Operant Conditioning Tutorial

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Module D Objectives

By the end of this tutorial you will be able to…

#7 – **Explain** how behavior is learned using positive and negative reinforcement, and punishment by application and removal.

#8 - **Identify** 2 factors why punishment is less effective at changing behavior than reinforcement

#9 - **Identify** 3 reasons why punishment is less effective at changing behavior than reinforcement.

#10 - **Contrast** the success rates of B.F. Skinner's reinforcement schedules as they affect learning
B.F. Skinner’s Theory

- **Read**: B.F. Skinner and the Search for Order in Behavior, Chapter 5 (page 201)

- **Tip!** Although his theory helps to explain how voluntary behaviors are learned, Skinner does not describe them as *voluntary* because he believes behavior is a product of consequences of past behavior.
  
  - “If you control environment then you control behavior.” Skinner

- **Tip!** *Skinner’s theory is a response-stimulus theory.*
  
  - Behavior precedes the stimulus which controls behavior.
  
  - For example, a child says, “Dad may I please have a cookie?” (the behavior) because he has learned that saying please is more likely to result in getting the cookie (the stimulus).
    
    - This is contrary to Classical Conditioning in which the stimulus always precedes the learned behavior.
    
    - Pavlov’s classical conditioning is a stimulus-response theory.

- **Tip!** For behavior to be learned the stimulus must be meaningful to the individual. For example…
  
  - **Stimulus** - A professor offers extra credit to students who arrive to class on-time.
    
    - **Response** – Students who want extra credit will arrive on-time, those that don’t care about extra credit may or may not.

  - **Stimulus** - A parent puts their child on time-out when he/she misbehaves.
    
    - **Response** – Children who don’t care about time-out aren’t motivated to stop misbehaving because that consequence isn’t undesirable.
Reinforcement

- **Read:** Reinforcement section, Chapter 5 (pages 201 – 204).

- **Summary:** Reinforcement is any stimulus which increases the frequency of behavior. There are two ways to reinforce behavior:
  - Negative Reinforcement – taking away of something undesirable
  - Positive Reinforcement – addition of something desirable

- **Question:** What stimuli are reinforcing in your life? How do you use the principle of reinforcement to influence other people’s behavior?

Punishment

- **Read:** Punishment section, Chapter 5 (pages 204 – 205).

- **Summary:** Punishment is any stimulus which decreases the frequency of behavior. There are two ways to punish behavior:
  - Punishment by removal – taking away of something desirable
  - Punishment by addition – addition of something undesirable

- **Activity:** Complete Part 1 of the Operant Conditioning Worksheet

Applied Examples

**Example 1** - Dillon left home earlier than usual one morning to avoid heavy morning traffic on his way to work. Dillon leaves home earlier again the next morning and again because he dislikes driving in heavy traffic.

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<thead>
<tr>
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Example 2 - Dillon left for work early to finish up a project, so that he could leave work on-time this afternoon to go to a music concert tonight at the amphitheater.

**Question**
- What is the behavior?
- What is the stimulus?
- Is behavior more or less likely to continue?

**Stimulus**
- Positive Reinforcement
- Negative Reinforcement
- Punishment by Addition
- Punishment by Removal

Example 3 - Dillon was late for work because of heavy traffic and was “written up” by his supervisor. He plans on leaving earlier for work the next day.

**Question**
- What is the behavior?
- What is the stimulus?
- Is behavior more or less likely to continue?

**Stimulus**
- Positive Reinforcement
- Negative Reinforcement
- Punishment by Addition
- Punishment by Removal

Example 4 - Although Dillon made it to work on-time today, he didn’t finish his project by its deadline so he had to work through lunch to get it done. It’s 2 o’clock and he’s still really hungry!

**Question**
- What is the behavior?
- What is the stimulus?
- Is behavior more or less likely to continue?

**Stimulus**
- Positive Reinforcement
- Negative Reinforcement
- Punishment by Addition
- Punishment by Removal

Example 5 - Megan’s mom is always nagging her to wash the dishes and when Megan does the dishes, her mom stops nagging her. From now on Megan is more likely to do the dishes to avoid her mother’s nagging.

