable extent. For science and second language teaching, this method is used to maximum possible extent by the teachers, as a result of which, some experts have divided it into various categories, some of which are as follows.

a) *Inductive Laboratory Method:* Through this method, students get the opportunity to form various scientific concepts and principles on their own as in this method they have to take part in various project functions.

b) Verification and Deduction Method: Through this method, teachers illustrate various scientific concepts, principles and laws in front of students.

c) Technical Skill Oriented Method: This method stresses to acquire various kinds of manipulative skills which involve the development of hand-eye coordination.

Advantages

i. Through this method, a science teacher can provide various kinds of learning experiences to the students, as a result of which information gained by them turns out to be of permanent kind.

ii. In this method, individual differences and interest of all the students are taken into consideration, as a result of which, it is considered to be one of the psychological method of teaching.
iii. Through this method, students learn to explore various things on their own.
iv. Through this method, an intimate relationship got developed in between the students and teacher.
v. The student learn to perform their work on their own and independently.

Disadvantages

i. Teacher should be more alert, as it involves certain kind of risk of occurrence of accident.
ii. Shortage of equipments, materials and other resources limits this approach.
iii. This method is considered to be expensive as it needs expensive equipments and materials.
iv. Teacher may find it difficult to attend to the individual needs of the students, as they differ from each other to considerable extent.
v. This method can only be used by experienced and well qualified teacher, otherwise probabilities of getting failure can be increased.

6.9.4 Assignments

Assignments are the task requiring student engagement and a final tangible product that enables you to assess what your students know and don't know. They represent one of the most common ways to assess learning. They can be either formative assessment or summative assessment, so the number and types of assignments will depend upon your course design, learning out comes. Writing assignments focus on student's comprehension, ability to understand the topic provided but also depending upon the purpose of the assignment, the teacher can also measure student's innovation and evolution abilities. It develops or demonstrates student's higher order thinking skill, writing skill, and / or collaborative and interpersonal skill. Essays could used to access student comprehension over specific content and the ability to explain the material in their own words. Group assignments could assess interpersonal, communication and collaborative learning.

Advantages

i) Easier and less time consuming to construct than exams
ii) Promotes higher order thinking (application, synthesis and evaluation)

Disadvantages

i) May require additional resources (e.g. library or other facilities)
ii) May require class time (e.g. group projects, presentations etc.)

iii) Typically more time consuming to grade than exams
iv) May be less effective for introductory level content

6.9.5 Discussion method

Discussion method is one of the methods of teaching were teacher and students actively participate in the learning process. Discussion method emphasises learners' activity in the form of discussion, rather than simply telling and lecturing by the teacher. Thus, this method is more effective. In their method, everybody participate in the discussion, and therefore thinks and expresses himself. This is sure way of learning. There is a development of democratic way of thinking and arriving at decision. Students, during the course of discussion, get training in reflective thinking, which ideas to deeper understanding of the historical problem under discussion. During discussion, everybody is required to express his ideas and opinions in a clear and concise manner. This provides ample opportunities to the students for training in self-expression.

Advantages

i. Emphasis on learning instead of teaching.
ii. Participation by everyone in the class.
iii. Development of democratic way of thinking.
iv. Training in reflective thinking.
v. Spirit of tolerance is included.
vi. Learning is made interesting.

Disadvantages

i. All types of topic cannot be thought by discussion method.
ii. This method cannot be used for teaching small children.
iii. The students may not follow the rules of discussion.
iv. Some students may not take while others may try to dominate.
v. The teacher may not to be able to guide and provide true leadership in the discussion.

6.9.6 Heuristic approach

The term heuristic refers to Armstrong who (1945) called it 'problem solving'. It is based on psychological principles of 'trial and error' theory. It is a logical method of teaching strategy. It is an economical and speedy strategy of teaching. In this method, a problem is placed before the learners and they are asked to find the solution of the problem through various literacy means like books, laboratory and workshop etc. Teachers' role is to initiate learning and learners are motivated throughout the learning process. By using their creative thinking

and imaginative power, they try to find out the relevant solution based or some logic. The learner learns by self-experience. This teaching method is focused on problem solving capacity, scientific attitude towards problem and development of self-expression.

Advantages

i. It helps in achieving cognitive, affective and psychomotor objectives.
ii. Learners are given opportunities to learn by self-experience. It develops self-confidence and self – experience.
iii. This method helps in developing scientific attitude and creativity in learners.
iv. Teacher encourages the learners to explore the environment in search of the solutions of the problem.
v. Interaction between the teacher and the learner takes place in a co-operative and conducive environment.

Disadvantages

i) It cannot be used at primary level of education.
ii) Some students who are below average and fail to succeed in discovery solutions of the problem.
iii) Learners feel hesitate to approach the teacher for seeking his help.

6.7 Project Method

The Project Method is one of the modern methods based on experienced – centred teaching in which, the curricula and content of studies are based on life situations through achieving the objectives of cognitive, affective and psychomotor skills. This method is based on the philosophy of Pragmatism and the principle of 'Learning by doing'. William Heard Kilpatrick expanded the project method into a philosophy of education. According to W.H. Kilpatrick, "A project is a wholehearted purposeful activity proceeding in a social environment". He emphasised on child-centred and progressive education. He has classified project method into four types as given below,

1. Constructive- when learners have to construct some things related to social life such as charts, models, maps etc.
2. Artistic – Projects focusing on aesthetic fields of life such as music, dance, painting etc.
3. Problem – solving – Projects focussing on problems related to real life situations such as how to operate a bank account, how to communicate with others through social medias etc.
4. Group work – Projects focussing on involving group of students in achieving a task such as developing a garden

Advantages

i) It helps in developing social norms and social values among the learners.

ii) It provides invaluable opportunities for correlation of various elements of the subject matter and for transfer of learning.

iii) It helps in growing knowledge very effectively as a result of co-operation on social participation.

