BLOCKL: I
THE PROCESS OF LEARNING

Unit 1 : Learning

Unit 2 : Factors Affecting Learning

Unit 3 : Theories of Learning

Unit 4 : Educational Implications of Theories of Learning

UNIT- 1

LEARNING

Unit Structure:

1.1 Introduction:

The learning process of human life starts from the birth and continues till death. Every animal in this world is born with certain number of innate disposition which determine its initial response. These initial responses enable it to adapt itself to simple environment which is around it. But man lives in a complex environment and so these innate guides of behavior are inadequate for his adaptation to the environment. So, he needs to collect experiences or to learn to make his responses more suitable to the environment. So, educational psychology deals with the learning process which is an important aspect of teaching and learning. With this regard teachers and parents have to provide suitable atmosphere for children to learn. The main objective of school as institution is to bring certain desirable changes in behavior of children through the processing. As soon as the children come into contact with the environment and he starts reacting and ultimately the foundation of learning laid down.

1.2 Objectives:

After going through this unit, you will be able to—

- *undersatnd* the meaning of learning,

- *analyse* different definitions of learning,

- *know* the nature of learning.

1.3 Meaning of Learning:

Learning is an active process which depends on the activity of the individual himself. Man is influenced much by his environment. He is flexible in his attitude, interest, appreciation, skills and abilities which are primarily the product of learning. What a man learns is determined by his constitution and on the other hand by the demands which environment makes upon him. Learning means to bring changes in the behavior of the organism. It is nothing but capacity of adaptation of changing situation of life. Leaning situations are most common and natural in life and every one of us learn for that situation. On the other hand, the process or natural growth or maturation, is a process of development with which the individual himself has little to do. Moreover, learning is a purposeful and goal oriented activity. It is a product of environment which is continuous and universal process to attain experiences. Experiences, direct or indirect, play a dominant role in moulding and shaping the behavior of individual from the beginning. Thus, in brief, learning is change in human disposition and capability which can be retained and which is not dependent only on the process of development.

In the words of Kimble, "Learning is a relatively permanent change in behavioral potentiality that occurs as a result of reinforced practice".

This definition reveals the following facts which include:

a) Learning is a process and not a product.

b) Learning depends on practice and experience. It's makes learning perfect and ultimately brings changes in nature.

c) Learning prepares an individual for any adjustment and adaptation that may be necessary.

d) Learning does not include changes in behaviour on account of maturation, fatigue, illness or drugs etc.

Thus, in the words of Gates defines learning as, "the modification of behavior through experience and training".

1.4 Definition of Learning:

Different Psychologists define learning in different ways. Following definitions give a clear picture about the concept of learning.

- C. V. Good in Dictionary of Education, explained the term 'learning' as a "Change in response or behaviour (such as innovation, elimination or modification of responses, involving some degree of performance) caused partly or wholly by experience, such experience being in the main conscious, but sometimes including significant unconscious components, as is common in motor learning or in reaction to unrecognized or subliminal stimuli; includes behaviour changes in emotional sphere, but more commonly refers to the acquisition of symbolic knowledge or motor skills, does not include psychological changes, such as fatigue or temporary sensory resistance or non-functioning after continued stimulations."

- Hilgard defined learning as, "a change in a subject's behavior to a given situation brought about his repeated experiences in that situation, provided that the behavior change cannot be explained on the basis of native response tendencies, maturation, or temporary states of the subject. (E.g. fatigue, drugs, etc.)

- Woodworth define learning as, "Any activity can be called learning so far as it develops the individual (in any respect, good or bad) and makes him alter behavior and experiences different from what they would otherwise have been".

- According to Crow and Crow, "Learning is the acquisition of habits, knowledge and attitude. It involves new ways of doing things and it operates in an individual's attempts to overcome obstacles or to readjust to new situations. It represents progressive change in behavior. It enables him to satisfy interest to attain goals."

Thus, from the above definitions it can be stated that learning should enable us to make best use of things around us. It depends on practice and experience which makes learning perfect and ultimately bring changes in behavior.

1.5 Nature of Learning:

Leaning is not limited to school only; it begins long before and may continue long after school days. It may be stated that learning should enable us to make the best use of the things around us. So the acquisition of abilities which enable us to adjust ourselves in an effective manner in an environment and to control it successfully is said to be the aims of learning.

The concept of learning will be clearer with the following discussion about nature of learning:

- **Leaning Implies Change:** Learning includes all those factors which bring change about our behavior. Different factors affect differently to change our behaviour. So, before learning our behaviour is different than the behaviour after learning.

- **Learning Implies Development**: Every individual wants comfortable adjustment on his environment. There is a constant interaction between the individual and his environment. The individual tries to adjust himself physically, mentally, socially, intellectually, etc after learning individual know the correct way to adjust him in his environment.

- **Leaning is a Lifelong Process**: our life starts at the moment of birth and continues till death. In every moment of our life we face enormous problems. Learning helps us to solve these problems and also helps to modify our behaviour.

- **Learning is Activity**: in the teaching-learning process, the activity of the learner counts more than the activity of the teacher. This is the main principle of learning and it has been recommended by all modern educationists. In fact, all progressive methods of education such as Delton plan, Project method, the Montessori Method, Basic education etc. are based on this.

- **Acquisition of New Knowledge in terms of Learning**: Child learns different things in everyday life and also learns by solving different problems. When the child comes into contact with his environment for the first time he learns many things and modifies his behaviour. But as the time goes on, he modifies his behaviour more effectively by acquiring new knowledge on the basis of previous knowledge.

- **Learning should have a Definite Purpose:** Everyone has a definite purpose. Without any purpose our life is meaningless. So, a well definite purpose moves the child in right direction and enables him to have proper and successful learning, the permanence of learning depends on the strength of purpose.

- **Learning has a Wider Scope:** The learning process includes not only the knowledge of 3R's and other text booked knowledge. It also includes the day-to-day experiences. Life presents enormous opportunities to learn and learning categories are so much that it is difficult to limit into one.

- **Learning and Intelligence:** Intelligence and learning process is closely related and without of one other is impossible. Intelligence has great significance in learning process. When the child begins to learn he need a minimum level of intelligence. Because an intelligent child has basic mental drive to do things.

- **Learning and Maturation:** Maturation is a natural process of physical development whereas learning is a process which takes place as a result of some stimuli from without. These stimuli result in some activity and experiences.

STOP TO CONSIDER

Learning is the modification of human behavior which is affected by both internal and external factors.

Learning is acquired knowledge by individual from the environment; it (learning) depends on maturation.

Maturation is a natural process of physical development whereas learning is a process which takes place as a result of some stimuli from without. These stimuli result in some activity and experiences.

