

2.) Imprinting

- Imprinting is the process to learning to recognize and become attached to an object.
- It occurs early in the life of the organism during a period known as the critical time.
- This time may vary from several hours to several days after birth, depending upon the species.
- Imprinting among duckling is most effective between 1-16 hours after hatching, while for chickens it varied between several hours and several days.
- For example, newly hatched ducklings would follow the first moving object of reasonable size emitting a reasonable sound, much the same way as they would follow a mother duck.
- But, a few days after birth imprinting does not take place.
- The ducklings imprinted to a moving box or chucking man would try to follow this object for the rest of its life.

While most of the research on imprinting was done with birds, recent studies have indicated that the grouping or aggregating of animals may be a result of imprinting.

3.) Conditional Response.

- This behavior is acquired through experience.
- It results in a response to a stimulus different from the one which originally evoked it.
- Most of the studies of this type of behavior have been done in laboratories.
- As a result of these studies, two basic concepts of conditioned behavior have evolved:—

1.) Classical conditioning or conditioned reflex, and

2.) Operant or instrumental conditioning.

1.) Classical conditioning or conditioned reflex:—

- This response is caused by a stimulus

different from that which originally triggered it.

→ Credit for understanding the mechanism of conditioned reflex goes to Russian physiologist Ivan Pavlov.

→ He placed food in the mouth of a dog, where upon the dog salivated (unconditioned response).

→ This was due to a simple reflex arc made up of the taste buds, sensory neurons, association neurons and motor neurons, which caused the glands to salivate.

→ Thereafter, each time before the dog was fed a bell was sounded.

→ Eventually the dog salivated upon the sounding of the bell without being given the food.

→ The dog learned to a substituted stimulus.

→ This behavior is known as conditioned response.

Experiments on conditioning have taught us a good deal about the learning process in man.

→ Conditioning occurs most rapidly when (1) the unconditioned stimulus and conditioned stimulus are present together frequently, (2) when there are no distractions, and (3) when a reward of some sort is given for successful performance of the conditioned response.

2.) Operant or instrumental conditioning-

→ In this type of conditioning, a single apparatus called the Skinner Box is used.

→ It is a box containing an object which the animal can manipulate, such as lever or bar that a rat can press or a disc or key that a pigeon can peck.

→ The animal is placed in the box, the animal depresses the bar or pecks the disc, and a pellet of food drops into the box.

→ The number of responses increases rapidly as a result of receiving the food.

→ The apparatus can be designed so that the food is dropped only after the lever is pressed a

given number of times, or after
given period of time.

→ Through the use of this technique animals have learned to perform a complex series of behavior patterns such as acrobatics, intricate movements or manipulation of certain devices.