Learning Theories Reinforcement and Memory Processes

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Part 1

Classical Conditioning

“The process of closely associating a neutral stimulus with one that evokes a reflexive response so that eventually the neutral stimulus alone will evoke the same response” (Zhang et al., 2019).

Our bodies are wired in a way that they react to a signal targeted at them. Similarly, an unconditioned stimulus (UCS), when presented to a subject, leads to an unconditioned response (UCR), which is also known as a reflex. This is a natural phenomenon; for example, whenever we touch a hot object, we reflexively withdraw from it. At the same time, any stimulus that is new to a person and doesn’t generate any response is called a neutral stimulus. If such stimuli are flashed again and again (CS) to the same person, then this would lead to a conditioned response (CR). For example, if flashing a black card would not generate a salivation response from the dog, but a bell does (NS), then if the card is flashed continuously before ringing the bell, eventually the dog will start salivating when the card is flashed.

4 Types Of Reinforcement That Affect Behavior

When classical conditioning is being discussed, four types of reinforcement are mentioned. Positive, negative, punishment, and extinction. Positive reinforcement is used when we adore our children after scoring good marks; they feel accomplished and try harder to score more next time. On the other hand, the negative reinforcement would be if they score less and we take away their gaming gadgets so that they would concentrate more on their studies and score well next time. In the same way, if the same child is punished for scoring bad marks, then he would associate bad marks with this punishment and would score well in order to avoid the punishment. At the same time, extinction is ceasing a voluntarily learned response. For example, if the ringing of the bell has always been related to food time and the dog’s salivation, then if food is not served after the bell rings multiple times, eventually the dog will stop salivating when the bell rings.

Observational Learning

It is a type of learning when a person observes something, stores that knowledge in his long-term memory, and then later utilizes that information and performs a task. For example, when a child watches his parents wave hands when leaving for work, he associates leaving with waving hands. So the next time he sees anyone leaving, he starts waving his hands.

Part 2

Three Stages Of Memory

The three stages of human memory are sensory memory, long-term memory, and short-term memory. Sensory memory is the shortest component of human memory. Everything that a human body senses transforms into sensory memory. These sensations are received by the sensory receptors located inside the skin and transmit these signals to the brain. After comprehending, this information is then stored in the short-term memory for a limited period of time. At the same time, the other two types of memories stay in our brains a little longer than sensory memory (Han et al., 2019).

Long Term Vs Short Term Memory

Short-term memory could hold information for a much longer time than sensory memory. A person can store approximately seven to nine objects in his short-term memory for about 20 to 30 seconds, whereas things stored in long-term memory can remain saved for years and years, for example, remembering your birth date or any universal fact. However, with the help of rehearsals and repetitions, things stored in short-term memory can be converted to long-term memory.

Types Of Long-Term Memory

There are two categories of long-term memories:

Procedural Non-Declarative Or Implicit Memory

It is basically the stored memory of motor skills, such as how to open a water bottle or how to brush your hair. The tasks performed with the help of this memory are unconscious.

Semantic Or Factual Or Explicit Memory

It involves retaining information regarding universal facts and information related to the world (semantic), such as the White House, which is situated in Washington, DC. This memory is declarative and can further be divided into episodic memory, which includes remembering specific, timely events.

Amnesia

Amnesia is a type of psychological disorder that involves complete memory loss. The person is either unable to develop new memories or recall previous events depending on the type of amnesia he is suffering from. These types of amnesia are anterograde amnesia (incapability to store new info) and retrograde amnesia (incapability to relocate information from the past back into consciousness) (Payne, 2020).

Now that I have learned about the types of memories and conditions associated with them, I can recall why my grandfather was unable to recall his family members' names after he was diagnosed with stroke as he was suffering from retrograde amnesia; that is why he was unable to recall his past long-term memory.

References

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