**Question**
- What is the behavior?
- What is the stimulus?
- Is behavior more or less likely to continue?

**Stimulus**
- Positive Reinforcement
- Negative Reinforcement
- Punishment by Addition
- Punishment by Removal
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**Example 6** - One of Megan’s chores is to wash the dishes. If she completes her chores each day, she earns $2 allowance, and she is saving up to buy a new iPod.

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**Example 7** - Megan didn’t wash the dishes tonight, so her mother gave her an additional chore for the rest of the week – taking out the garbage.

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**Example 8** - Megan didn’t wash the dishes all week, so her mother confiscated her iPhone for 2 weeks.

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**Example 9** - Sergio always puts his seatbelt on in his car to stop that irritating buzzing sound when he turns over the ignition.

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Example 10 - Sergio was pulled over by a police officer last week for not wearing his seatbelt, so he is sure to buckle-up each time he gets behind the wheel.

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Example 11 - Sergio lost his driver’s license because he was pulled over for not driving with a seatbelt on, and it was the 5th point on his driving record.

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Example 12 - Tabitha studied a lot for the midterm exam because she would lose her financial aid if she doesn’t pass this class.

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Example 13 - Tabitha studied a lot for the midterm exam because it makes her feel good to get the highest score in the class.

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Example 14 - Tabbitha did not study enough for the midterm exam and failed. Now she will have to re-take the class.

**Question**
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- What is the stimulus?
- Is behavior more or less likely to continue?

**Stimulus**
- Positive Reinforcement
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Example 15 - Tabbitha did not study enough and failed the midterm exam. As a result she will lose her academic scholarship.

**Question**
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- What is the stimulus?
- Is behavior more or less likely to continue?

**Stimulus**
- Positive Reinforcement
- Negative Reinforcement
- Punishment by Addition
- Punishment by Removal

The Effectiveness of Punishment

- **Tip!** Skinner believed that reinforcement is more effective at shaping behavior than punishment. Why?
  - Punishment more effective if immediate, rather than delayed.
  - Punishment is more effective if consistent.
  - Punishment teaches to avoid bad behavior but not replace with positive behavior.
  - Intense punishment can result in acquiring new, undesirable behaviors.

  The effects of punishment are more likely to be temporary, or used in specific situations rather than generalized.

- **Question:** If punishment is not as effective, what are some alternatives?

- **Read:** “Changing the Behavior of Others”, chapter 5 (page 206)
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Final Thoughts

- **Watch:** Do you want to watch operant conditioning in action? Here is a video montage from the TV show “The Big Bang Theory” in which the principles of Skinner’s theory are used to change behavior.
  - Around minute 2:45 there is a misapplication of Skinner’s theory—did you catch it?

- **Tip!** Not all reinforcement is the same. In fact sometimes constant reinforcement can have a negative effect on behavior!
  - **Read:** The Partial Reinforcement Effect, Chapter 5 (pages 210-211).
  - Which type of reinforcement is more resistant to extinction?

- **Read:** Shaping and Maintaining Behavior, Chapter 5 (pages 211-212).
  - Which 2 schedules produces high rates of responding? Why?

In Conclusion

- Operant conditioning helps to explain how consequences shape our behavior.
  - Through reinforcement and punishment.

- Reinforcement is better at shaping behavior than punishment.
  - The stimulus must always be meaningful in order to result in a change in behavior.

- Operant conditioning helps to explain how voluntary behavior is learned.
  - However voluntary behavior is also learned through indirect experience, which is called observational learning.

Module D Objectives

By the end of this tutorial you should now be able to…

#7 – **Explain** how behavior is learned using positive and negative reinforcement, and punishment by application and removal.

#8 – **Identify** 2 factors why punishment is less effective at changing behavior than reinforcement.

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