Unit 3

MOTIVATION AND LEARNING.

CONTENT

Meaning and Definition of Motivation

Motivation is the process of arousing, maintaining and controlling interest in a goal directed pattern of behaviour. The success in life and learning depends on our motivation. It stimulates us and directs our behaviour. According to Crow and Crow, “Motivation is considered with the arousal of the interest in learning and to the extent is basic to learning”.

Definition of Motives

Motives generally refer to biological, social and learned factors that initiate, sustain and stop goal directed behaviour of organisms. The term ‘Motive’ in its root Latin means ‘to move’ or ‘to impel’. Thus an organism acting with a motive exhibits a specific behaviour and strives to reach the goal, appropriate to the motive.

Characteristics of Motives

i. Motivation is a psychological process (internal)
ii. This internal process is initiated by some need or want
iii. It directs our efforts towards the goal that satisfies the need
Iv. It brings energy mobilisation in us
v. It helps to sustain the attention in one’s efforts or tasks.

Kinds of Motives

Motives may be broadly classified as

(i) Natural or biogenic: Biogenic motives (e.g. Hunger, thirst, sex, escape from pain etc.) are unlearned and they are referred as ‘Primary Motives’. Animal behaviour is mainly based on primary motives.

(ii) Acquired or sociogenic: Sociogenic motives often referred as 'Secondary Motives' are acquired and they are essentially social in character. Secondary motives may be classified into three fold as

  (a) Motives related to Psychological needs
  (b) Motives related to Social Needs (interaction with other people)
  (c) Motives related to Competency and Self (Personal Motives)

Theories of Motivation

1. Instinct Theory of McDougall
2. Morgan’s Physiological Theory (Hypodermic Model!)
3. Hull’s Drive reduction Theory
4. Murray’s Need Theory
5. Maslow’s Theory of Hierarchial Needs

Maslow's Theory of Hierarchical Needs

According to Maslow:

i. Human needs are many and multiple; all are not of equal importance, i.e. needs can be arranged hierarchically.

ii. The organism will aspire for a higher order needs only when the lower order needs get fulfilled.

a) Physiological needs: These are the lower in the motivational hierarchy, which include need for food, water, oxygen, sleep, sex, sensory satisfaction and the like. These are vital for survival and hence should be fulfilled.

b) Safety and Security needs: They include shelter, clothing and personal safety, security of the future, routine, regularity etc.

c) Affiliational needs: It refers to the individual's hunger for affection. "A pupil who is not loveable because of his behaviour, needs to be loved most".

d) Self-Esteem needs: In all of us there is a desire for strength, mastery, competency etc. leading to a feeling of independence and freedom. We want to be high in the eyes of others. According

e) Achievement needs: They may be classified as need for knowledge and the need for understanding.

f) Aesthetic needs: This is concerned with appreciation of order and beauty.

g) Self-Actualisation needs : Self actualisation means to fulfil one's individual nature in all its aspects.

Educational Implications of Maslow's Theory

i. The idea that the deficiency needs of pupils are to be satisfied to enable them to function at a higher level of motivation has to be borne in mind when dealing with economically and culturally disadvantaged children.

ii. Looking after ventilation, lighting, furniture, blackboard, provision of midday meals for the needy, classroom arrangement for physical and psychological safety and showing interest in every pupil so that he feels that he belongs to the class are vital.

iii. An individual tends to raise his goals after success and lower them after failure; so teachers should maintain realistic level of aspiration by providing graded assignments ensuring to include certain amount of success for every pupil.

Deficiency Needs	Growth Needs
Needs like food, sleep, water, clothes, shelter, etc.	G-needs spring from within, they grow stronger when fulfilled (e.g.) love and affection, etc.
Motives arising from deficiency needs, produces tension in the organism.	G-needs are productive and pleasant form of tension; they lead to further desires.
D-needs are common to all individuals.	G-needs differ for individuals and so are ‘idiosyncretic’.
D-needs can be fulfilled completely; but may reoccur.	G-needs are continuous and never ending.

Characteristics of Self-actualisers

Maslow in his book 'Towards a psychology of Being' has listed the characteristics of a consistently self-actualised person:

i. He has a sense of detachment
ii. He accepts himself and others
iii. He is democratic in outlook.
iv. His behaviour is problem – centred
v. He shows a high degree of spontaneity
vi. At times he shows mysticism

Concept of 'Level of Aspiration'

Frank defines level of aspiration as "the level of future performance in a familiar task which an individual, knowing his level of past performance in the task, explicitly undertakes to reach".

