AN INTRODUCTION TO OPERANT CONDITIONING
An Educational View

Author: Ivana Stanic
Publisher: University of Victoria
Date: 21/06/2015
Table of Contents:

- Learning Outcomes
- What is Operant Conditioning
- Methods of Operant Conditioning
- Operant Conditioning in Relation to Education
- Advantages and Challenges in Implementation of OC
- Summary
- Useful Resources and Fun Videos
Learning Outcomes:

After reading this eBook on operant conditioning, students should be able to:

- Understand the advantages and challenges in implementing operant conditioning
- Apply knowledge of operant conditioning to educational examples
- Identify related theories to operant conditioning and behaviourism

What is Operant Conditioning?

The behaviorist approach to learning encompasses many theories on how behavior is learnt. All of which focus on the association of behaviors to some sort of stimuli. The focus of this ebook is on operant conditioning, a theory by B.F Skinner.

Operant conditioning is one of a few different theories based on behaviorism and conditioning. The most famous and early behaviorist is John B Watson. He is referred to many as the father of behaviorism and is known for his work on conditioning baby Albert to fear a white rat by associating it with loud noise that scared the child (McLeod, 2013). Eventually the loud noise was no longer necessary in producing a reaction of fear.

Classical conditioning theory by Pavlov focuses creating associations and learnt responses. His famous experiment with the salivary reaction in dogs and conditioned stimuli is referred to as Pavlov's dog (McLeod, 2013). The difference between the two type of conditioning is that skinner focuses more on the external rather than internal associations. Along with Pavlov, Albert Bandura was also a well known behaviourist that coined the social learning theory which shows the importance of observing behaviours in learning(McLeod, 2013).

Skinner believed that the study of observable behaviors was more productive than the study of internal mind (McLeod, 2013). He experimented his theory by observing the causes of actions and the consequences that were paired with them. Operant conditioning bases its theory on the environmental conditions that shape behaviors by the addition or subtraction of rewards or punishment that leave either a desired or undesired effect on the subject. Through the use of rewards and punishment, good behavior can be reinforced and strengthened while bad or undesired behavior can be eliminated. Skinner used his invention the Skinner Box to demonstrate the effects of operant conditioning on rats and pigeons through the use of levers and electric currents to condition their behaviors (McLeod, 2013).
Methods of Operant Conditioning:

Consequences can be viewed as either positive or negative reinforcement, or as positive and negative punishments.

The following infographic helps visually differentiate between the four methods of conditioning:

*Figure 1: Reinforcement vs. Punishment*

Operant Conditioning in Relation to Education:

Reinforcement is used to increase or strengthen a desired behavior through addition or subtraction of a stimulus associated with a behavior (McLeod, 2013):

**Positive reinforcement:**
Positive reinforcement such as praises and rewards increase occurrence of a specified behavior through the feeling of a desirable stimulus after receiving the reward. In the educational setting positive reinforcement is constantly used to reward good behavior through quizzes or assessments and praise. Students receive praise or great marks through the behavior of studying of material.

*example:* An A+ as a reward will increase likelihood of students studying in the future to receive good grades.
**Negative reinforcement:**
Negative reinforcement is the removal of a stimulus to increase a specific behavior. The removal of an undesired stimulus by doing a certain behavior will increase the likelihood of that behavior occurring in the future. In the educational setting, negative reinforcement can also be beneficial in learning.

*example:* In relation to studying again would be the avoidance of a failing grade as the stimulus (something removed = F on the exam) and the increase of the study behavior to avoid the failing grade.

**Positive punishment:**
Punishment is the opposite of reinforcement where it is used as a way to decrease the likelihood of behavior and potentially eliminate them all together(McLeod, 2013).

Positive punishment is the addition of an undesired stimulus that weakens or eliminates a specified behavior. Subjects want to avoid the stimulus presented by the behavior and will eventually stop exhibiting the behavior to avoid the stimulus of punishment that is the consequence.

*example:* Relating this to our example of studying, the positive punishment of actually receiving the failing grade on the exam would be an undesired response to poor study habits. Students will want to avoid the F and their behaviour of lack of or poor study techniques would decrease.

**Negative punishment:**
As with positive punishment, negative punishment is focused on the reduction of a behavior by the removal of a stimulus, usually a desirable one.

*example:* Students who don't study will lose the eligibility to play on the sports team because of their behavior. In order to avoid the lose of eligibility to play on the team, the student will decrease the behavior.

**Advantages and Challenges in Implementation of OC:**

We have all been subject or have used operant conditioning in our daily lives either through punishment for behaviors that were considered “bad” or through rewards after showing behaviors that are considered “good”. I believe that operant conditioning is beneficial to the classroom setting whether it be an elementary school classroom or online university course.
Implementing into the educational setting can be beneficial in providing students incentives to learning material, getting students to participate and encouraging students to improve their performance, mostly through reinforcement techniques. It is practical and easily implementable into the teaching environment (Topix.teachpsych.org, 2014).

Although there are many advantages to using operant conditioning there are some challenges that can be associated with it as well. The focus of behavior as either good or bad leaves little room for an in between and may not work for every individual especially in a group setting. It is best to tailor these techniques to individuals but that proves difficult in a classroom with 30 subjects. It is also easy to implement behavior modification poorly or ineffectively. If the individuals are targeted instead of the actual specific behavior itself through punishment it can cause more problems with future behavior or suppress the behavior till the stimulus is no longer a threat (Kazepides, 1976). As well another fault of operant conditioning is that it doesn't take in account cognition or inheritance (like some other theories do) within the theory and may be lacking in that sense.

**Summary:**

Through the use of reinforcement or punishment operant conditioning, a behaviorist theory into learning, can be used to condition specified behaviors accordingly. I encourage you to think of ways operant conditioning could be useful to your career as an instructor or benefit you as a learner. It can be an extremely powerful way to draw out behaviors of others that you find desirable or even eliminate ones you don't.

As well as in an educational setting operant conditioning techniques can be applied in all areas of your life. Try to think of examples in your every day life of the use of operant conditioning? Also apply the knowledge presented in this eBook and weigh the advantages and disadvantages, are there any serious ethical implications to using OC in a classroom?
About the Author:

My name is Ivana Stanic and I am a Health Information Science student at UVIC. This is my 4th year and my final semester of my degree. After graduation I will be working as a Business Analyst at Maximus BC which deals with healthcare applications such as MSP, Pharmacare, and BC Service Card. As a business analyst my job deals with both interpersonal communication skills and data analytics. My interest in psychology has led me to choose a behaviorist theory of operant conditioning and allowed me to critically asses the relavance of the topic in an educational setting which could potentially help shape my skillset as a leader in the health informatics feild.

This eBook is a set of educational resources on operant conditioning designed for a EDCI 335 course.

References:

