

BEHAVIORISM AND LEARNING

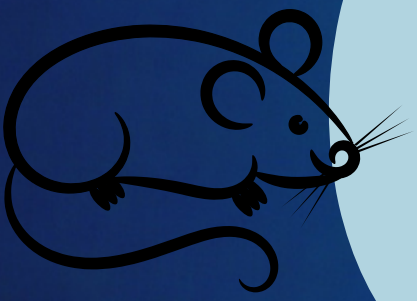
Ever since Pavlov’s legendary experiments with those dogs that didn’t know they were hungry until the bell rang, humankind has been interested in how people and animals learn. “Learn” is a verb we take for granted. What does it mean to learn something, anyway?

Learning is a (more or less) permanent acquisition of skills or knowledge through external sensory experiences.

What does behaviorism say about the ways in which we learn?

CLASSICAL CONDITIONING

- A neutral stimulus (one that has no inherent meaning and hasn’t been paired yet with any other stimulus) is presented to the learner, along with an unconditioned stimulus to create a conditioned response by the learner. The neutral stimulus then becomes a conditioned stimulus and generates a conditioned response in the learner. Pavlov’s dogs “learned” to salivate at the sound of a bell when it was presented along with food.
- The learner doesn’t have to “do” anything: the conditioned response is involuntary or practically so.



OPERANT CONDITIONING

- A neutral stimulus is presented to the learner, along with a potential reward when a mechanism is operated.
- Over time, the learner learns to operate the mechanism in the presence of the stimulus even when there is no reward. Skinner’s rats learned to press a lever when a light went on and food was presented..later, they “knew” to press the lever when the light went on even though no food was forthcoming.
- The learner must do something (perform a voluntary operation) to get the reward.

Behaviorism Hall of Fame



Ivan P. Pavlov (1849-1936)—pioneer of behavioral psychology, his experiments are so well-known “Pavlovian” is a part of the general lexicon



B. F. Skinner (1904-1990)—pioneer in operant conditioning, developer of the “Skinner box”



Edward L. Thorndike (1874-1949)—actually preceded Skinner with experiments involving behavior and reward, developed the Law of Effect







John B. Watson (1879-1958)—rejected all possible introspective views of why learners do what they do; developed the “Little Albert” experiments in generalizing conditioned responses to stimuli

Behaviorism Terms You Need to Know!

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| Stimulus: an action that gets an organism to do something. Stimuli can be neutral or conditioned. | Extinction: when a response to a stimulus no longer produces the desired reward, the organism doesn’t do the response any more. |
| Response: what the organism does as a result of the stimulus. | Stimulus Discrimination: when the organism can distinguish between one stimulus and other similar ones, and behaves accordingly. |
| Classical Conditioning: getting an organism to respond involuntarily to a stimulus. We then say the stimulus has been conditioned. | Spontaneous Recovery: when the organism “recovers” from extinction and begins to do the behavior again in response to the stimulus. |
| Operant Conditioning: getting an organism to respond voluntarily to a stimulus it’s been conditioned (“taught”) to respond to. | Shaping: the process of reinforcing successively closer approximations to a goal behavior. |
| Law of Effect: if the response to a stimulus makes you feel good, you’ll do the activity again. And the reverse: if the response makes you feel bad, you won’t do the activity again. | Chaining: the process of adding responses to a sequence after positive reinforcement is applied, in order to enable the learner to master increasingly complex processes. |
| Generalization: when a response to a stimulus occurs in the presence of similar stimuli to the original stimulus. | |

Reinforcement and Punishment

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| Positive reinforcement: reward for the desired behavior (clean your room and I’ll give you a dollar)  | Positive punishment: application of pain for the undesired behavior (don’t clean your room and I’ll paddle you!)  |
| Negative reinforcement: removing pain for the desired behavior (clean your room and I won’t paddle you)  | Negative punishment: removing a reward because the desired behavior was not done (don’t clean your room and you can’t go camping with your friends)  |

Fun Fact!

Because of the principle of equipotentiality, scholars believe all organisms can learn, not just those with central nervous systems. Learned behavior has been observed in living beings as low as snails and slugs!



Hey, who you calling low? I learned to right myself when something flips me upside down!