

Quadrant II – Notes

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CLASSICAL CONDITIONING

The theory of classical conditioning was developed by a Russian physiologist named Ivan P. Pavlov in the year 1904. It is defined as a process in which a neutral stimulus, by pairing with a natural stimulus, acquires all the characteristics of natural stimulus. It is called substitution learning because we substitute a neutral stimulus in place of a natural stimulus. This is also called as respondent conditioning.

PAVLOV'S EXPERIMENT

In this experiment Pavlov kept a dog hungry for a few days and then placed the dog in a sound proof room which was fitted with certain mechanically controlled devices. Food was supplied to the dog through an automatic mechanism and behavior of dog was observed by means of a set of mirrors, the observer remained hidden from the dog. Bell was rung before giving food to the dog. When the food was given and the bell was rung it was marked that there was an automatic secretion of saliva from the mouth of the dog. Same activity was repeated many times. After several trials the dog was given no food but the bell was rung. It was found that even the absence of food (the natural stimulus) the ringing of the bell (an artificial stimulus) caused the dog to secrete the saliva (natural response).

Under neutral condition, a dog salivates only when it smells / eats meat. This is an unconditioned response (UR). Meat is also an example of unconditioned stimulus (US). Dog salivates automatically (this is due to the activity of the dog's autonomic nervous system (AVS). In actuality during conditioning, the original response to the US is designated as UR; the learnt behavior to the conditioned stimulus (CS) is called a conditioned response (CR). This can be understood by the following figure:

PAVLOV'S EXPERIMENT		
<u>Before Conditioning</u>		
Neutral stimulus (CS) (Bell Sound)	>	No relevant response
Unconditioned Stimulus(UCS) (Meat Powder)	>	Unconditioned response(UCR) (Salivation)
<u>During Conditioning</u>		
Neutral stimulus + US (Bell) (Meat)	>	Unconditioned response (UR) (Salivation)
<u>After Conditioning</u>		
Neutral stimulus (CS) (Bell)	>	Conditioned response (CR) (Salivation)

Pavlov has classified different components of classical conditioning theory which makes theory easy to understand. These components are as follows

1. ***Unconditioned Stimulus (UCS):*** A stimulus that automatically triggers a response.
2. ***Conditioned Stimulus (CS):*** Neutral stimulus when paired with UCS triggers a response.
3. ***Unconditioned Response (UCR):*** Response that occurs naturally (Salivation).
4. ***Conditioned Response (CR):*** Response learned to the neutral stimulus.

Principles of Classical Conditioning:

1. **Reinforcement:** The salivary response to the bell was strengthened as a result of the food being repeatedly presented just after the bell rang.

- 2. Extinction:** If the bell was rung too many times without the food to reinforce, the response could have disappeared.
- 3. Generalization:** The dog tended to respond to any sound roughly similar to the ringing of the bell.
- 4. Discrimination:** To teach the dog to distinguish the right sound and other sounds, selective reinforcement was used, that is, the dog was given food only after the sound of the bell, but never any other sound.

Educational Implication

1. Classical conditioning can be used to develop positive attitude, fears, love, prejudices or hatred towards an object. Thus favorable attitude towards learning, teacher and the school can be developed.
2. Classical conditioning can be used to develop favorable or unfavorable attitude towards the learning.
3. We should associate bad behavior with punishment and good behavior with the rewards.
4. Teacher is to develop the good reading habits through conditioning.
5. Habit can be strengthened by the process of repetition.
6. It helps us in learning what is desirable and also helps us in eliminating, avoiding, or unlearning of undesirable habits, unhealthy attitude, phobias through unconditioning.
7. The classical conditioning can be use for behavior modification of children's. Even infants can be emotionally conditioned. Schools need to conduct studies on such emotional disturbances among children. Behavior modification program would free them from their phobia for better learning in the school.