Disadvantages

i) The project cannot be planned for all subjects and whole subject matter cannot be thought by this strategies.

ii) It is not economical from the point of view of time and cost.

iii) It is very difficult for a teacher to pan or to execute the project the learner and surprise them.

Check your Progress – 3

1. Write down the steps in lecture – cum – demonstration method.

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2. Point out the merits of Laboratory Based Teaching method.

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3. What is the concept of discussion method?

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4. Who familiarised heuristic approach?

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6.10 LET US SUM UP

In this Unit, we have made an attempt to analyse the nature, phases and levels of teaching. The efforts we made to gain thorough information about the various approaches to teaching would enrich the knowledge of the learners in their career development. The different schools of thoughts such as behaviourist, cognitivist, constructivist, and connectionist have given us different views in the process of teaching. Anticipatory, Cooperative, Personalized and Wholistic approaches gives us varied analysis of teaching process.

Next, we learnt about the information processing and personal development and social development in the models in teaching. It is essential for every prospective teacher to know, examine and experiment different models of teaching since it is necessary for the teachers to adapt to the teaching methods according to their individual differences of the learners for their academic achievement.

We concluded this Unit by specifying the concepts, advantages and disadvantages of different models of teaching that can contribute to the growth of knowledge in the process of teaching.

6.11 ANSWERS TO 'CHECK YOUR PROGRESS'

Check Your Progress – 1

1. The different phases of teaching are
    a. Pre – active phase
    b. Interactive phase
    c. Post – active phase
2. The various levels of teaching are
    a. Memory level
    b. Understanding level
    c. Reflective level

3. The two important methods of teaching are – Teacher-centred approach and Student-centred approach.

Check Your Progress – 2

1. Behaviourist approach to learning is based upon the idea that learners respond to stimuli in their environment and behaviour. In this approach, the role of the facilitator is to provide relevant and useful stimuli so that the learner respond and gain the required knowledge**.**
2. The merits of constructivist approach are
    a. Effective for students who learn better in hands – on experiences.
    b. Encourages the teachers to spend more time on the students' favourite topics and allow them to focus on important and relevant information.
    c. Students learn social skills, support each other's learning process and value each other's opinion and input.
3. The approaches in co-operative teaching are
    a. Supportive co – teaching
    b. Parallel co – teaching
    c. Complementary co – teaching
    d. Team teaching

Check Your Progress – 3

1. The steps in lecture – cum – demonstration method are
    a. Planning and presentation
    b. Introduction of lesson
    c. Presentation of the subject matter
    d. Experimentation
    e. Black – Board work
2. Write the mentioned merits in the text.
3. Discussion method emphasis learners' activity in the form of discussion rather than simply telling and lecturing by the teacher. Democratic way of thinking and arriving at decision is developed in this method.
4. Heuristic method was familiarised by Armstrong who called it as 'Problem solving' method.

6.12 UNIT END EXERCISES

1. Explain the phases and different levels to teaching
2. With appropriate illustrations, explain any two approaches of teaching.
3. Share your knowledge about personal development and social development.
4. Discuss the concept of laboratory method and project method.
5. Differentiate between lecture method from lecture – cum demonstrative method.
6. How could you implement assignment method in your classroom for effective teaching?

6.13 SUGGESTED READINGS

1. Eggen Paul et al., (1979) : *Strategies for teachers – Information processing model in the classroom.* New Jersy: Prentice Hall Inc.

2.Joyce, Bruce & Weil, Marsha (2009) : *Models of teaching (8th ed).* New Delhi: Prentice Hall of India.

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UNIT VII - TEACHING AS A PROFESSION AND CLASSROOM MANAGEMENT

Structure

7.1 INTRODUCTION

In this Unit, you are going to gain knowledge about the different aspects teaching and the skills and competence of a teacher, communication and classroom management for advantageous learning. One of the humanistic contributions to the society as a whole with ensuring the holistic development of a child is teaching profession. It is a noble profession where the teacher is regarded as having great knowledge, wisdom and authority in certain area of his or her specialization. It is the responsibility of a teacher to contribute to the development of the society and the community through utilising his or her potentials with utmost sincerity. Their role as a teacher not end within the classroom alone, the teacher should inspire and act as role models to bring about positive experiences in the life of the students and the society. It is essential for a teacher to gain significant amount of knowledge and skills to create a conducive learning environment. Also the teacher should implement best practices and other appropriate teaching strategies to effectively teach the curriculum. This makes the success of teaching as a more humane profession. The competence of a teacher also includes designing, selecting and implementing effective assessment techniques.

The interaction between the teacher and the student in a learning environment much influences the learning process. Hence, it is necessary for the person who aspires to excel in teaching to develop their communication skills by discerning with the basic communication process and its influencing factors. Effective teaching and learning takes place only in an efficiently managed classroom. Well managed classroom provides an environment for learning to flourish. Hence, as a responsible person the teacher needs a good deal of effort to create and manage an environment that progress the student achievement in learning. We examine the classroom healthy classroom management and ambience to produce powerful gain in students learning.

7.2 OBJECTIVES

After studying this Unit, you will be able to

- identify teaching as an art, science and commerce
- distinguish teaching as a job, occupation and profession
- explain the skills and competence of a teacher
- illustrate the meaning and models of communication
- elucidate classroom management and ambience

7.3 TEACHING AS ART, SCIENCE AND COMMERCE

Education is the process of acquitting and being able to apply knowledge. Education also refers to the delivery or process of learning. Teaching is one of the most significant factors influencing successful learning. Teaching is a set of events, outside the learner which are design to support internal process of learning. Teaching is outside the learner. Learning is internal to learners, Concept of the teaching shape the framework and atmosphere in which all educational activities the teaching-learning process are considered and decided.