CHECK YOUR PROGRESS

1.   How did Crow and Crow define learning?

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2.   Mention two important nature of learning.

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1.6 Summing Up:

- Learning process in the sense of active learning or the modification of the behavior-pattern is not a simple affair, it requires a hard training and proper control of factors that condition learning.

- Maturation is a developmental process within which a person, from time to time, manifest different traits, the 'blue-prints' of which have been carried in his cells from time of his conception. It is closely linked with results of learning and with the process of development.

1.7 Questions and Exercises:

1. Define learning with suitable definition.

2. What are the main characteristics of learning? Explain any five.

3. Explain about the nature of learning.

1.8 References and Suggested Readings:

1. Aggarwala, J.C. (2015) *Essentials of Educational Psychology*, Vikas Publishing House Pvt. Ltd., New Delhi.

2. Chauhan, S.S (1978) *Advanced Educational Psychology*, Vikas Publishing House Pvt. Ltd.

3. Chaube, S.P. (2020) *Educational Psychology*. LaxmiNarain Agarwal. New Delhi.

4. Kuppyswamy, B (1991) *Advanced Educational Psychology*, Sterling Publishers House, New Delhi.

5. Mangal, S.K. (2014) *Advanced Educational Psychology*, Second edition, PHI Learning Pvt. Ltd, New Delhi.

6. Mathur, S.S. (2001) *Educational Psychology*, Vinod Pustak Mandir, Agra-2.

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8. Skinner , C.E. (1959) *Educational Psychology,* New Jersey: Prentice Hall.

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UNIT- 2

FACTORS AFFECTING LEARNING

Unit Structure:

2.1 Introduction:

Psychology is defined as a science which aims to give better understanding and control of the behaviour of the organism as a whole. It is educational psychology which provides information about many factors that affect teaching –learning and offers useful and tested ideas for improving instruction. The process of learning is influenced by a variety of factors. A thorough knowledge of these factors will prove very helpful for teachers and parents in understanding and guiding their children's learning. So, knowledge of educational psychology is very essential for teacher to know about physical, mental personality differences and lastly how they adopt to the environment.

2.2 Objectives:

After going through this unit you will be able to——

- *explain* about different factors affecting learning,
- *understand* the importance of learning for teacher.

2.3 Factors Affecting Learning:

Learning is a very complex process and is affected by a various factors. These factors may relate to learner, learning situation, learning process and learning resources and the like.

Following are some of the important factors of learning:

➢ Physical and mental health of the learner.

➢ Socio-economic and cultural background of the learner.

➢ Previous knowledge of the learner.

➢ Goals and philosophies of life.

➢ Availability of material and non material resources for effective implementation of the process of learning.

➢ The effectiveness and suitability of methods of education, the principles of correlation of learning, use of sensory channels, practice and feedback, self learning etc.

➢ Socio-cultural and economic background as well as social norms, values, beliefs, attitudes etc of the society.

2.3.1 Personal Factors:

Factors influencing learning are classifiable in various ways. Some of the following are:

i) **Age of the Learner:** Age is the most important factor in the process of learning. A Child has many ages. The child is only physically

developed with age but not developed in social skills required for that age, emotional balance and intellectual operations of that age.

ii) **Maturation:** Academic learning involves not the maturation of structure but a wide variety of structural maturities that may occur at different rates. There may be a period of maximum susceptibility to training or learning which if not 'taken at its flood' will then result in waning of the child's potential for learning.

iii) **Motivation:** The most effective learning takes place when there is a maximum of mental activity which attained through strong motivation. According to the Mc. Dougall, Learning requires adequate motivation. So, emphasis should be given on importance of goals in all behaviour.

iv) **Abilities**: Learning process includes both acquisition and retention of learning materials. Acquisition is the process of learning something and retention is the sustainability of the learning process. Higher abilities include ability to apply learning principles or process to a new situation and retained it for longer period. So, learning abilities is one of the important elements of learning process.

v) **Aptitude:** Aptitude of the future potentiality persisting among individual. It includes special skills knowledge and interest. So, educators use aptitude test to determine the ability of learner to perform a particular task.

vi) **Emotional Condition:** Proper emotional condition is very important dimension for proper or fruitful learning. If people are emotionally positive and socially secure their learning would be very active. Studies revealed that a high percentage of seriously retarded readers exhibit emotional problems. So, Emotional and Social climate in home and school play a crucial role for proper learning of children.

vii) **Needs:** Needs stands for a force in the brain region that organizes perception, further experiencing and following action. Learning's needs are the enthusing motivators for their behaviour. If their needs are not satisfied they express behavioural problems and achievement.

viii) Interest: Interest is created by acquisition of new skills by encouragement and by satisfying experience. Teachers own interest and enthusiasm are contagious which inspire and sustain interest in pupil and gradually as he grows, acquires and displays new interests according to level of maturation.

2.3.2 Environmental Factors:

Environmental Factor or you can say Natural Factor.

Natural Factors: Atmosphere condition is very important factor for proper learning process. Great educationists like Pestalozzi, Montessori, Rousseau; etc always favors natural learning of child with natural development. Only in natural environment child can grow fully with balance development of inner potentialities.

2.4 Importance of Learning for Teachers:

To make the teaching effective, knowledge of learning process is very essential for teachers. The main objective of school is to bring certain desirable changes in behaviour through learning process. The learning helps the teacher in different ways for successful teaching. The importance of learning in teaching-learning situations is worth mentioning:

- ❖ Learning helps teacher to know the operations and approaches to develop better teaching strategies. The teacher having the knowledge of learning can operate the learning process well and choose the correct approach of learning.

- ❖ Teacher having the knowledge of learning can understand the individual differences in learning among learners. Those teachers can adopt their teaching according to their requirements by using different teaching methods.

- ❖ The most important contribution of learning is the concept of motivation. The teacher may know the needs and motives of children at different age level. He can organize those activities which creates interest and motivation in children.

❖ Teacher having the knowledge of learning can know the process of remembering and forgetting and can utilize efficient method of minimizing the percentage of forgetting. Those teachers can assist the students to apply various techniques for better remembering.

❖ They can help the students to transfer of skills and information acquired in the classroom to the life situation. They can assimilate the knowledge of school with the practical life problems.

❖ Teachers having the knowledge of learning can diagnose special difficulties of children and help them individually to overcome those problems. Modern psychology of learning lays more emphasis on social psychology of learning.

❖ The teachers who have knowledge of psychology of learning can create learning situation well. These teachers can improve the social climate for learning by providing conducive environment in the classroom.

❖ Teachers having the knowledge of learning psychology can know the fundamental principles of learning and by using these principles he can make his teaching learning process effective. Those teachers can more effectively guide the classroom teaching learning.

Thus, learning psychology plays a significant role which can assist teacher in the process of learning.

