BUNIADPUR MAHAVIDYALAYA (UNDER UGBU **Date- 17-03-2020 to 31-03-2020)**

Department of Education

Study Material Semester –II DC-3

Learning- unit – (III)

- **What is Learning-**
- Learning is a natural phenomenon which is natural to all organisms including both humans and animals. Learning affects a child's development. A child learns new habits only through the process of learning and through imitated traditions and customs. Intellectual skills are also developed through learning.
- **Definitions of Learning-**
- **According to Gestalt's view-**
  "The basis of learning is to gain knowledge after observing the whole structure. Responding towards the entire situation is learning."
- **According to Woodworth-**
  "The process of acquiring new knowledge and new responses is the process of learning."
- **C.E. Skinner-**

  "Learning is the process of progressive behavior adoption."

- **Some other facts also come before us relating to the learning, such as-**
  (i) Learning is a process through which the behavior of the child changes or modifies.
  (ii) Learning is predicted on the basis of changes in behavior.
  (iii) These changes can be negative or positive.
  (iv)The changes due to learning are permanent.
  (v) Changes in the behavior are the results of experiences.
  (vi) Leaning can be termed as a mental process.

Nature of Learning

- **Learning is a Continuous Process:**
  After birth, the child acquires skill from experiences obtained from the environment. Hence, leaning goes on throughout life.
- **Learning is Change in behavior:**
  The result of the Learning process can be measured as behavioral changes. This change can be in any form. It can be desirable or undesirable. But in desirable form, i.e. these changes should occur in a positive direction.
- **Learning is a universal process:**
  Learning is a universal process. It can happen everywhere. Learning is a process for all living creatures. Human being across all cultures learns as it is a lifelong process.
- **Learning is Purposive and Goal-oriented:**
  Learning is always has a purpose. It is goal-oriented in the sense that the teacher always has learning objectives in mind while teaching.
- **Learning is a process of progress and Development:**
  Learning can occur in any direction. Theses directions can be desirable or undesirable. We want to bring the individual's development in a desirable direction through learning.
- **Learning is the Organization of Experiences:**
  The basis of learning is the acquisition of new experiences. Behaviors of learners change as a result of new experiences. New learning experiences evolve as a result of past experiences acquired by the learner.

- **Learning occurs due to Activity and Environment:**
  Interaction with the environment is very essential for the learning process. The more children interact with their environment, the more they learn.
- **Learning Helps in Achieving Teaching-learning Objectives:**
  Teaching and learning situations have different goals, aims, and objectives. Process of learning helps in achieving the objectives of teaching.
- **Learning is the Relationship between stimulus and Response:**
  Learning is generally, a relationship between stimulus and response. A person is considered as a learned-person if he reacts according to the task to be learned.

➢ **Factor**

- **Motivation:-** It is the most important factor influencing the learner. If the learner has no motivation to learn, any amount of force will be futile. More the motivation better will be the learning.
- **Ability of the learner:-**This refers to the level of intelligence, creativity, aptitude and such other abilities necessary for learning.
- **Attention:-**Learner must learn to concentrate his attention on learning. Attentiveness helps to grasp learning material. Distraction of attention affects learning.
- **Readiness and will power:-**This is just like motivation. If the learner is ready to learn, he will develop motivation to learn. Along with readiness a strong willpower is also essential to overcome hurdles and problems. Readiness will help to develop a positive attitude in learner.
- **Maturation of the learner:-**Maturation and learning go hand in hand. We learn things only according to maturity of our body. For example, a child of 6 months cannot learn to ride a bicycle even after vigorous training, because it requires muscular or physical maturity.
- **Methods of learning:-** Effective learning depends upon the methods of study also. There are certain methods which save the energy and time of the learner. These are called 'economic methods of learning'. They are:
- **Good physical atmosphere:**-Sufficient light and ventilation, calm and clean place, normal temperature, some minimum furniture will help learning processes.

Pavlov's classical conditioning theory

- Russian psychologist named Ivan Pavlov encountered an unforeseen problem: the dog in his experiment salivated not only upon actually eating but also when they saw the food, noticed the man who usually brought it, or even heard his footsteps. Pavlov began time study this phenomenon, which he called 'conditioning'. To understand the nature of the process of conditioning, Pavlov performed the following experiment. .

➢ **Principles of Classical conditioning:**

1. Extinction :- The process of gradual disappearance of the conditioned response or disconnection of the S-R association is called extinction.

