

Session 12

Learning Theories: Behaviorism (Watson), Operant (Skinner) and Conditioning (Pavlov) Theories

A. Introduction

BEHAVIORAL CONDITIONING

Learning from a Behaviorist's Point of View

In the early 20th century, behavioral learning theory emerged as a reaction against introspective psychology, which relied on the individual's subjective reports of the mental states and processes they encountered. This reaction occurred at the beginning of the 20th century. The behaviorists John B. Watson and B.F. Skinner asserted that psychology ought to be the study of observable and measurable events and behaviors and that mental states and cognitive processes need to be overlooked or judged unattainable. These two individuals are examples of psychologists who subscribe to the behaviorist school of thought.

According to the hypothesis put up by behaviorists, learning takes place through a process that is referred to as operant conditioning, and environmental stimuli and the consequences of those stimuli are responsible for changing behavior. Operant conditioning refers to shaping behavior by rewarding or punishing certain acts dependent on the outcomes of those actions. If a student is praised for successfully answering a question, for example, they are more likely to exhibit the same behavior in the future when presented with opportunities that are analogous to the one for which they were praised. On the other hand, if a student is chastised for talking when it is not their turn, they are considerably less likely to engage in such behavior. This is because being reprimanded for talking when it was not their turn is considered disruptive behavior.

The behavioral learning hypothesis has influenced a wide range of fields, including but not limited to education, therapy, animal training, and artificial intelligence (AI), amongst others. On the other hand, it has been criticized for being unduly simplistic and deterministic, as well as disregarding the

significance of intelligence, emotion, and social aspects in human conduct. These are all criticisms that have been leveled against the theory.

B. Session Objectives

- ❖ To describe classical and operant conditioning and cite ways by which they are manifested in the classroom.
- ❖ To describe how different types of rewards and reinforcement affect learning.
- ❖ Determine classroom scenarios, community issues and / or events that concerns behavioral conditioning as part of cognitive learning.
- ❖ Elaborate the functions of behavioral theory to learners' cognitive development.

C. Session Content

1. Topic 1

Behaviorism and Social Learning (Watson)

Both the social and behavioral learning theories can be traced back to similar conceptual roots. The social learning theory and the behavioral learning theory agree regarding the role outside factors play in shaping behavior. On the other hand, the social learning hypothesis takes things a step further by proposing that one's internal psychological processes can also affect one's conduct. Students or individuals may observe something being carried out, but according to the social learning theory, one's internal ideas have a greater influence on what kind of behavior reaction one exhibits.

The behaviorist perspective does not investigate or highlight an individual's internal mental processes as a behavior component. The social learning theory contends that conduct is far more involved than the behaviorist model of only a stimulus followed by a response. It argues that pupils learn by observing others, and then they make a deliberate decision to mimic their observed conduct. Peer pressure and a need to be accepted by one's peers are two underlying emotions influencing conduct.

2. Topic 2

Learning and Conditioning (Pavlov)

The fundamental principles of education are always at work and permanently affect the conduct of humans. In this lecture, the two most essential types of learning are highlighted: classical conditioning (Pavlovian) and instrumental or operant conditioning (Skinner). Because of them, we can 1) correlate stimuli in the surrounding world with significant events, such as rewards and punishments, and 2) associate our activities with significant events. Both of these forms of learning have been the subject of much research because of their tremendous impacts on behavior and the fact that they give methodologies that enable researchers to conduct in-depth analyses of learning processes. This lesson will walk you through some of the essential information you need to know about classical and instrumental conditioning, and it will highlight some of the various ways in which both types of conditioning may help us understand both normal and disturbed behavior in people. Observational learning is a form of learning that is essentially unique from classical conditioning and operant conditioning, and the module finishes by introducing the idea of observational learning as a form of learning.

Classical Conditioning. Scientists interested in understanding animal and human behavior began to recognize, at the turn of the 20th century, the significance of two fundamental approaches to education. Ivan Pavlov, a Russian scientist, was the first to study one of them. Classical is the term for it. In a well-known experiment, Pavlov rang a bell and fed a dog. After being trained multiple times, the dog began drooling in anticipation of a treat when it heard the bell. Many signals (including sounds, lights, tastes, and environments) and outcomes (including medications, shocks, and illnesses) have produced this effect in the lab.

We now believe that the same learning process is at work when people associate the taste of food with getting food poisoning when they associate a stimulus (such as a large beach towel, which represents vacation) with an emotional event (such as a happy burst), and when they associate the location at which they took a drug with the feelings they experienced after taking that drug. The study of classical conditioning

continues to be famous for at least two reasons despite its "old" or "too simple" reputation: First, it's an easy associative learning test that may be applied to investigate more complex behaviors. Second, knowing how classical conditioning impacts behavior is essential to comprehend what constitutes normal and deviant human conduct.

Classical conditioning occurs when innocuous stimuli are associated with salient memories. Having fish for supper is not necessarily the reason for alarm (i.e., a "neutral stimuli") regarding food poisoning. However, the psychologically significant occurrence of becoming ill will likely be associated in your mind with the otherwise neutral stimuli (the fish). We usually use generic terms to describe these two things happening together.