STOP TO CONSIDER

❖ Learning is a very complex process and is affected by a various factors. These factors may relate to learner, learning situation, learning process and learning resource.

❖ The teacher may know the needs and motives of children at different age level. He can organize those activities which creates interest and motivation in children and the like.

CHECK YOUR PROGRESS

Mention some important Factors of learning.

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2.5 Summing Up:

Learning is a lifelong continuous process which refers any change when they occur as a result of experience. It is a process which leads to certain modification in behaviour through experience and training so that individual can easily adjust in new situation. So, we can say that learning is acquiring new knowledge, behaviour, skills, values, and understanding may involve synthesizing different types and information.

2.6 Questions and Exercises:

1. How did Gates define learning?

2. Mention some important factors of learning.

3. "Knowledge of educational psychology help teacher in teaching learning process", justify.

2.7   References and Suggested Readings:

1. Aggarwala, J.C.(2015) *Essentials of Educational Psychology*, Vikas Publishing House Pvt. Ltd., New Delhi.

2. Chauhan, S.S (1978) *Advanced Educational Psychology*, Vikas Publishing House Pvt. Ltd.

3. Chaube, S.P.(2020) *Educational Psychology*, Laxmi Narain Agarwal. New Delhi.

4. Kuppyswamy, B (1991) *Advanced Educational Psychology*. Sterling Publishers House, New Delhi.

5. Mangal, S.K. (2014) *Advanced Educational Psychology,* Second edition, PHI Learning Pvt. Ltd, New Delhi.

6. Mathur, S.S. (2001) *Educational Psychology,* Vinod PustakMandir, Agra-2.

7. Sharma, R.A (2016) *Fundamentals of Educational Psychology,* R.Lall, first edition.

8. Skinner , C.E. (1959) *Educational Psychology,* New Jersey: Prentice Hall.

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UNIT- 3
THEORIES OF LEARNING

Unit Structure:

3.1 Introduction:

Learning theories are frameworks that explain how people acquire and retain knowledge. They provide a systematic way to understand how individuals process and respond to new information. Different theories focus on different aspects of the learning process, such as cognitive, behavioral and constructivists approach.

3.2 Objectives:

After going through this unit you will be able to—

- *describe* different theories of learning and their educational implications,

- *learn* and clearly differentiate different laws of learning.

3.3 Theories of Learning:

A theory of learning cannot be defined to satisfy all interested persons. Theories of learning are organized set of principles that aims to explain how individuals acquire, retain and recall knowledge in different situations. It attempts to explain the mechanism of behaviour involved in learning process. The principles, theories and laws of the theories can be used to guide us in selecting instructional tools, techniques and strategies to promote our learning. The most acceptable definition of a theory is that of Melvin H Marx (1970), who defined "a theory is a provisional explanatory proposition or set of propositions, concerning some natural phenomena and consisting of symbolic representation of:

a) The observed relationships among independent and dependent variables.

b) The mechanisms or structures presumed to underlie such relationships or

c) Inferred relationships and underlying mechanisms intended to account for observed data in the absence of any direct empirical manifestation of the relationships.

The entire theories of learning can be divided into two broad categories namely Stimulus Response theories and cognitive field theories. The Stimulus Response theories are again sub-divided into two categories according to pleasure and displeasure of the organism. The underlying theories are under—

A-(1) S-R Theories without Reinforcement:

- Conditioning by Pavlov.
- Watson's learning theory.
- Guthrie's learning theory.

A-(2) S-R Theories with Reinforcement:

- Thorndike's Connectionism theory.
- Hull's theory.
- Skinner's Operant Conditioning theory.

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Under Category B- Cognitive Field Theories:

- Gestalt theory of learning.

- Lewin's theory of learning.

- Tolman's Sign Gestalt theory.

As a result of enquiry and investigation a number of theories have come into existence. These theories have been classified into two major heads (Schools of Psychology)

- Behaviourist theories

- Cognitive theories

Behaviourist theories belonged to the school of behaviorism where learning is interpreted in terms of connection and associations between stimulus and response. These theories of learning were developed in the early 1900s and became dominant in early 20th Century. The essence of behaviourism is that learning is a process of a change in behaviour of the organism due to the acquisition, reinforcement and application of associations between environmental stimuli and observable response. Under this category Guthrie's continuity theory, Throndike's trial and error learning, Hull's drive reproduction theory, Classical and Operant conditioning etc.

Under Cognitive groups many theories have been included which pay more importance on Gestalt and Cognitive Psychology. In place of purely mechanical approach these theories emphasize the rule of purpose, insight, understanding, memory, reasoning and other cognitive factors. Under this category insightful learning, Lewin's field theory and Tolman's Sign Gestalt theory and Tolman's Sign Gestalt theory may be included.

STOP TO CONSIDER

- Learning theories are of two categories, i.e. stimulus response theories and cognitive field theories.

- Connectionism theory is also known as Thorndike's trial and error theory of learning.

- According to Thorndike there are three important laws of learning:

  (i) Law of Readiness
  (ii) Law of Exercise
  (iii) Law of Effect

3.3.1 Connectionism Theory:

It is one of the most primitive and simple theory of learning. Edward Lee Throndike (1874-1949) was the main propounder of the theory of connectionism. He was American psychologists who conducted stimulus response theory experiment with the help of animals. He was the first to study the subject of learning systematically using standardized procedures and apparatus.

Thorndike introduced the term reward or reinforcement for learning. Traditionally, there has been less emphasis in reinforcement theories regarding control of stimuli instead more emphasis is laid on control of responses. The responses which are followed by satisfaction or pleasure are reinforced and become more probable in future. This theory is based on the concept that bonds or connections are formed between stimulus and responses. It is related to conditioning in that it utilizes the concept of association but differs in that more stress is placed on the role of the organism. This theory emphasizes that the behaviour begins with reflexes and natural responses and new behaviours result from the acquisition of new bonds through experience. This connection depends on a number of variables which operate in the environment and the organism. These include frequency, recency, intensity, vividness, and mode of the subject, resulting in satisfactions, similarities of situations and capacity of the subject. So this theory is also known as bond theory. On the basis of his experiments he formulated three major laws of learning and supplementary principles.

On the basis of different experiments Thorndike explain that learning involves through trial and error connection. He also named this principle as trial and error learning. It is committed error before it hit upon the correct move. Moreover, he again explains that learning is the result of formation of connection in the nervous system. According to him, learning is gradual, not

insightful. It depends upon the number of trials fulfilled by the learner. His experiments proved that learning is the direct activity not mediated by ideas. It is a simple semi mechanical phenomenon, a process of establishing simple connection between stimulus and response.

