

# Learning

I. Learning refers to any relatively permanent change in behaviour or in the potential for behaviour brought about through experience.

- Learning is normally distinguished from other changes in behaviour or in the predisposition to behave in a certain way. Learning is normally distinguished from other changes in behaviour that might be due to evolution or maturation, in that it normally occurs as a result of practice or other related experience during the lifetime of the organism. Behavioural changes that occur due to learning are relatively permanent. The changes in behaviour due to continuous exposure to stimuli i.e., habituation is not due to learning. Learning is sequential i.e., it involves a sequence of psychological events. Learning is different from performance. Learning is an inferred process. Performance is a person's observed behaviour which gives guarantee of learning although learning never gives guarantee of performance.

II. Classical conditioning is a form of learning in which a previously learnt stimulus; CS) neutral stimulus (conditioned stimulus, CS) is paired with an unconditioned stimulus (UCS) that elicits an unlearned or unconditioned response (UCR). As a result, the CS comes to elicit a conditioned response (CR) that is identical or very similar to the UCR.

(A) Classical conditioning occurs because of the association in time of a neutral stimulus that already elicits the response. The CS becomes a signal that predicts the occurrence of the UCS.

III. Operant conditioning is a form of learning in which the consequences of behaviour lead to changes in the probability of its occurrence.

(A) In positive reinforcement, a positive consequence of behaviour leads to an increase in the probability of the occurrence of the response.

1. Primary reinforcers are innately reinforcing.

2. Secondary reinforcers are learned through classical conditioning.

3. Four different schedules of reinforcement that result in different patterns of behaviour are fixed ratio, variable ratio, fixed interval, and variable interval.

4. Shaping is the process of positively reinforcing responses that are progressively more similar to the response that is wanted.

(B) Negative reinforcement occurs when the reinforcing consequence is the removal or avoidance of a negative event.

(C) Punishment is the process through which an aversive consequence of behaviour reduces the frequency of the behaviour.

IV. New stimuli come to influence behaviour through the process of learning.

(A) We say that a stimulus discrimination has been learned when a response is more likely to occur in the presence of a specific stimulus than in its absence.

(B) Stimulus generalization has occurred when an individual responds in the same way to a stimulus that is similar to the original stimulus.

V. The process of unlearning a learned response because of the removal of the aspect of the environment that originally caused the learning is termed as extinction. Extinction is sometimes slowed because of spontaneous recovery and external disinheriting.

- Imitation is another form of learning which is called observational learning. The reinforcement provided by parents when their children imitate grown up actions ensures that children acquire many aspects of behaviour in this way. It is also known as modelling. In modelling somebody observes another (the model) and then attempts to imitate their behaviour. The concept is based on Bandura's Social learning theory.

- Human beings mostly learn through knowledge about objects and events in terms of words. This is called Verbal learning.

- Verbal learning can be studied through method of paired-associates learning, serial learning and free recall. Meaningfulness of the material, time devoted on learning, category clustering, i.e., subjective organisation are the main determinants of verbal learning.

- Learning occurs in the form of concept, i.e., in terms of category. Concept involves a set of features connected with a rule or instruction: concept can be natural or artificial. Natural concepts are ill defined and difficult to learn whereas Artificial concepts are well defined and easy to learn.

- Skill refers to the ability of an individual to perform an act with ease and precision. Skills are acquired through stages that are cognitive, associative and autonomous phase.

- Transfer of learning refers to the way in which we might transfer skills learnt in one situation to a second, related situation. Thus, learning to play Tennis may introduce a range of coordination and racket skills that would then transfer to similar games such as Squash.

- Factors facilitating learning include reinforcement, motivation and preparedness of the learner and the learner's performance is facilitated by his/her cognitive style. Cognitive style refers to a learner's consistent way of responding to and using stimuli in the context of learning.

- Learning disability refers to a heterogeneous group of disorders manifested in terms of difficulty in the acquisition of learning, reading, writing, speaking, reasoning and mathematical activities. These disabilities are mostly inherited or neurologically determined.

- Learning curve is a graphical representation of the relationship between the duration of learning experience or practice trials and observed changes in performance on the learning task. In learning curve, the units of practice/trials are depicted on the horizontal axis and the degree of learning measured in terms of number of errors, correct responses, time taken etc. are shown on the vertical axis.

VI. Psychologists disagree about whether learning results from neural connections between specific stimuli and specific responses or whether learning is a change in cognition.

(A) Research that supports the cognitive view includes Tolman's studies of place learning and latent learning, Kohler's studies of insight learning, and Bandura's work on modeling.

(B) The ability of humans to learn from experience is not limitless; it is influenced in a number of ways by biological factors.

### **Words That Matter**

**1. Learning :** It is any relatively permanent change in behaviour or behavioural potential produced by experience or practice.

**2. Associative learning:** Learning that certain events occur together. The events may be two stimuli (As in classical conditioning) or a response and its consequences (As in operant conditioning)

**3. Cognitive learning:** In this type of learning an organism comes to associate stimuli.

**4. Operant:** An operant is any response voluntarily emitted by an organism.

**5. Operant learning :** This is a type of learning in which response is strengthened if followed by reinforcement.

**6. Reinforcer:** Any stimulus or event, which increases the probability of the occurrence of a desired response is known as reinforcer.

**7. Reinforcement :** Reinforcer are stimuli that increase the rate or probability of the responses that precede

**8. Negative reinforcer :** Any unpleasant stimulus whose removal leads to an increase in the probability that a preceding response will occur again in the future.

**9. Generalisation:** The tendency, once a response has been conditioned, for stimuli similar to the conditioned stimulus to evoke similar responses.

**10. Observational learning :** In this type of learning observers acquire knowledge by observing the model's behaviour.

**11. Insight learning :** The process by which the solution to a problem suddenly becomes clear is termed as insight learning.

**12. Latent learning:** In this type of learning, a new behaviour is learned but not demonstrated until reinforcement is provided for displaying it.

**13. Cognitive learning:** In this kind of learning, there is a change in what the learner knows rather than what she/he does.

**14. Verbal learning:** In verbal learning words get associated with one another on the basis of structural, phonetic and semantic similarity and contrast.

**15. Concept:** A concept is a category that is used to refer to a number of objects and events.

**16. Artificial concepts:** These are those concepts that are well-defined and rules connecting the features are precise and rigid.

**17. Skill:** It refers to the ability to carry out complex tasks smoothly and efficiently. They are learned by practice and exercise.

**18. Motivation:** It is a mental as well as a physiological state, which arouses an organism to act for fulfilling the current needs.

**19. Learning style:** It is a learner's consistent way of responding to and using stimuli in the context of learning.

**20. Perceptual modality:** These are biologically based reactions to the physical environment. It refers to the preferences of persons through which they take in information such as auditory, visual, smell, kinesthetic and tactile.