Generally the two popular measures used in aspirational studies are:

a. Goal Discrepancy (G.D) Previous Attainment Present Aspiration
b. Attainment Discrepancy (AD) = Present Attainment- Previous Aspiration
(For normal persons G.D. Will be slightly positive and A.D. Will be slightly negative.)
Two Types of Motivation
(i) Extrinsic Motivation
(ii) Intrinsic Motivation

(A) Extrinsic Motives

Psychologically all motivation is intrinsic. By extrinsic motivation we refer to certain incentives or reinforcements that are external. The extrinsic incentives may consist of money or a toy or sweet. When a child is assigned a task and told that he would get Rs. 10/- on completing it within a specified time, the child puts forth his best efforts to finish the task in time. This is a case of extrinsic motivation.

(B) Intrinsic Motives

Intrinsic motivation is inherent in the activity itself. The task is not undertaken for something else but performing it itself is satisfying. Children find intrinsic motivation in play. Adults are intrinsically motivated to hear music, go to temples and offer prayer etc.

Merits and Limitations of Extrinsic and Intrinsic Motives

Reward and punishment, success or failure, use of audio-visual aids, cooperation and competition are all cases of extrinsic motivation. But when we emphasize rewards and punishment (or success and failure) too much it may lead to a negative attitude towards the school by the student. This is the limitation of extrinsic motivation. But when students develop a positive attitude, then it develops an involvement of ego towards the task. They become intrinsically attached to the task. This is permanent and this is a case of intrinsic motivation

Motivational Strategies in the Classroom

1. Use of proper incentives as motivating agents, appropriate to the age group of students. [(eg.) rewards and prizes.
2. Goal setting: Motivational behaviour is always goal –oriented. When the goal is clear and attainable, the students strive hard to reach the goal.
3. Ensuring success to all, at least to some extent.
4. Competition and Co-operation: Teachers should stress cooperation as a motive in study and sports.
5. Avoid excessive motivation as it is self-defeating.

Meaning and Definition of 'Learning'

Psychologists define learning as "a relatively permanent change in behaviour, which occurs as a result of activity, training, practice or experience". This definition of learning has three important elements:

1) Learning results in change in behaviour.
2) It is a change that takes place through practice or experience.
3) Before it can be called learning, the change must be relatively permanent.

Nature of Learning

1. Learning is universal. All living beings learn.
2. Learning is continuous; it is a perpetual activity that takes place from 'womb to tomb'.
3. Learning results in improved performance.
4. Learning is purposive: A child's learning in and out of school is closely linked up with purpose.

Factors Influencing Learning

1. Motivation: McConnell states that a driving force is necessary for an individual to learn.
2. Needs: Environmental needs stimulate an individual to learn.
3. Maturation is important for one to learn. Maturation provides the necessary learning readiness in individuals.
4. Feedback received while learning helps to accelerate and consolidate one's learning.
5. The level of intelligence of a person, determines his learning method.
6. Attention is a pre-requisite for learning.

Learning Theories

As learning is a complex phenomenon, different people view it differently, giving importance to one or the other aspect of learning process. Thus psychologists hold different views on the intrinsic and basic nature of learning process and each set of views attempting to explain – learning process is came to be known as a theory of learning.

Two Major Systems of Learning Theories

(1) Association Theories: Association theories (also known as S-R theories) include the various learning theories which try to explain learning as ‘a matter of connections established between stimuli and responses.’

(2) Field or Cognitive theories: Cognitive or field theories of learning are critical of mechanical associations. They place greater emphasis on internal mental processes like perception, attitudes etc. And the cognitive structures which man might acquire from past experience as the basis of learning.

Differences between Association and Field Theories

Association Theories	Field Theories
Learning is formation and strengthening of S-R connections, aided by reinforcements.	Learning is organisation of experiences into a cognitive structure.
Learning proceeds from simple to complex; learning is additive and integrative.	Learning begins with the perception of the whole imperfectly and progressive clarification of the whole.
Associationists are mechanistic in their interpretation of learning	Field theorists interpret human behaviour as dynamic, cognitive and purposeful
Emphasis is on drill and practice under condition of reinforcement.	Emphasis is on the development of ‘insight’

Thorndike's Connectionism

Thorndike's Connectionism also referred to as 'trial and error learning' is based on experiments conducted by him. Thorndike spoke of learning as a trial and error process developing neural connections between stimuli and responses. When a stimulus is presented, the organism picks a response and connects it; by repeated trials the organism eliminates the errors gradually and selects the appropriate response for the stimulus and connects it.