2. Spontaneous recovery : - After extinction, when a conditioned response is no longer evident, the behaviour often reappears spontaneously but at a reduced intensity. The phenomenon – the reappearance of apparently extinguished conditioned response after an interval in which the pairing of conditioned stimulus (CS) and unconditioned stimulus (US)has not been repeated is called spontaneous recovery. It shows that , the learning is suppressed rather than forgotten. As the time passes, the suppression may become so strong that there would , ultimately be no further possibility of SR.

3. Stimulus generalisation :- Responding to the stimuli in a generalized way was termed as stimulus generalisation with reference to a particular stage of learning behaviour in which an individual once conditioned to respond to specific stimulus is made to respond in the same way in response to other stimuli of similar nature.

4. Stimulus discrimination :- It is the opposite of stimulus generalization. In sharp contrast to responding in a usual fashion, the subject learn to react different in different situations. Conditioning through the mechanism of stimulus discrimination one learns to react only to a single specific stimulus out of the multiplicity of stimuli and to distinguish and discriminate one from the others among a variety of stimuli present in our environment.

IMPLICATIONS OF CLASSICAL CONDITIONING;

1. In day to day life, fear, love, hatred towards an object or phenomenon or event is created through conditioning.

2. Most learning is associated with the process of conditioning i.e. stimulus response association and substitution.

3. The phenomenon of stimulus generalization and discrimination goes on throughout our lives.

4. Abnormality in one's behaviour may to a great extent be the result of conditioning.

5. Much of our behaviour in the shape of interests, attitudes, habits, sense of application or criticism, mood & temperaments is fashioned through conditioning.

6. Conditioning helps in learning what is desirable and also unlearning what's undesirable.

SKINNER'S OPERENT CONDITIONING THEORY :

--B.P. Skinner conducted a series of experiment with animals. For conducting the experiments with rats, he designed a special apparatus known as a Skinner's Box. It was modified form of the puzzle box used by Thorndike for his experiments with cats. The darkened sound proof box has a grid floor, a system of` light or sound produced at a time of delivery of a pellet of food in the food cup,

MECHANISM OF OPERANT CONDITIONING:

The important thing in the mechanism of operant conditioning is the emitting of a desired response and its proper management through suitable reinforcement. This can be done as follows: -

1. Shaping: In situation where the desired responses do not occur at random efforts are directed at eliciting the appropriate responses. This is done by building a chain of responses through a step process called 'Shaping'.

2. Chaining: 'Chaining' refers to a process in the process in the shaping of behaviour or task is broken down into small steps for its effective learning and subsequent reinforcement.

3. Discrimination and cueing : When you pick up your telephone and hear the dial tone, certain response to the dial tone makes you advance to pushing the buttons, for dailing a number or to stop making use of the telephone. These responses to the dial tone are said to be cues or signals indicating whether operant behaviour will be reinforced and which behaviour will be punished.

4. Generalization : Generalization may be understood in term of a learning process where the organism learns to provide similar operant responses, to stimuli similar to but not the same as the training stimulus. In helping the children to learn appropriate generalization due care should be taken by the parent and teacher to reinforce the behaviour of the children only after they demonstrate the ability to generalize correctly.

THE SCHEDULES OF REINFORCEMENT:

1. Continuous reinforcement schedule:

This is an out and out reinforcement schedule where provision is made to reinforce or reward every correct response of the organism during acquisition of learning.

E.g. A student may be rewarded for every correct answer he gives to question or problem put forth by his teacher.

2. Fixed ratio reinforcement schedule :

This schedule is used in some factories and by employers of casual workers or labourers where wages are paid on a piece – work basis i.e. The number of garments sewn or the number of baskets or boxes packed.

3. Variable reinforcement schedule :-

When reinforcement is given at varing interval of time or after a varing number of responses, it is called a variable reinforcement schedule. In this case, reinforcement is intermittent or irregular. The most common example of such a schedule in human behaviour is the reinforcement operation schedule of gambling devices. Here rewards are unpredictable and keep the players well motivated through occasional returns.

4. Fixed interval reinforcement schedule :

In this schedule the organism is rewarded for a response made only after a set interval of time. E.g. Every 3 minutes or every 5 minutes.

How many times he has given correct response during this fixed interval of time does not matter, it is only at the expiry of the fixed interval that he is presented with some reinforcement.

