Chapter 6

Learning

❖ Learning

- Learning can be defined as any relatively permanent change in behaviour or behavioural potential produced by experience.
- It refers to a spectrum of changes that take place as a result of one's experience.
- Its distinguishing features are:
  i. Learning always involves some kind of experience.
  ii. Behavioural changes that occur due to learning are relatively permanent.
  iii. Learning involves a series of psychological events.
  iv. Learning is an inferred process and different from performance.

❖ Paradigms of Learning

- Classical conditioning demonstrates learning by association, as in the case of the experiment conducted by Ivan P. Pavlov on the dog, which proved that the dog associated food with the ringing of bell.

- The determinants of classical learning are:

  ➢ Time relations between stimuli–These are based upon the time relation between conditioned and unconditioned stimulus and include simultaneous, delayed, trace and backward conditioning.

  ➢ Types of unconditioned stimuli–The two types of unconditioned stimuli are appetitive and aversive based upon the type of responses they elicit.

  ➢ Intensity of unconditioned stimuli

- The conditioning of operant behaviour is called operant conditioning. Operant refers to those behaviours that are emitted by animals and human beings voluntarily.

- Factors that influence the course of operant conditioning are called reinforcers. It refers to the stimulus or event, which increases the probability of the occurrence of the response. The reinforcers are of various types.
  - ➢ Positive reinforcement involves pleasant consequences.
  - ➢ Negative reinforcement involves unpleasant and painful consequences.
  - ➢ Operant conditioning is accelerated by increase in the number and quality of reinforcements.
  - ➢ Schedule of reinforcement influences the course of operant conditioning.
  - ➢ Delay in the delivery of reinforcement results in poor conditioning.

❖ **Key Learning Processes**

- Learning involves processes like reinforcement, extinction, generalisation, discrimination and spontaneous recovery.
- Primary reinforcers like food are important for the survival of organisms.
- Secondary reinforcers like money acquire their characteristics as a consequence of the organism's interaction with the environment.
- Learning shows resistance to extinction.
- Generalisation is the result of the elicitation of a learned response to similarity while discrimination is a response caused by difference.
- Spontaneous recovery occurs at the lapse of a period of time after the learned response is extinguished.

❖ **Observational Learning**

- It involves learning through imitating others.
- Bandura with his colleagues investigated human behaviour in a series of experiments, and it was found that they learn social behaviour by observing and emulating others.
- Observers learn by observing the model's behaviour and their performance is determined by reward and punishment.

❖ **Cognitive Learning**

- It comprises of a change in what the learner knows instead of what he/she does.
- The different forms of cognitive learning are:
  i. Insight Learning
  ii. Latent Learning

❖ **Verbal Learning**

- It is a method of learning in which different methods are used to investigate specific questions about learning of some kind of verbal material.
- The procedures for studying verbal learning are:
  i. Paired Associates Learning
  ii. Serial Learning
  iii. Free Recall
- Its determinants are:
  - Length of the list to be learned
  - Meaningfulness of the material

❖ **Concept**

- A concept refers to the category, which is used to refer to a number of objects and events.
- It can also be defined as a set of features connected by a rule.
- A feature refers to any characteristic of an object or event or living organism that is observed in them, and can be considered equivalent to some features observed or discriminated in other objects
- A concept is of two types:
  i. Artificial concept
  ii. Natural concept

❖ Skill Learning

- A skill is referred to as the ability to perform some complex task smoothly and efficiently. It consists of a chain of perceptual motor responses or as a sequence of S-R associations.
- The stages of development of skill learning are:
  i. **Cognitive:** The learner has to understand and memorise the instructions to perform a task.
  ii. **Associative:** Different sensory inputs or stimuli are linked with appropriate responses. Errors decrease and performance improves with the increase in practice.
  iii. **Autonomous:** In this stage, the attentional demands of the associative stage decrease and interference of external factors is reduced. As a result, skilled performance attains automaticity with minimal demands on conscious effort.

❖ Transfer of Learning

- Transfer of learning refers to the effects of prior learning on new learning. It takes place through general transfer and specific transfer.
- General transfer implies that prior learning predisposes one to learn another task in a better manner.
- Specific transfer means that learning consists of a series of stimulus-response associations. It means the effect of learning of task 1 on learning of task 2. This kind of transfer depends on the similarity-dissimilarity between the initial learning task and the second task.

❖ Factors affecting Learning

- **Continuous vs. Partial Reinforcement**

  ➢ In continuous reinforcement, the participant is given reinforcement after each target response.

- ➢ It produces a high rate of response.
- ➢ The reinforcement is not continuous in partial reinforcement.

- **Motivation**

  - ➢ It is a prerequisite for learning because it energises the organism to act vigorously in order to attain some goal. This mental and physiological state continues till the goal is attained and the need is satisfied.

- **Preparedness for Learning**
  - ➢ The notion for preparedness for learning means that an organism can learn only those associations for which it is genetically prepared.

❖ **Learning Style**

- Learning style can be defined as a learner's consistent way of responding to and using stimuli in the context of learning.
- It is derived from perceptual modality, information processing and personality patterns.

❖ **Learning Disabilities**

- It refers to a heterogeneous group of disorders in terms of difficulty in the acquisition of learning, reading, writing, speaking, reasoning and mathematical activities. Students with learning disability have some common symptoms through which they can be identified.

❖ **Important Terms and Definitions**

- **Biofeedback:** It is a process in which the function of a part of body is monitored and the feedback is given to the patient to improve his/her physiological condition.
- **Cognitive map:** A mental representation of a location and direction to reach the goal.
- **Conditioned response:** It is the simplest form of learned behaviour in classical conditioning. It refers to the learned or acquired response to a neutral stimulus.

- **Conditioned stimulus:** In classical conditioning, it is a neutral stimulus that after being associated with unconditioned stimulus, it triggers a conditioned response. **Conditioning:** It is the simplest form of learning in which, the behaviour of an organism depends on a particular event. This leads to a systematic procedure through which new responses are learned to stimuli.
- **Discrimination:** It is generally a response to difference. In classical conditioning, the ability to distinguish between a conditioned stimulus and other stimuli that do not signal an unconditioned stimulus. In operant conditioning, responding differently to stimuli that signal a behaviour will be reinforced or will not be reinforced.
- **Dyslexia:** A term referring to difficulty in reading. The children fail to copy letters and words and also fail to organise verbal materials.
- **Extinction:** The diminishing of a conditioned response due to the removal of reinforcement from the situation in which the response used to occur.
- **Free recall:** In memory experiments, the participants have to recall the items in any order, known as free recall.
- **Generalisation:** A similar response to similar situations is known as generalisation. Also, when a learned response is elicited by a new stimulus, it is called generalisation.
- **Insight:** The ability to deal effectively with novel situations and the solution of problem spontaneously becomes clear.
- **Mental set:** It is a fixed pattern of thinking, suggesting a tendency to respond to a new situation in the manner used for previous one.
- **Modeling:** The process in which a child learns social and cognitive behaviour by observing and imitating others. This process is also called imitating and social learning.
- **Punishment:** In operant conditioning, a change in the surroundings through an application of unpleasant stimulus for the purpose of suppressing behavior.

- **Serial learning:** The learning of a sequence of responses in accordance to their presentation. The learning trials in this method continue until the participant correctly learns all the items in the given order.
- **Spontaneous recovery:** The reappearance of a conditioned response after a period of non exposure or lessened response to the conditioned stimulus.
- **Unconditioned response:** In classical conditioning, the unlearned response to an unconditioned stimulus.
- **Unconditioned stimulus:** In classical response, it produces an involuntary measurable response.