3.3.2 Theory of Conditioning:

Thorndike's Experiment: Puzzle Box Experiment:

The experiment of Thorndike was widely known as puzzle box experiment where he has used a puzzle box developed by some certain mechanisms. The experimental set up was very simple. In this experiment a hungry cat was confined in a puzzle box and outside the box a dish of food was kept. In order to come outside from the box the cat had to pull a string of the box. As he saw the cat made several random movements of jumping and running to get out of the box. At last the cat came out and got the food. Thorndike immediately put the cat in the puzzle box for next trials. The cat again made random movements to come out of the box and finally succeeded. Over a series of trials the cat became increasingly efficient in getting out of the box. The number of errors reduced slowly and at last it came into zero. Thorndike concluded that the learning of cat in the puzzle box in terms of formation of connection, when connection is satisfactory the learning is easier. Thus, learning according to this theory is fixation of correct responses and avoiding the incorrect responses through trial and error. The time taken to repeat the rewarding response decreases with successive trials.

Thus, experiments and major theoretical principles which form the basis of Thorndike's theory of learning are summarized in the following:

❖ Learning involves trial and error or selection and connection.

❖ Learning is the result of the formation of connections.

❖ Learning is incremental, not insightful. Learning according to Thorndike, needs several attempts and trials and then occurs in small systematic steps rather than in huge jumps.

❖ Learning is direct, not mediated by ideas. Thorndike maintained that learning is simple, semi-mechanical phenomenon, a process of establishing a simple connection between sensory stimuli and the appropriate responses and does not involve mediation by any ideas, reasoning or thinking.

Thorndike's Laws of learning:

Thorndike on the basis of different experiments propounded three major laws of learning and five supplementary principles. These laws are originally the outgrowth of experiments in the field of animal psychology.

- **Law of Readiness:** which states that "when a bond is ready to act, the act gives satisfaction and not to give annoyance. When a bond which is not ready to act is made to act , annoyance is caused." Readiness according to Thorndike is the preparation for action which is very essential for learning. If a child ready to learn than he learns more quickly, effectively and with greater satisfaction. so, the right moments concerning the learning situation and the learners state of mind should be recognized and maximum use should be made of knowledge by the teacher. Besides these readiness is also dependent upon both maturation and experience of the learner. Thus, this law indicates the learner's state to participate in the learning process.

- **Law of Exercise:** which states that "other things being equal, exercise strengthens and lack of exercise weakens the bond between stimulus and response." Here, other thing implies specially the consequences of response recognized by the law of effect. Thus, Exercise or practice makes learning perfect.

This law is further divided into law of use and law of disuse. Law of use states the other things being equal, the more frequently a modifiable connection is made; the connection will be stronger whereas when modifiable connection is not made over a period of time the strength of connection is weakened. Therefore, the law of exercise as a whole emphasizes the need for repetition.

- **Law of Effect**: According to Thorndike, this law states that "when pleasant or satisfying consequences follow or attend a response, the latter tends to be repeated. When painful or annoying consequences attend a response, it tend to be eliminated". The law of effect maintains that when modifiable connection between stimulus and response has been made it strengthen the learning if the result is satisfactory and it made weakened if it leads to annoyance. All pleasant experiences have a lasting influence and are remembered for a long time. On the other hand, unpleasant ones are soon forgotten. Therefore, pleasure and displeasure decides the degree of effectiveness in learning.

The law of effect has been criticized by different psychologists. He replied that by satisfying state of affairs is meant one which the animal does nothing to avoid whereas annoying state of affairs the animal does nothing to preserve. So, in the year 1932 he revised his law and said that while pleasant situation resulted in strengthening the connection an unpleasant situation decrease the strength of connection.

Thorndike after 1930 revised this law of exercise because both the law of use and disuse don't work as effectively as propounded by him earlier. Mechanical use or disuse does not necessarily lead to effective learning or total forgetting.

Besides these three major laws of learning Thorndike formulated five supplementary principles as————

a) Principle of multiple response

b) Principle of mental set.

c) Principle of partial activity.

d) Principle of analogy or assimilation.

e) Principle of associative shifting.

Thus, the main findings of this theory can be summarized as that learning is the result of S-R connections formed in the brain and reinforced by some reward which acts as a motivator for repeating the same action. The transfer of learning is explained in terms of identical elements in two situations and forgetting is caused by lack of practice.

CHECK YOUR PROGRESS

Que. 1: What are the different types of theories of learning?

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Que. 2: Who is known as the Father of connectionism?

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Que. 3: Who propounded laws of learning?

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Que. 4: What are the supplementary principles propagated by Thorndike?

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3.3.3 Classical Conditioning:

Classical Conditioning was developed by Russian Psychologist's by Ivan Pavlov. He was basically interested in studying the gastric secretion in dogs. While studying the functioning of digestive system he noticed that the dog has shown natural response with the food steps of caretakers. Pavlov began to study this phenomenon which is called conditioning. As a result he developed the theory of classical conditioning which played a significant role in the process of learning. The salivating process, well before the food was put into mouth of the dog is called psychic secretion. This secretion was basically known as classical conditioning.

Conditioning means modification of natural response. Natural stimulus results in natural response. But according to condition response natural stimulus is substituted by an artificial stimulus and by this way new connection between artificial stimulus and natural response is created. According to Pavlov, Classical Conditioning is a process in which a natural

stimulus, by pairing with a natural stimulus, acquires all characteristics of natural stimulus. Classical Conditioning is sometimes called substitution learning because we substitute a natural stimulus in place of natural stimulus. Modern Psychologists have interpreted classical conditioning as signal learning. It is also known as learning by habit formation. It is based on the principle of association and substitution.

Classical Conditioning Experiment:

The basic phenomenon of classical conditioning is very simple. Pavlov restricted his experimental studies to the process of secretion of saliva in dog. Pavlov kept the dog and brings it to the experimental table which was fitted with certain mechanically controlled devices. The dog was made comfortable and distraction was excluded as far as possible. The observer himself remains hidden from the dog but was able view the experiment by set of mirrors. Arrangement was made to give food to the dog through an automatic mechanism. He also arranged a bell to ring every time food was presented to the dog. When the food was put before the dog the bell was rung, there was automatic secretion of saliva from the mouth of the dog. The activity of presenting the food accompanied with the ringing of bell was repeated for several times and amount of saliva secreted was measured.

After several trials the dog was given no food but the bell was rung and the amount of saliva secretion in this situation was measured. It was found that in the absence of food, the ringing of bell caused the dog to secret saliva. The mechanism of Classical Conditioning is comprised of the following:

a) Unconditioned Stimulus (UCS): Food which is invariably causes a natural response.

b) Unconditioned Response (UCR): Salivation which results when unconditioned stimulus is presented.

c) Conditioned Stimulus (CS): The sound of the bell which does not bring about salivation or desired response when presented alone and will only produce salivation when it is conditioned with the food.

d) Condition Response (CS): Salivation process with the sound of the bell is particular behaviour that an organism learns to produce when the Condition Stimulus is presented.