The dog's reaction to the food in Pavlov's experiment was unanticipated, making it the unconditioned stimulus (US). The stimulus elicits a natural or instinctive response without formal "training" or "teaching." According to Pavlov, the dog's salivation is produced by the presence of food. Other instances of US include loud noises that startle us (UR) and a nice shower that relaxes us (US).

In contrast, a conditioned response occurs in response to a conditioned stimulus. An organism doesn't care about a signal until it is related to something that does matter. A conditioned stimulus (CS) is what you'd name this. The bell was the conditioned cue in Pavlov's experiment. The dog will not understand the bell's significance (CS) unless it is trained to associate it with the arrival of food (US). However, after multiple repetitions of the bell being linked with food being exhibited, the dog starts to drool at the sound of the bell. A conditioned response (CR) describes the dog's behavior in response to the bell. It's not always easy to distinguish the difference between the conditioned reaction and the unconditioned response. However, "conditioned response" describes the phenomenon because it occurs exclusively in response to the conditioned stimulus, such as the bell. To visualize this, think about how hungry you become every time you see the logo for a fast food restaurant. You could find that your mouth begins to water. The usual trigger for salivation is consuming the food (US); however, hearing the name of the eatery (CS) can elicit the same reaction (CR).

Another device of this type that you are likely already familiar with is your alarm clock. You probably feel down when you have to wake up early. Early morning wake-ups (US) cause typical grumpiness (UR) in this scenario. You probably don't wake up early by yourself, though. You most likely use an alarm clock with a ringing or chiming sound to get you out of bed. Let's pretend you set your alarm to a tone you weren't particularly attached to. That is to say, you misinterpreted the tone. You "pair" that tone (CS) in your head with being grumpy first thing in the morning (UR) since you use it every morning to wake up. Your baseline disposition toward grumpiness (CR) will be triggered in response to this underlying tone (CS). An unconditioned reaction (UR) of grumpiness is transformed into a conditioned response (CR) as a result of the strong association between the unconditioned stimulus (US; getting up early) and the conditioned stimulus (CS; the tone). Even if you're going down the street or getting ready for work, hearing that tone will make you irritable. In modern studies of classical conditioning, numerous CSs and USs are employed, and a wide variety of conditioned responses are evaluated.

3. Topic 3

Operant Conditioning (Skinner)

Operant Conditioning. Classical conditioning is an excellent way to explain how we learn many things, but another type also helps explain how we know. This second type of conditioning is called instrumental or operant conditioning. Edward Thorndike first studied it and then built it by B. F. Skinner. People experience operant conditioning when they connect an action (rather than a stimulus) with a big event. A rat in a lab learns to hit a lever in a cage called a "Skinner box" to get food. This is the most famous test case. The rat has to learn that hitting a lever leads to food because it doesn't have a "natural" link between the two. At first, the rat might look for food by exploring its box by climbing on top of things and digging under things. The rat pokes around its cage and eventually presses the lever by mistake, letting a food pellet fall in. The animal's behavior is known as an operant behavior because it "operates" on the surroundings.

Now, when the rat figures out that pressing the lever earns it a piece of food, it will continue to do that. In other words, the food bits are

reinforcers because they make the rat want to interact with its surroundings even more in this way. Similarly, let's say you're playing a video game about street driving. Each time you drive through the same city course, you try a different street to reach the finish line. You find a shortcut significantly affecting your total time on one of these trials. Because of operant training, you know how to go this new way. Put another way, you did a series of behaviors that were positively reinforced by interacting with your surroundings (operant responses). For example, you found the shortest way to the finish line. Now that you know how to drive this path, you will follow the same guiding actions (like the rat pressing on the lever) to reach the finish line faster.

Operant conditioning is the study of how the results of an action change the chances that it will happen again. For example, the rat's action (pressing the lever to get a food pellet) affects how likely it is that it will keep pushing the lever. According to Thorndike's law of effect, people are likelier to do something again if it has a good result or consequence. When a behavior leads to something terrible (painful or annoying), on the other hand, it is less likely to happen again. Effects that make behaviors more likely to occur are called reinforcers, and effects that make behaviors less likely are called punishers.

A typical example of operant conditioning is trying to get good grades in school, which could be seen as a prize for students due to the positive emotions it makes them feel. The student has to change how they act to get that award, just like the rat had to learn how to press the lever. For instance, students may discover that speaking up in class earns them participation points, like rewards. So, the student speaks up a lot. They also know they shouldn't speak out about anything; talking about school-related things loses them points. So, the student learns which actions are rewarded and punished by their choices.

D. Conclusion

One big difference between classical and operant conditioning is that operant conditioning lets us study how outcomes affect "voluntary" behavior. The rat pressed the button independently, meaning it could repeat that action. The reverse is true for classical conditioning, which is

based on "involuntary" behavior (for example, the dog doesn't choose to drool; it just does). For example, the rat has to do something to get its prize, but in Pavlov's experiment, the dog sits there and does nothing. So, one thing we can learn from studying operant training is that the results of the behavior we choose significantly affect the behavior itself.

E. References

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