IMPLICATION OF THE THEORY OF OPERANT CONDITIONING :

1. A response or behaviour is not necessarily depended upon a specific known stimulus. It is more correct to think that a behaviour or response is depended upon its consequences. Therefore, the learning or training process and environment must be so designed as to create the minimum frustration and the maximum satisfaction in a learner to provide him with proper reinforcement for the desired training or learning.

2. The principle of operant conditioning may be successfully applied in behaviour modification. We have to find something which is rewarding for the individual whose behaviour we wish to modify, wait until the desired behaviour occurs and immediately reward him when it does. Proceeding in this manner, we can induce the individual to learn the desired behaviour.

3. The development of human being personality can be successfully manipulated through operant conditioning. According to Skinner we are what we have been rewarded for being. What we call personality is nothing more than consistent behaviour patterns that summerize our reinforcement history. We learn to speak English for example because we have been rewarded for approximating the sound of the English language in our early home environment.

4. The theory of operant conditioning does not attribute motivation to internal process within the organism. It takes for granted the consequences of that behaviour.

5. Operant conditioning emphasizes the importance of schedule in the process of reinforcement of behaviour. In trying to impart or teach a particular behaviour, therefore, great care should be taken for the proper planning of the schedule of reinforcement.

6. The theory advocated the avoidance of punishment for unlearning the undesirable behaviour and for shaping the desirable behaviour. Punishment proves ineffective in the long run. Operant conditioning experiment suggested appropriate alternative to punishment, in the form of rewarding appropriate behaviour and ignoring inappropriate behaviour, for its gradual extinction.

Thorndike's Trial and Error Theory

According to Thorndike learning takes place by trial and error. Some people call it, "Learning by selection of the successful variant," accordingly when no ready-made solution of a problem is available to the learner, he adopts the method of trial and error.

- **Law or Readiness:**-First primary law of learning, according to him, is the 'Law or Readiness' or the 'Law of Action Tendency', which means that learning takes place when an action tendency' is aroused through preparatory adjustment, set or attitude.
- **Law of Exercise:-** The 'law of exercise', therefore, is also understood as the 'law of use and disuse' in which case connections or bonds made in the brain cortex are weakened or loosened.
- **Law of Effect:-** The third law is the 'Law of Effect', according to which the trial or steps leading to satisfaction stamps in the bond or connection.

Besides these three basic laws, Thorndike also refers to five sub-ordinate laws which further help to explain the learning process.

- **Law of Multiple-Response-**
- **The Law of Set or Attitude-**
- **Pre-Potency of Elements**
- **Law of Response by Analogy-**
- **The Law of Associative Shifting-**

TRANSFER OF LEARNING AND ITS THEORIES

An important issue in optimizing learning is the extent to which the learning of the thing facilitates the learning of something else. If everything we learned was specific to the situation in which, it was learned, the amount of learning that would have to be crammed into a lifetime would be phenomenal. Fortunately, most learning is readily transferable with some phenomenal.

- **According to crow and crow**: "The carryover of habits of thinking feeling or working of knowledge or skills from one learning area to another is usually referred to as Transfer of learning.
- **Guthrie and powers**: "Transfer may be defined as a process of extending and applying behaviour.

Types Of Transfer:-

- **Positive Transfer:**- When learning of one activity helps in the learning of another activity is called positive transfer. e.g. Knowledge of typing is help full to learn computer typing.
- **Negative Transfer** :- When previously learnt activity become obstacle in learning another activity then it is known as negative transfer .pronunciation of mother tongue become obstacle while pronunciation of English language.
- **Zero Transfer:**-When learning of one activity neither facilitates nor interferes with the learning of a new work .It is said to be zero transfer. There may be zero transfer in language and mathematics.

TRANSFER OF LEARNING THEORIES:

1. Formal Discipline Theory:

This is the oldest of all the transfer theories .It is also known as faculty theory of transfer because it is based on faculty school of psychology. This theory held that the mid is composed of so many independent faculties like memory , imagination, attention, thinking ,reasoning, and judgement. According to this theory these components of mind might be

trained or improve through vigorous exercise like muscles of the mind and muscles of the body. This theory believes that a particular faculty works in every situation. e.g. if a person possess good reasoning ability he can use in any situation .so these faculties of mind must be trained. If the faculty of memory is trained then it work well in all situation, then student can memorised anything such as poetry, rules . mathematical formulae, and date in history.