Model of Classical Conditioning is given below:

1. UCS…………………………………........ UCR
   (Food)   (Saliva)
2. CS+UCS……………………………………UCR
   (Sound of the Bell+Food)(Saliva)
3. CS……………………………………………CR
   (Sound of the bell)   (Saliva)

Thus, Classical Conditioning can be defined as "a process in which a neutral stimulus, by pairing with a natural stimulus, acquires all the characteristics of natural stimulus."In this experiment of classical conditioning several important principles are associated with it. Some of them are very much important.

❖ Intensity of Stimulus: there is positive correlation between intensity of stimulus and magnitude of response. If the stimulus is more intense then more rapidly the conditioning will proceed.

❖ Extinction: if the conditioned stimulus is presented alone number of times then conditioned response will disappear.

❖ Spontaneous Recovery: After extinction the behaviour often reappears but reduced intensity.

❖ Stimulus Generalization: Generalization is a process where conditioned response to a stimulus is generalized to similar category of stimuli.

❖ Stimulus Discrimination: it is opposite of stimulus generalization which states that the learner learns to react differently to different stimuli.

Therefore, it can be concluded that though classical conditioning has no direct classroom implications but teachers can use this theory in regular teaching learning situation differently. Teacher can create an atmosphere with positive reinforcement which helps students in easy development of proper habit and positive attitude for different aspects of

life. Conditioning was accepted as theoretical framework and practical technique of solving a variety of applied problems. The most important contribution is the language of learning and conditioning, e.g.- teaching of alphabets to small children. Besides these, this theory is also helpful in reconditioning emotional disturbances by applying different psycho therapy. Thus, much of our behaviour in the shape of interests, attitudes, habits, sense of application or criticism, moods and temperaments, is fashioned through conditioning. The process of conditioning not only helps us in learning what is desirable but also helps in eliminating, avoiding or unlearning of undesirable habits, unhealthy attitudes, superstitions, fear and phobias through avoiding.

3.3.4 Operant Conditioning:

History of operant conditioning begins with Prof. B.F. Skinner 1904 in Harvard University. He is known for his researches collecting facts and description of purely empirical relations. He is specifically interested in controlling those responses that seem to occur with no direct stimulation such responses are emitted rather than elicited by obvious environmental stimulation. Skinner critically studies the Thorndike's view of laws of learning. He concluded that behaviour is shaped and maintained by its consequences. It is operated by the organism. So, this type of behaviour is known as operant behaviour.

B.F. Skinner coined the term 'Operant Conditioning', where "Operant" implies that behaviour operates upon the environment to generate its own consequences. An Operant is a set of acts which conditions an organism in doing something. He was of the view that in practical situation in life we cannot always wait for things to happen in the environment. Individual may often manipulate the things in the environment with his own initiatives. Operant conditioning is also known as instrumental conditioning. It implies that learning occurs through reward and punishments given for a particular behaviour.

STOP TO CONSIDER

- Reinforcement is one of the important aspects of conditioning theory.

- Reward and punishment, programmed learning all are associated with conditioning theory.

Skinner's Pigeon Experiment:

Skinner experimented with a pigeon and shaped its behaviour. He taught the pigeon to walk in the figure of eight. He watched the activity of the pigeon and gave a small amount grain for simply turning in the right direction. In the earlier stages the pigeon got his reward for simply turning its head in the right direction. He was rewarded again for taking a step in the right direction and again for marking the correct turn. Finally, it learned to move in a complete figure of eight.

In operant conditioning some important steps are followed which are as follows–

- It starts with the responses as they occur naturally and not at random.

- If they do not occur naturally, efforts should be made for shaping them into exercise.

   Shaping means an organism is conditioned to performed difficult activities through rewards at the right occasion in the process of conditioning.

- Once a desirable response occurs it again reinforced through suitable reward.

- In due course the desirable responses get conditioned by constantly reinforcing it.

Thus, reinforcement is a key element in Skinner's S-R theory. A reinforce is anything that strengthens the desired response.

According to this theory, learning and environment should be properly planned for learner. We should plan for a systematic manner of conditioning for the learning of child. Reward will play the role of motivator whereas it suggests not using punishment. We should analyze the problems of child and avoid inappropriateness. Therefore, this theory has contributed to the proper growth and development of programmed learning and the use of teaching mechanisms.

Operations in Operant Conditioning:

Several operations are involved in the process of operant conditioning. Following are important operations:

a) **Shaping:** It is the most important mechanism which refers to the judicious use of selective reinforcement to bring certain desirable changes in the behaviour of the organism. The most striving and significant contribution of Skinner is the development of a technique to shape the complex behaviour by systematically reinforcing closer approximation to the desired behaviour. Eg..suppose we wish to shape behaviour of an untrained pigeon in the Skinner box to learn a particular instrumental response, say pecking a particular disk. By reinforcing the different responses pigeon come closer and closer to the disk and we would reinforce the behaviour. It has been reported by Skinner that by using this technique, a hungry pigeon can usually be made to peak at the disk within a period of about three minutes.

There are three important psychological principles which are involved in the process of successful shaping. They are as follows:

> ➤ Generalization

> ➤ Habit competition

> ➤ Each segment in the chain must be linked to the other.

b) **Extinction:** It consists simply of withholding the reinforcer when the appropriate response occurs. Withholding of reinforcer means extinction of previously established relationship.

c) **Spontaneous Recovery:** It refers to the fact that if an organism is removed from the situation for a while after extinction and then returned and again presented with S1, his performance will be better than would be predicted from his performance at end of preceding extinction. Spontaneous recovery occurs in Operant conditioning situation and is affected by all those variables which operate in Pavlov an conditioning.

d) **The Concept of Reinforcement:** The concept of reinforcement is central in operant conditioning. A reinforcer is any event which changes subsequent behaviour when it follows in time. B.F. Skinner used reinforcement as a procedure for controlling behaviour, not a hypothetical device that reduces stimulus response connection. Reinforcers are events that raise the rate of responding.

Implications of Operant Conditioning:

The theory of operant conditioning has revolutionized the field of training or learning by following implications:

➢ The principle of operant condition may be successfully applied in behaviour modification.

➢ The development of human personality can be successfully manipulated through operant conditioning.

➢ Operant conditioning emphasizes the importance of schedules in the process of reinforcement of behaviour. It trying to impart a particular behaviour, therefore, great care should be taken for the proper planning of schedules of reinforcement.

➢ The theory of operant conditioning does not attribute motivation to internal processes within the organism. It takes for granted the consequence of a behaviour or response as a source of motivation to further occurrence of that behaviour.