Characteristics of Trial and Error Learning

i. There is some sort of motive that arouses and sustains the activity. This motive appears in the form of a need, a problem or goal. This impels one to activity
ii The organism makes several different kinds of responses to the situation i.e. Varied responses.
Iii. There is a progressive elimination of the irrelevant, unsuccessful forms of activity.
Iv. Finally, there is progressive integration and establishment of the response by which the goal is achieved.

Thorndike's Puzzle Box Experiment

He placed a hungry cat in the puzzle box. A piece of fish in a dish was kept outside the box. The box could be opened by correctly manipulating a latch. On seeing the fish, the cat became restless and made frantic efforts such as biting, clawing, and dashing the walls before the latch moved accidently and the door opened. On subsequent trials such incorrect responses i.e. biting, clawing and dashing are gradually stamped out and the cat took less time on them.

This experiment shows that learning is simply selecting and connecting the correct response with the given stimulus by a process of progressive reduction of incorrect responses and stamping in the correct response through trial-and-error. If the trials were continued even after learning to do the task correctly, efficiency of performance of the cat increased (time taken to finish the task correctly, decreased) and reached the maximum level, after which there was not much gain in efficiency.

Thorndike's Laws of Learning

1. Law of readiness: "When any conducting unit is ready to conduct, to allow it to do so is satisfying, not to allow it to do so is annoying. When any conducting unit is not ready to conduct, for it to conduct is annoying".
2. Law of exercise: "When a modifiable connection is made between a stimulus and response, other things being equal, that connection's strength increases if it is repeated a number of times". This is called the 'law of frequency'.
3. Law of effect: The law states, "when a modifiable connection is made between a stimulus and a response and is followed up by satisfying state of affairs, its strength increases; when followed by dissatisfying state of affairs, its strength decreases".

Limitations of Thorndike's Theory of Learning

1. Thorndike's theory of trial and error, is true only for motor learning.
2. Thorndike theory reduces intelligence to the capacity to form S-R bonds,
3. According to Thorndike, what fixes the correct pattern of activity is recency, frequency and effect of the elements

Classical Conditioning

Conditioning can be defined as "a process in which a neutral stimulus which is not associated with any specific natural response, on pairing with a natural stimulus, acquires all the characteristics of natural stimulus". For example, if food is presented, saliva flows. Food is the natural stimulus' that can elicit the 'natural response' `salivating'.

The classical conditioning' of Pavlov is also called 'stimulus substitution' because we substitute a neutral stimulus, through the process of 'contiguity' (occurrence of two events in quick succession).

Pavlov's Experiment

When we put food in the mouth of the dog, the dog salivates. This response, on the part of the dog, is natural and unfailing. Food is called as the unconditioned stimulus (UCS) and the salivation by the dog is called unconditioned response (UCR). During his experimentation on dogs, he presented food, a few seconds after ringing a bell. At first the dog did not exhibit any specific response on hearing the ringing bell. Sometimes it may turn round towards the direction of sound, raise its ears, or indulge in barking etc. But not salivate. But when it started taking food, it salivated. This showed that the bell sound is a neutral stimulus, as it is not capable of eliciting any specific response. This is the first stage of the experiment. This phenomenon of making a neutral stimulus to elicit a specific response, by continuously pairing it with a natural stimulus is termed as 'conditioning'.

Educational Implications of Conditioning Theory of Learning

1. Classical conditioning is used in language learning by associating words with pictures or meanings.
2. It can be used to develop favourable attitude towards learning, teachers, subjects and the school.
3. Developing good habits in children such as cleanliness, respect for elders, punctuality, etc. through the use of conditioning.
4. Breaking of bad habits and elimination of conditioned fear, through the use of deconditioning process.

Limitations of Conditioning Theory of Learning

Complex areas of learning, involving generalisation, abstraction, reasoning, understanding and problem- solving cannot be explained by conditioning process. It can describe only those learnings related to emotional shaping and habit formation.

Laws of Conditioning

1. Law of Causation
2. Law of Experimental Extinction
3. Law of Generalisation
4. Law of Discrimination (or selective conditioning)
5. Law of Higher order Conditioning

Concept of 'Reinforcement’

‘Reinforcement' could be defined as the phenomenon in which a desired response when emitted is strengthened by presenting a reinforcer and thereby increasing the frequency of occurance of that particular response.