The term formal implies that it is the form of the activity not its content. if the activity is in the form of imagination then imagination power should be trained then no matter what student is going to imagine..The term discipline implies the real spirit of the theory. we can train each faculties no matter whether student is interested or not. followers of this theory suggest that reasoning and imagination power developed through the study of geometrical proposition and can be used in solving various probles.

some psychologist do not accept formal discipline theory .as improvement in one single activity may not improve the other .and present day curriculum various skill and faculties taught directly.

2. Theory of Identical Element:

This theory was put forth by Thorndike. According to him there is transfer from one situation to another to the extent that the same elements or components are found in different situation. These identical element may be in the form of content or technique. He stated that the study of a particular subject can be helpful in the study of another subject .The knowledge of mathematics is useful in the study of problems in physics because both are interrelated. they have certain common elements or components.

Similarity of content:

The study of sanskrit help in study of Indian languages(Hindi, Tamil, etc.) to the extent that the two languages contain identical components such as vocabulary ,Grammatical construction. There is transfer of knowledge form Algebra to geometry and physics to the extent that some elements like number, symbols ,equation also occurs in physics and geometry.

Similarity of techniques:

When techniques are same ain two situation then transfer of learning takes place rapidly. skill acquired in typing may be use full in computer typing. An individual who has learned proper balance in riding bicycle can apply that skill only that extent ,in his learning to ride a motor cycle. in both the situation technique is similar hence transfer of learning takes place.

3. Theory of Generalization:

This theory was put forth by C.H. Judd (1908). According to him degree of transfer is proportional to degree of generalization. This theory says that transfer occurs when a person learns a principle or an idea in one situation and then is able to apply in another situation. Thus transfer result from the application of general ideas .or skills or habits or attitude .Transfer through generalization is possible only when systematisation and organization of the knowledge and skill takes place. if they are not systematized ,they have little transfer value in other situation. It will depend upon the individual's ability to generalized his experience.

Judd's Experiment:

Judd demonstrated his experiment to explain his theory. He performed his experiment on children and that experiment was to hit the target under water with darts. He divided the class into two groups , one was experimental group and other was control group .The experimental group was given a full theoretical and practical explanation of the law of refraction and the other group was not given any experimental training .It was found that in hitting the target under water experimental group work well compare to control group because experimental group knew the law of refraction .The

general conclusion is that the understanding of the theoretical principle of generalising experience contribute greatly in the performance of experimental group.

Educational implication :

- Transfer of learning takes place because of similarity of content and techniques,and because of generalization hence teacher should show similarity in different content and teach how to use it.
- Teacher should provide varied experience to the student .
- Greater transfer from subject matter can be achieved by changing the methods of teaaching. teacher should use appropriate method as per demand of the subject matter.
- Emphisis should be given on correlation is important. previous knowledge may be used in the new task.
- coordination between theoretical knowledge and practical experience should be done in the classroom.
- The teacher should keep in mind that for maximum transfer ,the generalization should be thoroughly mastered and completely understood.
- Teacher should make the use of law of association for providing different type of knowledge.
- Teacher should remember that transfer is not accomplish with equal facility or in equal amounts by all individuals. It depend upon one's ability to generalized his experience and the ability to perceive relationship between two situation.

MEANING, NATURE AND MEASUREMENT OF CREATIVITY

- **Meaning**
  -Creativity is the intellectual ability to make creations, inventions, and discoveries that brings novel relations, entities, and/or unexpected solutions into existence [Wang, 2009, 2013]. Creativity is a gifted ability of humans in thinking, inference, problem solving, and product development.
- **Nature of Creativity**
  (1) Creativity is universal
  (2) It is innate as well as acquired
  (3) It produces something new or novel
  (4) It is adventures and open thinking
  (5) Creativity is a mean as well as end in itself
  (6) It carries ego involvement
  (7) It has a wide scope
  (8) Creativity and intelligence necessarily does not hand in hand.
  (9) Creativity rest more on divergent thinking than on convergent thinking.
  (10) It can‘t be separated from intelligence

Characteristics of the Creative Adult

1**. Flexibility**: The ability to go beyond tradition, habits, and the obvious. To turn ideas and materials to new, different, and unusual uses.

2. **Fluency**: The ability to think of many ideas; many possible solutions to a problem.

3. **Elaboration:** The ability to work out the details of an idea or solution.

4. **Tolerance of ambiguity**: The ability to hold conflicting ideas and values and to bring about a re-conciliation without undue tension.

5. **Originality:** Divergent rather than convergent thinking, going beyond commonly accepted ideas to unusual forms, ideas, approaches, solutions.