➢ This theory advocated the avoidance of punishment for unlearning the undesirable behaviour and for shaping the desirable behaviour.

➤ The most effective application of operant conditioning is that it has contributed a lot to the development of teaching machines and programmed learning.

CHECK YOUR PROGRESS

Que. 5: Who advocated the theory of classical conditioning?

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Que. 6: Which are the four elements of conditioning process?

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Que. 7: Cite some applications of classical conditioning to teaching learning process.

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Que. 8: What is Operant Conditioning?

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3.3.5 Gestalt or Insightful Theory of Learning:

Learning by insight is the contribution of German Psychologists who were studying the nature of perception. The views propagated by behaviourists in the form of an association faced great difficulty in explaining the learning process or behaviour involving higher cognitive ability. Dissatisfied

with the approaches of behaviorists, the cognitive psychologists tried to see learning as a more deliberate and conscious effort rather than the formation of habits. Cognitive psychologists say that in a learning process the learner does not receive responses but definitely interacts what he receives. The new explanation of behaviour developed by three German Psychologists namely Wolf Gang Kohler, Kurt Koffka, William Werthimer is known as Gestalt psychology.

Gestalt is a German term which means "configuration" or "organized whole". According to Gestaltists learning cannot be understood by the study of its constituents but by the study of it as a totality. Gestalt is a protest against associationism with its analytical method. Here, mental facts are to be studied as concrete wholes; it holds that gestalts or organized wholes have qualities not belonging to parts and the parts derive their qualities from the wholes.

Gestalts believed that it is primarily concerned with the nature of perception. According to it an individual perceives a thing as a whole while behaviourists define perception as to make with taking of a photograph. They believed that sensation comes prior to meaning and consider these two as separate. But Gestalt psychologists don't separate the sensation of an object from its meaning. They are of the opinion that unless a person sees some meaning in an object he will pay little attention to it. Moreover, Gestaltists said perception always involves a problem of organization. They tried to interpret learning as purposive, exploratory and creative enterprise instead trial and error. Thus the main factor of Gestalt theory of learning is the development of insight.

Insightful theory of learning depends on the following factors:

- **Experience:** past experience of the learner helps in the insight of the problem.

- **Intelligence:** the general intelligence of the learner is important in grasping of the solution of the problem.

- **Initial Effort:** A repeated effort through trial and error opens the way of insight learning.

- **Generalization:** Learning experiences gained in one situation helps the learner to react insightful in similar situation.

Kohler and Koffka conducted many experiments on chimpanzees and brought out a book "Mentality of Apes" in 1925 in which they showed that learning was not the result of trial and error but of insight and ability to see relationship between various factors involved in a situation. Kohler conducted many experiments with his chimpanzee "Sultan" to describe the nature of "insight". These experiments illustrate the theory of learning by insight.

Kohler conducted a series of experiments on Chimpanzees. The four classic experiments of this theory are—

Experiment No 1: In the first experiment Kohler confined a Chimpanzee, named "Sultan" in a cage. There was a stick in the cage and outside the cage some bananas were put. In the first instance on seeing the bananas chimpanzee made jumping and showed restless and tried his best to reach the bananas, but he could not reach without the help of the stick. All of a sudden the chimpanzee received the stick and established relationship between stick and bananas. He got the bananas with the help of the stick.

Experiment No 2: In the second experiment two stick were used which could be fitted in each other with some mechanisms. The chimpanzee could only get the bananas with the help of both the stick fitted in each other. First he tried to get the bananas by one stick but failed. All of a sudden he succeeded in fitting the both stick and could get the bananas.

Experiment No 3: In the third experiment the experimental condition was slightly changed. The bananas were hanged from the ceiling of the cage and a box was put to get the bananas. At first, the chimpanzee attempts to get the bananas without the box but could not reach them. He suddenly established relationship between box and the bananas. He climbed on the box and got the bananas. He climbed on the box and gets the bananas.

Experiment No 4: Slight change was also introduced in the forth experiement. Two boxes were kept instead of one. The Chimpanzee could only get the bananas with the help both boxes. First he used single box to get the bananas but failed. After sometime he put one box on another and climbed on it and got the bananas.

These experiments demonstrate the rule of intelligence and cognitive abilities in higher learning such as problem solving. On the basis of their experimental studies, certain laws are developed by them which are mentioned below:

- **Figure-Ground:** Everything we perceive stands against a background. There is a close relationship between figure and ground. So, we always try to see the situation on the basis of a background and try to find out cause.

- **Principle of Pragnanz:** This principle states that our perceptual patterns always tend to be simple, regular and complete with no loose ends. The gaps are closed by perceiver.

- **Law of Transposition:** This principle states that Gestalts are isomorphic to stimulus pattern so they may undergo extensive changes without losing their identity.

- **Law of Similarity:** It suggests that similar words, numbers, and objects tend to associate in a group and easy to recall than dissimilar.

- **Law of Proximity:** It states that objects which are close in space and time tend to form a gestalt.

CHECK YOUR PROGRESS

Que. 9: From which language the word "Gestalt" came from?

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Que. 10: Write the names of group of psychologists who advocated insightful theory of learning.

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Que. 11: What are the different laws associated with Gestalt theory of Learning?

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3.3.6 Field Theory:

Kurt Lewin, like Pavlov, Skinner, Gestaltian Psychologists conducted experiments on the study of behaviour of children. It is, however, different from this respect that it gives more importance to behaviour in place of experience and makes use of motivations. He utilized an elaborate experimental set up with a view to control child's total environment during the course of the investigation getting detailed information. He emphasized the study of behaviour as a function of total physical and social situation.

Learning is behaviour, locomotion from one region of life space to another when a person moves from one region to another. Learning and insight can always be viewed as a change in the cognitive structure of the situation. It frequently includes differentiating and restructuring in the sense of separating certain regions which have been connected and connecting regions which have been separated.

Perception is the main issue in Lewin's theory of learning. He has classified learning into the following four categories——

a) Learning as a chance in cognitive structure.

b) Learning is a change in motivation, i.e., in valences and values.

c) Learning is acquisition of skills.

d) Learning is a change in group belonging.

According to Lewin, level of aspiration is an important factor in the learning process. Level of aspiration depends on the potentialities of the individual and on the influences of the group to which he belongs. It has been further advocated by him that too high or low level of aspiration discourages learning. Lewin's theory is also called as field theory because 'field' means total psychological world in which a person lives at a certain time. It includes matters and events of past, present and future, concrete and abstract, actual and imaginary—all interpreted as simultaneous aspects of a situation.

In this way, we find that Lewin considers the psychological and traditional Gestalt learning as a point of that general problem which is about "how we experience the world as we experience it." Hence, learning takes place by bringing changes in the experiences or structure of life space.