Positive and Negative Reinforcers

A positive reinforcer is any stimulus, which when applied following an operate response, strengthens the probability of occurance of that response (eg. Food, water or any other reward).

A negative reinforcer is any stimulus which, when removed following an operant response, strengthens the probability of occurrence of that response (eg. Loud noise, bright light, extreme heat or cold, electric shock, etc.).

Skinner’s Operant Conditioning

B.F. Skinner believed that no stimulus is capable of eliciting a unique response from an organism. It is the organism which emits all kinds of responses spontaneously. For example, a cat without any reason licks its face with its tongue, a dog barks, a pigeon pecks at dots. All such responses are emitted responses.

Here to get the reward or praise, the organism has to operate in (or to deal with) its environment in a particular way. So this type of learning is also termed as “operant conditioning”. As the organism expresses a response or behaviour pattern and through that tries to fetch the reward, this type of learning is also known as “Instrumental conditioning”.

Comparison Between Classical and Operant Conditioning

Classical Conditioning	Operant Conditioning
It was developed by Russian physiologist Pavlov and is called Type-S conditioning (respondent)	It was developed by B.F. Skinner and is called Type R conditioning (operant)
Essence of learning is ‘stimulus substitution’.	Essence of learning is response modification through selective reinforcement.
Law of contiguity is the basis of conditioning.	Law of effect is the basis of conditioning
It is related and controlled by autonomous nervous system in the organism.	It is controlled by central nervous system in the organism.
It focuses on single S-R bondage.	A chain of sequential responses can be formed through ‘shaping’.

Educational Implications of Skinner's Theory

Skinner's operant conditioning theory has found application in education in the following ways:

1. Individualisation of instruction: Programmed learning, teaching machines, computer-assisted instruction, etc. have their basis in Skinner's theory of reinforcement of selective response.
2. Behaviour modification techniques :Use of instructional objectives; Performance contracting;- Learning for mastery; Teacher Effectiveness Training (T.E.T.).

Differences Between 'Reinforcement' and 'Feedback'

Reinforcement refers to the strengthening the probability of occurrence of a desired response either by presenting the organism after the operant response is exhibited, with a positive reinforcer or withdrawal of a negative reinforcer. Positive reinforcers may be any rewards like food, toys, money, etc.

Feedback refers to the knowledge of results of one's own actions. It has been demonstrated that in the case of grown up adults, knowledge of results of one's own action itself serves as a positive reinforcer and enhance the level of performance. Though both rewards and feedback serve as means of reinforcement, the former operates at the physical level and the latter at the psychological level.

Jean Piaget's Theory of Cognitive Development

Cognitive development arises as a result of the interaction between the individual and the world and passes through a series of sequential stages. According to Piaget to "know an object one must act upon it either physically or mentally" and these activities that people perform on objects are called 'Schemas'.

Stages of Cognitive Development

1) Sensory-Motor Stage (0 to 2 years): This stage is mainly based on immediate experience through the ‘senses’ and the major intellectual activity is the sensory interaction of the environment.
2) 2) Pre-operational Stage (2 to 7 years): The thinking of pre-operational child is characterised by:

i) ego-centrism: (use of words which have unique meaning for the child, which limits the child’s ability to understand others’ point of view);

ii) animism (treating inanimate objects as living ones; e.g. Children bathing, dressing and feeding their dolls as if they are alive)

iii) realism (dreams are considered real) (e.g. Children at this stage pretend stuffed toys are real, have imaginary friends etc.)

iv) Centering: (the child can concentrate on only one aspect of a thing at a time)

3) Concrete Operational Stage (7 to 11 years): During this stage, the child masters various conservation concepts and begins to perform logical manipulations.
4) Formal Operational Stage (11 years and above): During this stage thought becomes increasingly flexible and abstract, children at the formal stage are able to tackle any problem in a logical sequence, they start evaluating acts in terms of underlying motives, Understand that the rules of any games or social system are developed by man by mutual agreement and hence could be changed or modified.

Educational implications of Piaget's Theory

1) 'True learning' as discriminated from 'verbal learning' involves the acquisition of new structures of mental operations.
2) Emphasis on discovery approach in learning.
3) Curriculum should provide specific educational experience based on children's developmental level.
4) Arrange classroom activities so that they assist and encourage self-learning.
5) Do not treat children as miniature adults; they think and learn differently from adults.

