



Behaviorism: Theory and Application.

What is Behaviorism?

First publicized and codified in 1924 by psychologist John Broadus Watson (1878-1958), behaviorism, also known as behavioral psychology, was the dominant psychology in the United States during the 1920s and 1930s¹.

Preceded by Structuralism, a theory that centers on observing and reporting on the working of one's own mind², behaviorism is based on the premise that it is not possible to objectively study the mind, and, therefore, that psychologists should limit their attention to the study of behavior itself³.

In behavioral psychology, the focus is on how we respond to external stimuli rather than our emotions or internal dialogue. Famous for his work with salivating dogs, Ivan Pavlov (1880-1937) conducted one of the most famous experiments demonstrating behaviorism.

In Pavlov's experiments, he played a metronome near dogs who were enjoying a meal. The dogs began to associate the sound of the metronome with eating. Eventually, Pavlov was able to evoke a salivating response in the dogs by merely playing the metronome. This phenomenon, called classical conditioning, proved that Pavlov could

¹ Britannica, T. Editors of Encyclopaedia (2021, January 13). *John B. Watson*. *Encyclopedia Britannica*. <https://www.britannica.com/biography/John-B-Watson>

² Early Psychology - Structuralism and Functionalism. (2020, June 26). Retrieved April 27, 2021, from <https://socialsci.libretexts.org/@go/page/54069>

³ Ibid.

stimulate a biological response with the metronome (a conditioned stimulus) in the absence of food (an unconditioned stimulus)⁴.

In behaviorism, the subject is motivated to respond as the experimenter wishes through a system of rewards for desired behavior and punishments for undesired behavior. Below, I discuss the pros and cons of the use of behaviorism in a classroom setting.

STEM Skool Application of Behaviorism

I am the founder and science and engineering facilitator of a Charlotte, NC-based STEM education non-profit organization. We lean very heavily towards constructivist and social constructivist learning theories when designing curriculum and learning activities. However, there are opportunities to implement behaviorism through the logistics of our daily routines with our K-8th grade students.

In our lower elementary classes (K-2nd graders), we use music to start and end our day and to signal transitions between classes and activities. This upcoming fall, we will have longer school days, and, for the first time, students will be joining us for a lunch period. One way I might employ behaviorism is to play a clean-up song when it is time for students to put away their projects and experiments, tidy up the classroom, wash their hands, and grab their lunches.

Following Pavlov's example, the way to introduce behaviorism in this case would be to first play the chosen music during lunch time. I could start the music at the end of our last activity and play it through clean-up, hand washing and the meal. After a few days of playing the music, giving simple instructions and modeling the desired behavior, I would expect the students to know exactly what to do when the music starts at the end of an activity without having to verbalize that it's time to clean up, wash up and eat.

Behaviorism Analysis - Transitional Music in the STEM Classroom:

Stimulus: Music (a specific song) starts to play at the end of the final activity before lunch.

Response: Students clean up their work, wash their hands and grab their lunches.

⁴ Rehman I, Mahabadi N, Sanvictores T, et al. Classical Conditioning. [Updated 2020 Aug 27]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK470326/>

Positive Reinforcement: After a student cleans up his station, washes his hands and sits down quietly, he may eat his lunch.

Negative Reinforcement: Students who do not clean up, wash their hands and sit down quietly are not allowed to have lunch.

Pros of Developing Instruction that is Grounded in Behaviorism:

In a large, messy classroom, simply starting a song to signal to students that it is time to clean up and get ready for lunch is so peaceful and energy efficient. Likewise, in any classroom where an instructor employs behaviorism, the instructor only concerns himself or herself with observable behavior⁵.

When the instructor observes the desired behavior, the student is rewarded. As an instructor, I view this as an ideal circumstance for simple activities that facilitate communication and task completion in a large group setting.

Furthermore, many psychologists view behaviorism as a basic form of learning and believe that Pavlovian principles can influence human health (including inducing immune responses), emotion, motivation, and therapy of psychological disorders, such as addictions, phobias⁶.

Cons of Developing Instruction that is Grounded in Behaviorism:

Outside of getting students to perform simple tasks that improve the flow of our day, I cannot see any reason why our organization would employ behaviorism. We are primarily concerned with students developing a positive and personal relationship with our course materials. We encourage students to observe, explore and question. Behaviorism is one-dimensional and does not inspire autonomy or intrinsic motivation.

When the stimuli are removed (in our case, music), students will not have any internal signals, such as a genuine care for our learning space and their own personal hygiene, to clean up and prepare for lunch. Pavlov referred to this phenomenon as “extinction”

⁵ McLeod, S. A. (2017, February 05). *Behaviorist approach*. Simply Psychology. <https://www.simplypsychology.org/behaviorism.html>

⁶ Rehman I, Mahabadi N, Sanvictores T, et al. Classical Conditioning. [Updated 2020 Aug 27]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK470326/>

and thoroughly documented the consequences of both removing external stimuli and maintaining the stimuli without delivering the reward⁷.

Yet another con of behaviorism, the absence of free will, is best discussed in light of the work of B.F. Skinner, another prominent American behavioral psychologist who argued that the concept of free will is merely an illusion and that all human behavior was the result of conditioning. Skinner is well known for Operant Conditioning, Schedules of Reinforcement, the Operant Conditioning Chamber (a.k.a. the Skinner Box), Cumulative Recorder, and Radical Behaviorism⁸.

B.F. Skinner's research highlighted the degree to which human and animal behavior could be controlled by external stimuli thus raising questions about the ethics of behaviorism. Classical conditioning makes it possible for people to exploit others for their own personal gain. For example, classical conditioning may be used in advertising to promote and stimulate a desire for unhealthy food.

In my example of using music as a stimulus for getting students to clean up, I am inherently uncomfortable with withholding a student's food if he or she does not clean up to my standards or if the classroom gets cleaned through the efforts of a few dedicated students with no help from other students who do not take the task seriously. In a more manipulative situation, I could see the rewards and consequences of behaviorism being applied inequitably or too harshly.

Behaviorism does not seem to account for disparity in the distribution of punishment and reward, which, when in the hands of an authority, will be subject to biases. In this instance, everyone involved must absolutely abandon behaviorism and explore theories that employ introspection, self-awareness and agency.

⁷ Rehman I, Mahabadi N, Sanvictores T, et al. Classical Conditioning. [Updated 2020 Aug 27]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK470326/>

⁸ Cherry, A. (2020, April 27). *BF Skinner Biography: One Leader of Behaviorism*. Very Well Mind. <https://www.verywellmind.com/b-f-skinner-biography-1904-1990-2795543>