STOP TO CONSIDER

- Gestalt is a protest against associationism with its analytical method.

- Gestalts believed that knowledge is primarily concerned with the nature of perception.

- According to Lewin , level of aspiration is an important factor in the learning process which depends on the potentialities of the individual and on the influences of the group to which he belongs.

3.4 Summing Up:

➢ For proper explanation about learning different psychologists have developed different theories of learning. These theories may be broadly classified under two major heads:

S-R theories or behaviorists theories and Cognitive theories.

➢ Connectionism is one of the simplest theories of learning which was propagated by American Psychologists Edward Lee Thorndike.

According to him, learning is the formation of bond between stimulus and response which depends on a number of variables which operate the environment and the organism. On the basis of his experiment he formulated three major laws of learning and supplementary principles.

➤ Conditioning means modification of natural stimulus. Natural stimulus results natural response but according to condition response natural stimulus is substituted by an artificial stimulus and by this way new connection between artificial stimulus and natural response is created. Under conditioning theory Classical conditioning was developed by Russian Psychologist Ivan Pavlov. According to Pavlov, Classical Conditioning is a process a neutral stimulus acquires all characteristics of natural stimulus. When both the artificial and natural stimulus are bought together for several times the organism becomes conditioned to respond to this situation. As a result, a natural stimulus can be substituted by an artificial stimulus is able to evoke this situation.

➤ Operant conditioning is another approach to the study of associative learning which was developed by B.F. Skinner. It refers to increasing or decreasing the probability of response or behaviour in a particular stimulus environment by following the response with reinforcement or a punishment. He called his procedure operant conditioning which can be defined as any learning which is based on response contingent reinforcement and does not involve choice among experimentally defined alternatives.

➤ Gestalt psychology is a protest against associationism with its analytical method. Here, mental facts are to be studied as concrete wholes. It holds that gestalts or organized wholes have qualities not belonging to parts and the parts derive their qualities from the wholes. Learning by insight means sudden grasping of the solution, a flash of understanding, without any process of trial and error.

➤ Lewin's theory regarded learning as a relativistic process by which a learner develops new insight or changes old ones. According to the theory, learning is not a mechanistic process of connecting stimuli and responses within a biological organism.

➢ Constructivist learning envisages learning in the context of real life situations and problems. It suggests a curriculum that integrates learning in workplace. Classroom activities are designed in such a way that guide students to work collaboratively, decide sequence and pace of work and actively engage in problem solving sand critical thinking.

3.5 Questions and Exercises:

Short –Answer Questions:

1. Which theory suggested trial and error method of learning?

2. What are different laws of learning suggested by connectionism theory?

3. Explain Pavlov's Classical Conditioning theory of learning by giving famous experiment on dog.

4. Mention few educational implications of operant conditioning theory.

5. Explain few factors on which learning by insight depends.

6. Explain briefly about theory of insightful learning.

7. Write briefly about the main concept of Kurt Lewin's field theory.

8. Mention some of the important characteristics of constructivism as a theory of learning.

Long Answer Questions:

1. Summarize the contribution of Kurt Lewin's field theory in the field of education.

2. Describe about the theory of constructivism.

3.6 References and Suggested Readings:

1. Aggarwala, J.C. (2015) Essentials of Educational Psychology. Vikas Publishing House Pvt. Ltd., New Delhi.

2. Chauhan, S.S (1978) Advanced Educational Psychology, Vikas Publishing House Pvt. Ltd.

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UNIT- 4
EDUCATIONAL IMPLICATIONS OF THEORIES OF LEARNING

4.1 Introduction:

Learning theories main categories or philosophical frameworks under which learning theories fall: behaviorism, cognitive and constructive. Behaviorism focus only on the objectively observable aspects of learning. Cognitive theories look beyond behaviour to explain brain based learning. And constructivism views learning as a process in which the learner actively constructs new ideas.

4.2 Objectives:

After going through this unit you will be able to analyse and apply various–

- educational implications of theory of constructivism,

- educational implications of theory of conditioning,

- educational implications of different field theories like Gestalt theory of learning and Lewin's Field theory,

- modern educational theory constructivism and its educational implications.

4.3 Educational Implication of Connectionism Theory:

On the basis of different experiments Thorndike explain that learning involves through trial and error connection. He also named this principle as trial and error learning. It is committed error before it hit upon the correct move. Moreover, he again explains that learning is the result of formation of connection in the nervous system. According to him, learning is gradual, not insightful. It depends upon the number of trials fulfilled by the learner. His experiments proved that learning is the direct activity not mediated by ideas. It is a simple semi mechanical phenomenon, a process of establishing simple connection between stimulus and response.

Many psychologists, specially the behaviorists consider that connectionism theory gives a more or less adequate explanation of many phases of learning process. This theory takes into account the fundamental concept of connectionism. The concept of this theory is that learning is the linking of a response to a stimulus. The human organisms as well as many other organisms, have an innate fund of responses, tendencies or reactions which are activated when appropriate stimuli are presented to them.

4.4 Educational Implication of Theory of Conditioning:

After several trials the dog was given no food but the bell was rung and the amount of saliva secretion in this situation was measured. It was found that in the absence of food, the ringing of bell caused the dog to secret saliva. The mechanism of Classical Conditioning is comprised of the following:

a) Unconditioned Stimulus (UCS): Food which is invariably causes a natural response.

b) Unconditioned Response (UCR): Salivation which results when unconditioned stimulus is presented.

c) Conditioned Stimulus (CS): The sound of the bell which does not bring about salivation or desired response when presented alone and will only produce salivation when it is conditioned with the food.

d) Condition Response (CS): Salivation process with the sound of the bell is particular behaviour that an organism learns to produce when the Condition Stimulus is presented.

Model of Classical Conditioning is given below:

1. UCS……………………………………....... UCR
   (Food)   (Saliva)
2. CS+UCS…………………………………….UCR
   (Sound of the Bell+Food)(Saliva)
3. CS……………………………………………CR
   (Sound of the bell)   (Saliva)

Thus, Classical Conditioning can be defined as "a process in which a neutral stimulus, by pairing with a natural stimulus, acquires all the characteristics of natural stimulus." In this experiment of classical conditioning several important principles are associated with it. Some of them are very much important.

❖ Intensity of Stimulus: there is positive correlation between intensity of stimulus and magnitude of response. If the stimulus is more intense then more rapidly the conditioning will proceed.

❖ Extinction: if the conditioned stimulus is presented alone number of times then conditioned response will disappear.

❖ Spontaneous Recovery: After extinction the behaviour often reappears but reduced intensity.

❖ Stimulus Generalization: Generalization is a process where conditioned response to a stimulus is generalized to similar category of stimuli.

