What is Operant Conditioning?
• Learning in which behavior change is brought about by CONSEQUENCES of behavior...

• Why study Operant Conditioning?

• How is different than Classical Conditioning?

B.F. Skinner
• Radical Behaviorist

• Developed the idea of Operant conditioning (stole much of it from Edward Thorndike)

Reinforcement
• Reinforcer – any condition that follows and strengthens a response

• Positive Reinforcement – A stimulant ADDED after a response to increase probability that response will happen again.
  ~ Example: A paycheck after a week at work

• Negative Reinforcement – An aversive stimulant TAKEN AWAY after a response to increase probability that a response will happen again.
  ~ Example: Using an umbrella (takes away the RAIN!)

Positive Reinforcement

Negative Reinforcement
Primary vs. Secondary Reinforcers

- Primary Reinforcers – Stimuli that have biological value to the subjects
  - Examples?
- Secondary Reinforcers – Stimuli that have acquired their reinforcing power through learned association (no innate biological value)
  - Examples?

Punishment

- Punishment: An aversive stimulus after a response to weaken the response
- Positive Punishment – Application of an aversive stimulus to weaken a behavior...
  - Example: Pain after touching something hot
- Negative Punishment: Taking away a stimulus to weaken a behavior...
  - Example – Taking away car keys

Positive Punishment

Negative Punishment

Punishment vs. Negative Reinforcement?

- What is the difference between a Punishment and a Negative Reinforcement?
Operant Consequence Matrix

<table>
<thead>
<tr>
<th>Stimulus Type</th>
<th>Supply a Stimulus</th>
<th>Remove a Stimulus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appetitive Stimulus</td>
<td>Positive Reinforcement</td>
<td>Negative Punishment</td>
</tr>
<tr>
<td>(Something desired)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aversive Stimulus</td>
<td>Positive Punishment</td>
<td>Negative Reinforcement</td>
</tr>
</tbody>
</table>

Why doesn’t Punishment work?

- **1st** – The power of punishment to suppress behavior usually disappears when the threat of punishment is removed

- **2nd** – Punishment triggers escape or aggression

- **3rd** – Punishment makes the learner apprehensive, which inhibits learning new and better responses

- **4th** – Punishment is often applied unequally

**Racial disparity between U.S. and incarcerated populations**

- Punishment Should...
  - Be Swift
  - Be Consistent
  - Be limited in duration and intensity
  - Clearly target the behavior
  - Be limited to the situation in which the response occurred
  - Not give mixed messages

- The most effective punishment is usually Negative Punishment (losing privileges)... Not positive punishment (spanking, pain, etc.)
Fables

- Fables are short stories that teach lessons to children...
  - Example: the Tortoise and the Hare

In partners:
- Write a fable teaching a kid a lesson
- Include examples of Positive/Negative reinforcers as well as punishments
- Write it nicely on a piece of colored paper using a marker (include an Image to impress me)

The Hare and the Tortoise

- The hare was once boasting of his speed before the other animals. "I have never yet been beaten," said he, "when I put forth my full speed. I challenge anyone here to race with me."

  The tortoise said quietly, "I accept your challenge."

  "That is a good joke," said the hare. "I could dance around you all the way."

  "Keep your boasting until you've beaten," answered the tortoise. "Shall we race?"

So a course was fixed and a start was made. The hare darted almost out of sight at once, but soon stopped and, to show his contempt for the tortoise, lay down to have a nap. The tortoise plodded on and plodded on, and when the hare awoke from his nap, he saw the tortoise nearing the finish line, and he could not catch up in time to save the race.

Plodding wins the race.

Operant Conditioning

Shaping

- Creating new and complex behaviors by reinforcing behavior that is similar to the behavior I want
Continuous Reinforcement
- When all correct responses are given reinforcement.

Intermittent Reinforcement
- When some, but not all, correct responses are reinforced
  - Stops the process of extinction in Operant Conditioning

Schedules of (intermittent) Reinforcement
- Ratio Schedule: Reinforcement occurs after a certain number of proper responses occur
- Interval Schedule: Reinforcement occurs on a timed interval

Token Economies
- Type of Behavior Modification
  - Using secondary reinforcers (typically plastic tokens or chips) in therapy or classroom to teach desired behaviors...

Cognitive and Social Learning
- Unlike Classical Conditioning and Operant Conditioning (both which only look at external stimuli in learning)
  - Stresses the mental processes of learning
    - Imitation
    - Observation
Modeling

- Process of learning from observing and imitating others...

- Your parents fight and argue ----- You are likely to resolve conflicts through aggression (observational learning)

- Others stand and clap for a military type guy ---- - So you stand and clap for him

Bandura Bobo Doll Experiment

- Do kids learn aggression from watching others?