6. **Breadth of interest**: Wide range of interests with much more concern for the "big ideas," broad meanings, and implications rather than for small details and facts for the sake of facts.

7. **Sensitivity:** The ability to sense problems, to see deficiencies and needs in life, the challenge to find solutions and fill these needs. Sensitivity to our own inner life and feelings, thoughts and feelings of others.

8**. Curiosity**: Openness to new ideas and experiences; the capacity to be puzzled; actively experimenting with ideas and the pleasure in seeking and discovering ideas.

9. **Independence:** Thinking things through our own self reliance and forcefulness.

10. **Reflection:** The ability to consider and reconsider, to evaluate our ideas as well as the ideas of others to take time to achieve understanding and. insight, to look ahead and plan, to visualize the complete picture.

11. **Action:** The ability to put ideas in action; to begin, help, shape, with high energy and enthusiasm these ideas.

Measurement of creativity

- Most empirical work on creativity has employed one of three assessment techniques.
- An objective analysis of products.
- Subjective judgments of products or persons as creative.
- Vast majority-used creativity tests.

Creativity Test (I)

- Personality test-from creativity scales
- Gough‘s(1957)-California Psychological Inventory
- Cattell & Eber‘s(1968)-Sixteen Personality Factor Questionnaire
- Gough & Heilbrun‘s(1965)-Adjective Check List
- Heist & Yonge‘s(1968)-Omnibus Personality Inventory

Creativity Test(II)

- Biographical inventories-an intuitive basis and rated (high, low or average)
- Alpha Biographical Inventory-includes several hundred items
- The Biographical Inventory- creativity includes 165 items into five categories
- 50-item biographical inventory made from Taylor(1963)

Creativity Test (III)

- Behavioral assessment-similar as traditional intelligence tests.
- Model for many creativity tests-Guilford‘s structure -of-intellect theory
- Torrance Tests of Creative Thinking (TTCT) = Minnesota Tests of Creative Thinking

Other Creativity Tests

- Wallach & Kogan tests include five subscales： Instances, Alternate Uses, Similarities, Pattern Meaning, Line Meaning
- Ghiselin, et. al.- Creative Process Checklist-designed to assess states of attention and affect in scientists at the moment of invention.

Unit- (IV)

Personality

- 'Personality' has been derived from the Latin word 'Persona'. The word 'Persona' first used in Greek for meaning of theatrical mask which the Greek actors commonly used to wear on their face before coming to the stage for acting.
- **Characteristics of Personality-**
  - Personality is something which is unique in each individual.
  - Personality refers particularly to persistent qualities of an individual.
  - Personality represents a dynamic orientation of organism to environment.
  - Personality represents a unique organization of persistent dynamic and social predisposition

Allport's Theory of Personality

- G. B. Allport(1897 – 1967) was the first personality theorist who adopted trait approach. According to Allportpersonality traits are the basic units of the structure of our personality He defined trait, "as a generalized and focalized neuro-psychic system with the capacity to render many stimuli functionally equivalent and to initiate and guide consistent forms of adaptive and expressive behaviour

Categories

- **Cardinal dispositions-** Such traits have overriding and overwhelming influence on the behaviour of a person in that they manifest themselves in all that a person does and guides the behaviour of that person. For example, Mahatma Gandhi had firm belief and conviction in peace and non-violence. Message of peace and non-violence were explicitly seen in whatever Mahatma Gandhi did in his life, whether at home or abroad.
- **Central dispositions-**This is found in all persons and one can have 5 to 10central dispositions. These are not equivalent to cardinal traits but one can assess the personality of an individual in terms of these traits. These traits actually define the personality of a person. Let us take an example of a person who has the traits of honesty, punctuality, parsimony, cleanliness and generosity.
- **Secondary dispositions-**These traits of a person are less consistent, less explicit and less meaningful for the person and hence are called secondary traits. These traits are of not much help in explaining the personality. For example, hair style, dressing sense, eating pattern or preference.

Type's theories

Jung's Typology

- Jung postulated personality theory based on psychological characteristics.
- **Extroverts-**Such people are socially oriented. They like to mix up with people, are fun loving, optimistic. They are realistic in their approach towards life. Often such people exhibit leadership qualities.
- **Introverts-**They are the opposite of extroverts. They do not like to mingle with people. They have very few friends. They are self-centered and conservative. Such people are dogmatic in the sense that they follow traditions and customs of the society without ever giving thought to their justifiability.