'Teaching is an art' infers not only a different understanding of teaching, but requires considering a different framework of knowledge as well. In the arts there are clearly ways of knowing and doing that cannot be represented within the measurable, objective domains of traditional science and education. Ex. The musician's refined senility to nuances of tone, the actor's to voice and gestures, the clowns to the possibilities of improvisation, all represent dynamic form of knowledge and expression which inherently resist fixation and standardization. The highly emergent qualities of artistry do not lend themselves easily to scientific research or discourse and thus do not reflect that type of knowledge which most educational theory has propagated as essential. At the same times such form of knowledge undeniably evidence precise ways of knowing and acting. The concept of teaching as an art is the view capabilities and skills which excellent teaching demands are far loser to those required of artists. Elliot Eisner a prominent educationist, in a chapter called "On the art of teaching" in his book the educational imagination (1985) explains the four reasons which lead him to define teaching as an art.

- It is an art in the sense that teaching can be performed with such skill and grace that, for the student as for the teacher, the experience can be justifiably characterized as aesthetic.
- Teaching is an art in the sense that teacher's, like painters, composers, actress and dancers, make judgment based on qualities that unfold during the course of action.
- Teaching is an art in the sense that the teacher's activity is not dominated by prescriptions or routines but is influenced by qualities and contingencies that are unpredicted.
- Teaching is an art in the sense that the ends it achieves are often related in process.

It is in these four senses- teaching as a source of aesthetic experience, as dependent on the participation and control of qualities, as seeking emergent ends-that teaching can be

regarded as an art. Through realizing qualities such as openness, sensitivity, flexibility, creativity and experiences are most essential, the teacher as an artist in the classroom is seen as exhibiting comparable forms of skill and grace as a musician, dancer, or actor. This is a perspective with potentially far-ranging consequences affecting all aspect of teacher education and teaching. This art perspective of teaching presents us with profoundly different possibilities and responsibilities then those prevalent in most concepts of teaching today. It is a view that also implies an understanding of teacher education which recognizes that realizing our potentials as teachers require developing and refining artistic capabilities deeply rooted in sensory and affective experience, not in theoretical knowledge. Thus we can justify 'teaching as an art'.

The concept of 'teaching as a science' that is widely prevalent today became an increasingly accepted view in the course of the 20 century. Its origins can be found in educational thinking in the second half of the 19 century, largely due to widespread Johann Fried Rich Herbart's writing and the ensuing *Herbartismus*. From this point on, the practices of teaching and teacher education came to seen as legitimate fields of scientific inquiry and knowledge, offering the underlying basis for ensuing educational theory and practice. The scientific perspective in the training of teachers, shape the entire approach to pre-service and in-service training. From a perspective based on attaining the best possible result in the most efficient manner, schools have increasingly been viewed as a form of service institution in which teachers are to be held accountable for productivity, often measured on the basis of their pupils standardized test scores.

7.4 TEACHING AS JOB, OCCUPATION AND PROFESSION

The concept of teaching as a job needs to teacher to be an organized individual that is good with time management, planning, and multi-tasking. A teacher needs to be creative, energetic and sensitive, specialized with the subject knowledge and teaching skills and competence. The proper time management skill, planning skill, and multi-tasking skill provides the nature of teaching as a job.

The concept of teaching as a profession, involves highly complex sets of skill, intellectual functioning and knowledge that are not easily acquired and not widely held. For this reason, profession is often referred to as "knowledge based" occupations. A profession is a vocation founded upon specialized educational training. But even if people acquire these complex sets of skill and knowledge rarely would they able to practice as professionals. Entry

into professions requires creational there is needed to get into the professional of teacher by getting into a regularized course of certification. In addition to initial formal training and professional work typically require ongoing in-service technical development and growth on the part of practitioners this throughout their career. This assumption is that achieving a professional level of mastery of complex skill and knowledge is a prolonged and continuous process and more ever, that professionals must continually update their skill as the body of technology, skill and knowledge advances'. It is participate in the closet of occupation for which to be paid perform certain duties. As it is related to contractual and the teachers are supposed to go every day and perform according the management requirement it fulfills the concept of an occupation.

7.5 HUMANE AND PROFESSIONAL TEACHERS

A Humane Teacher is anyone who teaches and promotes humane attitudes toward people. The responsibility of a teacher does not take a finishing end in the management of classroom and teaching process alone but apart from that, the profession of a teacher gives multifaceted responsibilities to teachers, for the nurturing of the students development and achievement inside the class room and outside the classroom. The role of teacher as counsellor, psychologist, social worker, makes the teaching as a humane profession.