John Deweys Theory of Constructivism

Meaning of Knowledge Construction / Constructivism

The process of assimilation and integration of new information with one's own already existing knowledge is called learning or knowledge construction i.e. learning is the process of learner making the information he receives meaningful and registering it in his memory. In other words, learning is nothing but the process of constructing knowledge.

In this approach, learners examine the information received by them in the light of their experiences, makes them meaningful and register them in the mind as subjective representations.

Nature of Constructivist Learning

According to the constructivist theory, construction of knowledge takes place in short term memory. (This is also known as working memory of the learners).

There are three important activities in the process of learning. They are:

i) Selecting the most appropriate from among the information received;

ii) Classifying and organizing the new information (coded in the form of audio and video images) take place in this step.

iii) Integrating the new information which has been well organized (i.e. new knowledge) with already stored knowledge in memory and modifying the 'cognitive structure' take place in this step.

Taking into account the above three steps, this theory is called as SOI (Selecting, Organizing and Integrating).

Role and Functions of Teacher in the Constructivist Classroom

i) Teacher frequently asks open-ended questions in the classroom and patiently waits for students to answer.

Ii) Teacher gives much importance to students' higher order thinking and logical reasoning.

Iii) Provides ample opportunities to students to interact among themselves and also with him.

Iv) He encourages students to share their experiences among themselves.

v) He emphasizes inquiry-based learning.

vi) He gives more importance to problem-solving approach in learning

The following are the four phases in the teacher planning and implementing, cooperative learning by students in the classroom.

i) Making decisions before the lesson begins.
ii) Setting the learning tasks for the lessons
iii) Monitoring students' activities while they work in groups
iv) Evaluating the process and product of group work.

Humanistic Psychology and its Basic Premises

During the 1950s, humanistic psychology began as a reaction to 'psycho-analysis', and 'behaviourism', which dominated psychology at that time. Humanist thinkers felt that both psycho-analysis and behaviourism were too pessimistic, either focussing on the most tragic emotions or failing to take into account the role of personal choice.

Humanistic psychology was instead focussed on each individual's potential and stressed the importance of growth and self-actualization. The fundamental belief of humanistic psychology is that people are innately good and that mental and social problems result from deviations from this natural tendency. Abraham Maslow, Carl Rogers, Rollo May, Eric Fromm, Gordon Allport are the eminent contributors to the growth of Humanistic Psychology.

Humanistic Psychologists' View of 'Learning'

Humanistic psychologists define 'learning' as a function of the whole person using his potential abilities fully and further, learning cannot take place without involving cognitive and affective domains.

According to humanistic psychologists, learning is

1. Conscious Choices and Control of Actions: Humanistic psychologists give great importance to choice given for the learner to select the subjects of study and learning activities.
2. Felt Needs: Humanistic education pays more attention to students' felt needs, interests and cognitive ability.
3. Development of the Whole Person: Humanistic educators believe that learning should improve both knowledge and feelings of students. They point out that the lessons and activities in the curriculum should not only emphasize knowledge development but also give importance to the emotional development of students.. The aim of the teaching-learning process should be the development of whole personality of the learners.

Carl Roger's Theory of Fully Functioning Person

Carl Rogers considers that every individual has the potential to fulfil his life-goals and ambitions. Only those who use their potential fully and realize their life-goals are self-actualized persons.

Characteristics of Fully Functioning Person

1. Open to experience: They accept both positive and negative emotions. Negative feelings are not denied, but they try to change them into positive feelings.
2. Existential outlook in life: They are in touch with different experiences as they occur in life and avoid prejudging and preconceptions.
3. Trust feelings: Feeling, instincts and gut-reactions are paid attention to and trusted.

4. Creativity: Creative thinking and risk taking are features of the life of a fully functioning person.
5. Fulfilled life: A fully functioning person is happy and satisfied with life, and is always looking for new challenges and experiences.

Educational Implications of Learning Theories

From the different learning theories, it is clear that ‘learning’ is of different types and takes place at different levels. Factors like pupil’s intelligence, his previous experiences and the content of the subject more particularly the topic to be learned, determine the method of learning preferred by the pupil. To choose the most appropriate method for the class-room teaching-learning process, that is suitable for intellectual ability of his pupils, and the nature of the content to be learned, the teacher should have the knowledge of different learning theories as well as their relative merits and demerits. No single theory of learning could be considered as the best.

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Thank you