❖ Stimulus Discrimination: it is opposite of stimulus generalization which states that the learner learns to react differently to different stimuli.

Therefore, it can be concluded that though classical conditioning has no direct classroom implications but teachers can use this theory in regular teaching learning situation differently. Teacher can create an atmosphere with positive reinforcement which helps students in easy development of proper habit and positive attitude for different aspects of life. Conditioning was accepted as theoretical framework and practical technique of solving a variety of applied problems. The most important contribution is the language of learning and conditioning, e.g. - teaching of alphabets to small children. Besides these, this theory is also helpful in deconditioning emotional disturbances by applying different psycho therapy. Thus, much of our behaviour in the shape of interests, attitudes, habits, sense of application or criticism, moods and temperaments, is fashioned through conditioning. The process of conditioning not only helps us in learning what is desirable but also helps in eliminating, avoiding or unlearning of undesirable

habits, unhealthy attitudes, superstitions, fear and phobias through avoiding.

4.5 Educational Implication of Classical Conditioning:

➢ Principles of classical conditioning can be used for developing good habits among children like cleanliness and punctuality etc.

➢ It can be used for reconditioning fear, Anxiety etc.

➢ This theory emphasizes the importance of reinforcement and development positive attitude among children**.**

4.6 Educational Implications of Operant Conditioning:

The theory of operant conditioning has revolutionized the field of training or learning by following implications:

➢ The principle of operant condition may be successfully applied in behaviour modification.

➢ The development of human personality can be successfully manipulated through operant conditioning.

➢ Operant conditioning emphasizes the importance of schedules in the process of reinforcement of behaviour. It trying to impart a particular behaviour, therefore, great care should be taken for the proper planning of schedules of reinforcement.

➢ The theory of operant conditioning does not attribute motivation to internal processes within the organism. It takes for granted the consequence of a behaviour or response as a source of motivation to further occurrence of that behaviour.

➢ This theory advocated the avoidance of punishment for unlearning the undesirable behaviour and for shaping the desirable behaviour.

The most effective application of operant conditioning is that it has contributed a lot to the development of teaching machines and programmed learning.

4.7 Educational Implications of Gestalt or Insightful Theory of Learning:

➢ Subject matter should be presented as a whole to facilitate insightful learning.

➢ Teacher should try to motivate student by giving opportunities for using his mental abilities.

➢ Attempts should be made to encourage thinking, reasoning, and understanding instead of emphasizing mechanical memorization of facts.

➢ Insightful theory requires organization of perceptual learning material in form of a gestalt. The significant contribution of this theory is the organization of curriculum, scheme of studies, work plan and procedure of planning the scheme of learning.

STOP TO CONSIDER

- Constructivism theory make teaching learning process more active, lively and provide scope for new innovations among students.

- The significant contribution of Insightful theory is the organization of curriculum, scheme of studies, work plan and procedure of planning the scheme of learning.

- Operant conditioning has contributed a lot to the development of teaching machines and programmed learning.

4.8 Educational Implications of Field Theory:

The classroom implications include the importance of seeing the total situation at the beginning. In the teaching of a subject the question that will be answered during the study of the subject should be raised. The teacher should preview the activities involved and the problem to be encountered. Moreover, looking to the classroom from the field theorist's point of view, the pupil, the teacher, the school and the peer group are all parts of the total situation. Thus, it can be said that learning is characterized by changed perception, improved reactions, differentiation of stimuli and response, integration of stimuli and response and achievement of understanding of insight. Factors which condition learning are the state of the organism, the appropriateness of stimulation and the existence of goals.

Educational Implications of Constructivism Theory:

Constructivism theory makes the teaching learning process as learner centered where students are regarded as active participant and they are

encouraged and guided by teacher to construct their knowledge on the basis of their abilities, qualities, interests and prior experiences. Some important implications of this theory are worth mentioning:

❖ Constructivism promotes social and communication skills by creating a classroom environment that emphasizes collaboration and exchange of ideas by sharing group projects.

❖ This theory provides modern innovative tools such as problem solving and inquiry based learning activities with which students formulate and test their ideas, draw inferences and strengthen their knowledge.

❖ Constructivism is a process in which students are help to develop their own goals and assessment, create new understandings and control learning through learning by doing principle which help teacher to pose problems that are or will be relevant to the students.

CHECK YOUR PROGRESS

Que. 1: Mention some important educational implications of Kurt Lewin's field theory?

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Que. 2: What are the implications of theory of conditioning?

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Que. 3: What is constructivism?

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4.9 Summing Up:

- There are mainly two types of theories of learning——S-R Theories and Cognitive field theories.

- E.L Throndike is the father of Connectionism theory.

- Laws of learning were propounded by E. L. Thorndike.

- There are some supplementary principles propagated by Throndike in the theory of connectionism. These are—principle of multiple responses, principle of mental set, principle of partial activity, principle of analogy or assimilation, principle of associative shifting.

- Russian Psychologists Ivan Pavlov advocated theory of classical conditioning.

- The four important elements of conditioning process are natural stimulus, natural response, artificial stimulus and artificial response.

- Classical conditioning theory helps in development of habit formation and language development of child.

- Operant conditioning implies that learning occurs through reward and punishments given for a particular behavior.

- The Gestalt came from German language.

- The group of German Psychologists who advocated Insightful theory of learning are Wolf Gang Kohler, Kurt Koffka and Max Werthimer.

- The important laws associated with Gestalt theory of learning are- Figure-Ground, Principle of Pragnanz, Law of Transposition, Law of Similarity, Law of Proximity.

- Regarding classroom implications of Kurt Lewin's field theory it can be said that in the teaching of a subject the question that will be answered during the study of the subject should be raised. The teacher should preview the activities involved and the problem to be encountered. Moreover, it can be said that learning is

characterized by changed perception, improved reactions, differentiation of stimuli and response, integration of stimuli and response and achievement of understanding of insight.

- Constructivism refers to theories of knowledge and learning. The central premise of constructivism is that a learner is believed to construct, through reflection, a personal understanding of relevant structures of meaning derived from his or her action in the world.

- Constructivism theory makes the teaching learning process as learner centered where students are regarded as active participant and they are encouraged and guided by teacher to construct their knowledge on the basis of their abilities, qualities, interests and prior experiences.

4.10 Questions and Exercises:

1. Mention some of the important characteristics of constructivism as a theory of learning.

2. Describe about different theories of learning and explain one of them with educational implications.

3. Summarize the contribution of Kurt Lewin's field theory in the field of education.

4. Describe about the theory of constructivism by giving practical examples of it in classroom situation.

4.11 References and Suggested Readings:

1. Aggarwala, J.C. (2015) Essentials of Educational Psychology. Vikas Publishing House Pvt. Ltd., New Delhi.

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