The teaching profession could be made more humane by adopting the three following criterions. First thing is the careful selection of persons with academic excellence with personality structure and social skills. Secondly, the instructional procedures implemented by the teachers should reflect humanness in their approach. Thirdly, the meaningful experiences of the teachers from sound reality bases such as microteaching, simulations etc., along with field experiences carried out in actual school and other situations like youth camp, tutoring and playground etc enhances the person involving in teaching in more humane approach.

i) Teacher as a Counsellor:

In the perspective of a school, the teacher is a counsellor and the students either approached the teacher when she/he has a problem, which cannot solved by self or the teacher senses the problem and offers help to die student to solve the problem properly. The teacher addresses not only problems related to the school but also those related to friends, family, health etc…

In a school set up, students seldom approaches teachers with their problems to get any help as they are apprehensive about disclosing the intimate nature of their problems. Having understood the nature of the problem the role of the teacher is to help a student

realize his/her potential to solve it. Counselling works on the principle that every individual if guided properly can realize the strength of self to solve problem of self. To be an effective counsellor a teacher must be aware of being a keen observant, objective, sensitive and empathetic person.

ii) *Teacher as an Educational Psychologist***:**

Teacher as an Educational Psychologist applies theories of Human development to understand individual learning styles and inform the instructional process. While interaction and Students in school settings is an important part of their work, it isn't the only facet of the job. People don't only learn at school, they learn at work in social situation and even doing simple tasks like household chores or running errands. Teachers as Educational Psychologists examine how the Students learn in a variety of settings to identify approaches and strategies to make learning more effective. They study the Social, emotional, and cognitive processes involved in learning and apply their findings to improve the learning process. Some specialization in the educational development of a specific group of people such as children, adolescents, or adults, while others focus on specific learning challenges as attention deficit hyperactivity disorder (ADHD) or dyslexia.

iii) Teacher as a Social Worker:

Society has drastically changed in a short few years and teachers are expected to concern with the effects of the changes and serve for the profession of humane culture. Teacher as a social worker works with people on an individual or group basis to assist them in learning skills that will promote their health or ability to support them economically. Some teachers along with other social workers in the same settings, often in collaboration with one another, child Social Workers, for example, may work in school settings. Teachers might work with Children of preschool age or with adults in Post-Graduate settings, as well as children and adolescents of varying ages. Thus here the Teachers act not only as a Social Worker but a Third Parent. They help their Student to cope with personal issues and solve problems in their everyday lives.

iv) Teacher as a Sociologist:

Teacher as a Sociologist help improve people lives, but in a much more abstract way than social workers. Sociologists study all aspects of human behaviour to political systems to cultural changes, and everything in between. As the importance of Sociological data becomes more and more apparent, their research is incorporated into a wider and wider array

of fields, and helps everyone, lawmakers to administrators and even product designers to make more informed, efficient decisions in the field of education.

7.6 SKILLS AND COMPETENCE OF A TEACHER

Being a teacher at any level requires a significant amount of knowledge and skills. Paying attention to the core competencies for educators helps to ensure that all teachers and others who work in education are prepared to make learning a positive experience for students. The skills of a teacher are as follows.

i) Interacting with Students- Educators must be able to positively interact with all students. This includes difficult students, students who work below grade-level and students whose personalities just grate on a teacher. Teachers must put aside their prejudices and feelings in order to treat all students with respect, provide them with equal opportunities for learning and make them feel confident.

ii) Create a Learning Environment-Creating a safe learning environment that is conducive to learning is essential. Educators must set high expectations for student performance and behaviour. All rules must be enforced consistently and fairly. Students should not have to worry about being bullied in the classroom and should feel comfortable when speaking up.

iii) Good at Lesson Plan design-All teachers must be capable of designing lesson plans to meet student needs and cover the standards. This requires knowing how to choose and create instructional materials to accommodate students at different levels. It also requires creating a scope and sequence that provides students with enough time to master the standards.

iv) Ability to employ varied teaching strategies -Best practices and other appropriate teaching strategies allow competent educators to effectively teach the curriculum. Competent educators may lecture, but they also incorporate a variety of strategies, including non-traditional teaching strategies, to help students with multiple learning styles learn and stay engaged. Educators also attend regular professional development sessions to learn new strategies and the latest best practices.

v) Use appropriate assessments practice: Teachers must design or select and administer effective assessments. An assessment must accurately measure what has been taught and what students have learned. Competent teachers combine informal and formal assessment

techniques to monitor student performance. They also incorporate technology, portfolios and other creative methods to assess students.

vi) Ability to identify student needs- Being able to identify and address student needs is a crucial component of an educator's job. This is done by partly using formal and informal assessments to help guide instruction. However, it also involves getting to know students beyond an instructional level, learning about their interests, recognizing changes in mood and making sure students are mentally and emotionally focused on learning.

vii) Good at communication-Communicating effectively with parents and other stakeholders in a child's education is a key component of an educator's job. A quality educator provides regular updates on a child's progress and immediately addresses any concerns that may arise. The teacher also knows how to calmly discuss issues with difficult parents and how to come to decisions that have the best interests of the child in mind.

viii) Ablility to collaborate -Teachers must be able to collaborate with other teachers and school staff. Teachers can learn from one another and grow into better teachers through collaboration. They can also collaborate to make the school a safe, effective learning environment for all students and to improve the overall image of the school and the instruction that takes place there.

ix) Maintaining a Professional Appearance-Being a teacher requires maintaining a professional appearance at all times. This includes dressing appropriately and acting professionally. Teachers often serve as role models for students. Actions such as using foul language, gossiping about teachers and students or dressing inappropriately can cause students to lose respect for an educator.

x) Demonstrating a commitment to the profession-Teachers must make a commitment to education and professional development. Subject matter knowledge fades, teaching strategies change and new research is always modifying the way students learn and teachers' teach. By furthering their education and taking part in professional development sessions, teachers can continue to improve the quality of the education they provide.

Core competence of teachers

a) *Knowledge*: Teachers should be able to formulate curriculum, develop subject-content and suitable approaches of content transaction and conduct continuous comprehensive evaluation of children profile. They should be able to establish links between techno-pedagogy and learning theories. They should be competent to integrate academic knowledge and professional learning into a meaningful whole. They should build conceptual knowledge based on experience, observations and theoretical engagement. They should engage with theory based on experiences to help students to view knowledge not as external, but, as something that is actively constructed during learning.

b) *Skill* : Teachers should possess skills of creating bulletin boards using relevant collection of stories in terms of variety in context to social and cultural diversity and sensitivity, with adequate reference to sources and acknowledgements, classification and retrieval system for the use of stories in classrooms and outside, evaluating learner's skill, problem solving skill, handling laboratory and audio-visual equipments, designing teaching-learning materials, use of library, organizing field visits, seminars and group discussions and exhibitions. They should be able to address diversity in the classroom adequately.

c) *Attitude*: Teachers should be able to sense their own limitations and strengths, integrate thought and action, develop self-confidence and open mind, question over-confidence, listen with empathy, take initiative, and develop positive attitudes. They should be ever ready to build child knowledge, potentiality and talent and co-construct knowledge. They should create opportunities for children to discover, learn and develop in contextual learning. They should foster learning through activity, discovery, and observation and have understanding of children's psycho-social needs.

d) *Value:* Teachers should be able to re-conceptualize citizenship education in terms of human rights and approaches of critical pedagogy; emphasize environment and its protection, live in harmony within oneself and with natural and social environment; promote peace, democratic way of life, constitutional values of equality, justice, liberty, fraternity and secularism, and caring values.

7.7 STATUS OF TEACHING AS A PROFESSION

Teachers are often considered the backbone of schools; without them there would be no school. Thus, understanding teachers' role is very important in the educational system. Professionals have a high degree of control over their work environments, high prestige, and relatively high compensation compared to non professionals. Teaching offers the chance to change other people's lives permanently for the better. As a teacher you can help to develop somebody's subject knowledge and maybe even their mind and personality. Teaching is an incredibly rewarding thing to do and good teachers are needed everywhere: in schools and college classrooms to educate the young, as well as in the workplace and other settings to teach adults and colleagues.

i. Autonomy: Professions tent to be autonomous, which means they have a high degree of control of their own affairs: "Professionals are autonomous insofar as they make independent judgments about their work". This usually means "the freedom to exercise their Professional Judgment". However, it also has other meanings. "Professional Autonomy is often described as a claim of professionals that has to serve primarily their own interests….this professional autonomy can only be maintained if members of the profession subject their activities and decisions to a critical evaluation by other members of profession. The concept of Autonomy can therefore be seen to embrace not only judgment but also self-interest and a continuous process of critical evaluation of ethics and procedures from within the profession itself.

ii.Status and Prestige: Profession as Teachers enjoy high social status, regard and esteem conferred upon them by society. This high esteem arises primarily from the higher social function of their work, which is regarded as vital to society as a whole and thus of having a special and valuable nature. All profession involves technical, specialised and highly skilled work often referred to as "Professional Expertise". Training for this work involves obtaining Degrees and Professional qualifications without which entry to the profession is barred. Updating skills through continuing education is required through training.

iii.Power: Teachers as Professionals have power. This Power is used to control its own members and also its area of expertise and interests. A Profession tend to dominate and protect its area of expertise and the conduct of its members, and exercises a dominating influence over its entire field which means that professions can act monopolist, rebuffing competition from ancillary trades and occupations, as well as subordinating and controlling

lesser but related trades. A Profession is characterised by the power and high prestige it has in society as a whole. It is the power, prestige and value that society confers upon a profession that more clearly defines it and reduce bureaucratic inertia and increase problem solving and adaptability capacities.

7.8 TEACHER AS A MENTOR

The concept of teacher as a mentor has been around from ancient times. Mentor was more than a teacher. Mentor has been recognised as all things to all people. Mentor represented the union of both goal and path of human life. Mentoring requires strength in two different but complementary behaviours. First, mentors must lead by guiding interaction with their students. Mentors invest themselves in their mentees and uplift them. Secondly, Mentors must support students. Mentors push their learners to become their best by encouraging development in areas of expressed need in their inventory. The appeal of mentoring is that it is oriented toward the needs of individuals. However, mentoring is not a completely spontaneous endeavour. Based on years of experience, mentors have collaborated and prepared guidelines for the many aspects of the mentoring relationship. The following paragraphs will provide material to be used to further understanding of a mentoring relationship, to initiate a relationship, and to enhance opportunities for success.

A mentor is one who

- Is a loyal friend, confidant, and advisor.
- Is a teacher, guide, coach, and role model
- Is entrusted with the care and education of another
- Has knowledge or expertise to nurture another person of ability
- Is willing to give what he or she knows with no expectation of reciprocation or remuneration
- Represents accomplishment, knowledge, skill, and virtue.

The most effective mentors offer support, challenge, patience, and enthusiasm while they guide others to new levels of achievement. They expose their students to new ideas, perspectives, and standards, and to the values and norms of society. Although mentors are more knowledgeable and experienced, they do not view themselves as superior to those whom they mentor.

Teacher-mentors as change-agents: The positive impact of Teacher-Mentors, possessing a mentoring spirit, on transforming school communities might be seen in the following ways:

i. Creation of a more caring community
ii. More motivated students
iii. Fewer discipline problems
iv. More affirming of teachers
v. Better relations with families
vi. More teacher support in a variety of areas
vii. Fewer students falling through the cracks
viii. A drop in truancy, substance abuse, sexual activities and youth suicide
ix. The development of better communication skills amongst school communities e.g. more encouragement, more positive attitudes, empathy, no put downs, no swearing

A teacher to become a mentor should know the expected stages of a mentoring relationship, as well as the students' personal characteristics, family, and socio-economic status like race, gender, age, economic status, family status etc, will alleviate many of these anxieties for the mentor. Establishing a positive mentoring relationship is very much like establishing other valued human relationships. Both the teacher and the student must have a genuine desire to understand the values and expectations of the other person, and both parties must become sensitive to the others feelings and needs.

Teachers as mentors are responsible for conveying and upholding the norms, values, and goals that are mutually agreed upon in the mentoring contract. For a mentoring relationship to be healthy, it must be evolutionary rather than static in nature. The relationship changes because the purpose of the relationship is to enable the mentee to acquire new knowledge, skills, and standards of social competence. The perceptions of both members of the relationship evolve as the students' performance reaches new levels under the mentors guidance and support.

The teachers to become a mentor should become acquainted and informally clarify their common interests, shared values, and future goals and dreams. In the professional world, individuals who have desired to become mentors have analysed aspiring newcomers in their field and have selected promising young learners to nurture. Teachers as mentors must be careful not to allow their preconceptions to dictate how they will approach the relationship and define who they think the mentee should become. In the relationship with the student,

there will be more listening, sharing, and confiding in one another schools, families and communities should encourage the committed and dedicated teacher, who is passionate about working with young people and wants to encourage them to reach their potential. The spirit of the teacher- mentor should be present in every classroom, on every sports field, and in every school related activity throughout the world.

Check Your Progress – 1

1. Who popularised the concept of teaching as science?

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2. What are the criterions that make teaching as a job?

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3. What are the roles played by the teacher to make teaching a more humane profession?

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7.9 COMMUNICATION

Meaning

Communication is the process of passing information from one person to another. The exchange of information or passing of information, ideas or thought from one person to the other or from one end to other is communication. Communication is "a process of meaningful interaction among human beings. More specifically, it is the process by which meanings" Mc Farland. Communication is "an exchange of fats, ideas, opinions or emotions by two or more persons "Newman and summer. The purpose of communication is to understand information. Information is the most vital aspect for communication. It is the information which is transmitted, studied analyzed and interpreted and stored. Whatever one wants to say to someone should be clearly understood by the listener or else the very purpose of communication would be defeated. Communication facilitates the flow of information and

understanding between different people through verbal and non verbal (social media) ways. The flows information is vital for effectiveness in achieving goals and decision making purposes. It helps understand people better removing misunderstanding and creating clarity of thoughts and expression. It also educates people. The communication may be written, oral, formal, informal and upward, downward, horizontal, diagonal, interpersonal, interdepartmental, and intra-organizational. The communication is an important management function loosely associated with all other material functions. It bridges the gap between individuals and groups through flow of information and understanding between them.

Principles

The principles of clarity of effective communication are to be followed:

i.Clarity: The principles of clarity means the communicator should use such as a language which is easy to understand. The message must be understood by the receiver. The words used should be simple and ambiguous. The language should not create any confusion or misunderstanding. Language is the medium of communication; hence it should be clear and understandable.

ii.Adequately and consistency: The communicator must carefully take into that the information to be communicated should be complete and adequate in all respect. Inadequate and incomplete message create confusion and delays the action to be taken. The adequate information must be consistent with the organizational objectives, plans, policies and procedures .the message which is inconsistent may play havoc and distort the corporate interest.

iii.Integration: The principles of integration portray that through communication the efforts of human resources of the organization should be integrated towards achievement of corporate objectives. The very aim of communication is to achieve the set target. The communication should aim at coordinating the activity of the people at work to attain the corporate goals.

iv.Economy: The unnecessary use of communication system will add to cost. The system of communication must be used efficiently, timely i.e. at the appropriate time when necessary. The economy in use of communication system can be achieved in this way.

v.Feedback: The purpose of communication will be defeated if feedback is not taken from the receiver. The confirmation of the receipt of the message in its right perspective from its receiver fulfills the object of communication. The feedback is essential only in case of written communication and messages sent through messengers. In case of oral type of communication the feedback is immediately known.

vi.Need for communication network: The route through which the communication passes from sender or communicator to its receiver or communicate refers to communication network. For effective communication this network is essential.

vii.Attention: The message communicated must draw the attention of the receiver staff and ensure action from him in the right perspective. Basic communication model:

7.7.1 Basic Models of Communication

According to Adler and Townie (1978), all that ever has been accomplished by human and all that ever will accomplish involves communication with others. Psychologist Abraham Maslow (1970) suggests that the capability to satisfy personal needs arises mainly from the ability to communicate. Intrapersonal problems could be arising from unsatisfactory relationship brought about by inadequate communication between people. Success on and off the job often stems from one's ability to transfer information and express ideas to others. Effective communication frequently results in friendships that are more meaningful, smoother and more rewarding relationship with people on and off the job, and increased ability to meet personal needs.

The process of communication:

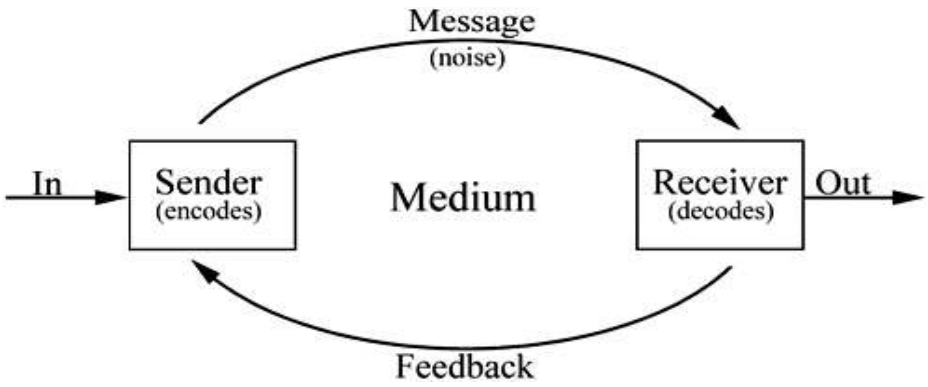
Alder and Towne describe communication as a process between at least two people that beings when one person wants to communicate with others.

i. Sender: The person who wants to communicate is called sender. To transfer an image to another person, the sender first must transpose or translate the images into symbols that receivers can understand. Symbols often are words but can be pictures, sounds, or sense information (touch or smell).

ii. Messages: Messages are the mental images within a person who desires to convey those images to whom they want to convey (receiver).mental images can include ideas, thoughts, pictures and emotions.

iii. Encoding: Only through symbols, the mental image of a sender could be given meaning for others. The process of translating images into symbols is called encoding.

iv. Medium: The encoded messages are transmitted to the receiver through different means like during face to face verbal interaction, over the telephone, through printed material ex: television, possible communication channels used to transmit messages between senders and receivers. Other transmission channels include touch, gestures, clothing and physical distance between sender and receiver.



Communication model

v. Receiver: In the communication model, a message has been coded, the next level in the communication process is to transmit or communicate the message to a receiver.

vi. Decoding: When a message is received by another person, a coding process occurs. Interpretation of the encoded message from the sender through the medium is called decoding. Just a sender must encode messages in preparation for transmissions through communication channels, receivers must sense interpret the symbol and then decode the information back into images, emotions, and thoughts that make sense to them.

7.9.2 Factors Facilitating Communication

The factors that influences the process of communication are as follows

i.Ability of individual to send & receive messages: Nature of communication skills and language skills may differ from a person to person. Ex: Infants rely on non – verbal communication, young children may use pictures and adults prefer verbal or visual or non – verbal communication. The sender needs to condensed down the essential messages and put

into a form that the receiver can understand in order for an effective communication. It is the ability of the sender to put forth what he wants to convey in understandable way. It is the receiver's ability to interpret the received message as given by the sender. Misinterpretation may cause the communication effective.

ii.Perceptions of sender & receiver: The interpretation of the messages differs from male to female and according to individual differences in the perceptions of messages. Ex: male use communication for independence and negotiation where female use communication for confirmation, reinforce intimacy etc.

iii.Personal space/ Proxemics: Personal space plays an important role in an oral communication situation. It can act as an aid promoting good communication. Experts classify an oral communication situation on the basis of the distance maintained between sender and receiver as intimate (family relationships), personal (friends and peer group), official (official) and public (pubic situation).The personal space choose by us in intimate, personal, social and public interactions may vary according to our personality trait and socio – cultural norms.

iv.Territoriality: Individual consideration and preferences of their own space and things influences communication. Ex: Our interaction in a well known place may differ from our interaction in an unknown place.

v.Roles and Relationships: Roles and relationships between the sender and the receiver influence the content and the responses in the communication process. Ex: Choice of words, sentence structure, message content and channel, body language and tone of voice etc vary noticeably from role to role.

vi.Time and Environment: Time has an important role in a communication process. The processing time of the communication needs to be fast and reliable which could be attained by the use of appropriate modern communication channels. Convenient time, comfortable environment like temperature extremes, noise etc influences communication..

v.Attitudes: Attitude of a person towards others conveys their belief, thoughts and feelings about other people and events. Ex: attitude such as caring, warmth, respect and acceptance facilitate communication.

vi.Medium: Effective communication is done through the right mediums. If it is a short and quick message, then a written medium such as memo or email would be sufficient. Topics that require longer and more detailed discussion should be done in person or over the phone. Choosing the wrong medium can cause problems with message retention. Selecting the right communication has an influence on the effectiveness of a communication. Completeness of messages: For an effective communication, the messages need to be complete. It is important to make message concise, covering all pertinent information needed to be include each time we communicate.

Check Your Progress – 2

1. What is communication?

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2. What are the types of communication?

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3. What are the factors influencing communication?

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7.10 MAPPING AND MANAGEMAENT

In classroom, the teacher could various techniques to get the attention and interest of learners towards subject, they teach with the one of the techniques that use to for the above mentioned reason is mapping. Graphical techniques for visual connections between several ideas or piece of information could be identified as mapping. Each idea or fact or written down and then linked by lines or curves to its major or minor of following or previous ideas or facts, thus creating a web of relationship of concepts. Developed by the UK researcher Tony

Buzan, 1972 in his book "Use Your Head", mind mapping is used in note taking, brainstorming, problem solving, and project planning. Like other mapping techniques its purpose is to focus attention, and to capture and frame knowledge to facilitate sharing of ideas and concepts. This technique helps to support student's level of understanding up or transition technique with mapping technique. Mapping techniques could also be used as problem-solving organizer.

7.10.1 Healthy Classroom Management

Classroom management refers to the wide variety of skill and techniques and that teachers use to keep students organized, orderly, focused, attentive, on task and academically productive during a class. When classroom management strategies are excited effectively, teachers minimize the behaviors that impede learning for both individual students and group of students while minimizing the behaviors that facilitate or enhance learning. Generally speaking, effective teachers tend to display strong classroom-management skills. The interest and the attention of the learners to make them actively participate in all the activities related to classroom activities could be gained only by healthy classroom management. It extends to everything that teachers may do to facilitate or improve student learning, which would include factors such as;

i. Behaviour - A positive attitude, happy facial expressions, encouraging statements the respectful and fair treatment of students etc.

ii. Environment - A welcoming ventilated well-lit classroom filled with intellectually stimulating learning materials that's organized to support specific learning activities.

iii Expectations- the quality of work that teacher expect students to produce, the ways that teacher expect student to behave to word other students, the agreements that teachers make its students.

i) Materials- the type of texts, equipments etc.
ii) Learning resources or activities-the kinds of learning experiences that teacher design to engage student interest, passions and intellectual curiosity.

We should note that poorly designed lessons, uninteresting learning materials or unclear expectations could contribute to greater student disinterest, increased behavioural problems, or unruly and disorganized classes. Healthy classroom cannot be easily separated from all the

other decisions that teachers make. Some of the techniques could be adopted by the teachers for maintaining healthy classroom management are as follows,

i. Entry Routine
ii. Do now written activity
iii. Tight transitions
iv. Seat signals
v. Applaud up
vi. Nonverbal Interventions
vii. Positive group correction
viii. Public Correction

i. Entry Routine: It is a technique in which the teacher establish a consistent, daily routine that begins as soon as students entre the classroom like preparing learning materials, making seating arrangements, passing in homework or doing a brief physical warm up activity. This activity can avoid the disorder and squandered time that can characterize the beginning of a class period.

ii. Do now written activity: Do now written activity – it is a written activity that students are given as soon as they arrive in the classroom. This technique is intended to get students settled, focused, productive, and prepared for instruction as quick as possible.

iii. Tight transitions: It is a technique in which teachers establish transitions routines that students learn and can execute quickly and repeatedly without much direction from a teacher. This technique helps to maximise instructional time by reducing the delay that might accompany transitions between activities.

iv. Seat signals: it is a technique in which students use nonverbal signals while seated to indicate that they need something such as help with a problem or a restroom break etc.

v. Applaud up: It is an act of publicly recognizing and praising students who have done something good such as answering a difficult question or helping a peer etc.

vi.Nonverbal Interventions: Is when teachers establish eye contact or make gestures that let students know that they are not paying attention or misbehaving.

vii. Positive group correction: It is a quick, affirming verbal reminder that lets a group of students knows what they should be doing.

viii. Public correction: It is a quick, positive reminder that tells on individual student what do to instead of what not to do.This is intended to establish a group culture in which learning accomplishments and positive actions are socially valued and rewarded. Healthy classroom management has received an increasing amount of attention from education leaders, reformers, and researchers who have begun to investigate, analyse and document the effective strategies used by successful teachers. The growing emphasis on classroom management and that strong management skill are foundations of strong teaching.

7.10.2 Classroom Ambience

Classroom ambience creates a positive learning environment. Classrooms should be a dynamic and engaging place to be for the learners and also for the teachers to engage in teaching-learning activities. It includes the physical set up and the environment of the classroom. Classroom ambience speaks to the conditions in the classroom. The features of classroom ambience includes the allowance of number of students according to the space provided in for a classroom, arrangements of furniture like sitting and writing desk of the students, position of the tables of the teachers, cupboards, lighting, good ventilation, sound effect, noise control, and the way the space is separated from the "outside" by walls or windows. The ambience is everything about the classroom, and it that light, it can profound effect on the ability of students to learn.

An effective classroom ambience would make the learners feel involved and responsible for their own learning as well as being comfortable enough to actively participate in individual and group activities. A safe and conducive classroom is very essential for the teaching-learning process. It would make the learners comfortable to make learning adventures. Classroom ambience promotes a favourable mood or atmosphere in a classroom to ensure an effective teaching learning process to takes place. It is the responsibility of both the management of the schools and the teachers in planning the curriculum, organizing procedures and resources, arranging the environment to maximize efficiency, monitoring student progress and anticipating potential problems.

Check Your Progress – 3

1. What is called mapping?

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2. Point out the merits of mind mapping.

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3. Bring out the factors that facilitate effective classroom management.

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7.11 LET US SUM-UP

In this Unit, you have learnt about the various facts of teaching as an art, science and commerce. The qualities such as openness, sensitivity, flexibility, creativity and experiences gained emerges teaching as an art. The concept of teaching as science is widely accepted in the course of 20'th century. The practices of teaching have been seen as scientific enquiry and knowledge offering the basis of educational theories. The spheres of teaching is categorised as job, occupation and profession was explained. The essential skills and competence of a teacher for effective navigation the profession was discussed.

The meaning, principles and the process of communication was explained. The factors influencing the process of communication such as ability, perception and attitude of the sender and the receiver, personal space, territoriality, roles and relationships, time and environment, medium were described. The effective management of the classroom and the classroom ambience was discussed so that the importance and need could be revealed as it influences the achievement of the students in the classroom.

7.12 ANSWERS TO 'CHECK YOUR PROGRESS'

Check Your Progress – 1

1. The concept of teaching as science was popularised by Johann Fried Herbart.
2. The criterions that make teaching as a job are – time management skills, planning skills, multi – tasking skills.

3.The teacher plays the role of a counsellor, educational psychologists, sociologist and social – worker to make teaching a more humane profession.

Check Your Progress – 2

1.Communication is the process of passing or exchange of information or ideas or thoughts from one person to another.
2.The types of communication are written, oral, formal, informal, upward, downward, horizontal, diagonal, interpersonal, inter - departmental and inter – organizational.
3.Write the factors mentioned in the text.

Check Your Progress – 3

1.Graphical techniques for visual connections between several ideas or pieces of information is called mapping.
2.Note – taking, brain storming, problem solving and project planning.
3.Write the factors mentioned in the text.

7.13 UNIT END EXERCISES

1. Discuss teaching as job, occupation and profession
2. Explain teaching as a humane profession
3. What are the skills and competence of a teacher?
4. Point out the factors facilitating communication.
5. Explain the characteristics of healthy classroom management.

7.14 SUGGESTED READINGS

Nakamura M.Raymond (1999) : *Motivation, communication, and disciple, Healthy classroom management*. California: Wadsworth publishing.

Chambers E.Harry (2001) : *For scientific and technical professional, Effective communication skills.* Cambridge: Perseus Publishing.

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