Learning Study Guide

1. Classical Conditioning
   a. Definition and Examples
   b. "Father" and experiment
   c. Identify conditioned and unconditioned stimuli in examples
   d. Use in phobia type treatments
   e. Use in medical treatment
   f. Use in weight loss
   g. Post Traumatic Stress Disorder (PTSD)

2. Operant Conditioning
   a. Definition and Examples
   b. "Father" and experiment
   c. Law of Effect
   d. 2 types of reinforcement and examples
   e. Causes and Effects of Learned Helplessness
   f. Superstitions

3. Cognitive Learning
   a. Definition and Examples
   b. "Father" and Experiment
   c. Cognitive Map
   d. Social Learning Theory/learning by observing
   e. Vicarious Reinforcement

4. In class readings
   a. 2 stages of development in which your brain is most receptive to learning
   b. Causes of teen impulsiveness

Learning R.A.F.T.

<table>
<thead>
<tr>
<th>Role</th>
<th>Elementary School Counselor</th>
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<tbody>
<tr>
<td>Audience</td>
<td>Parents of problem children at your elementary school</td>
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<tr>
<td>Format</td>
<td>Tip Sheet: How to Teach your Problem Child</td>
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<tr>
<td>Topic</td>
<td>Advise parents of problem children how to teach them better behavior using the three (3) types of learning</td>
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| Directions    | You are a counselor in an Elementary School. This year the second grade teachers are complaining of a serious problem involving a majority of students who simply do not behave and therefore don't learn and disrupt the learning of others. You have decided to send out a Parenting Tip Sheet to each second graders parent. The Tip Sheet should include:
   1. Tips on bettering "at home behavior" to improve "at school behavior"
   2. Strategies for incorporating each of the three (3) methods of learning to address problem behavior
   3. Use of 5 unit vocabulary words, showing there meaning in your tip sheet
      a. REMEMBER: The parents of these students do not know ANY psychology. They need to understand the 3 types of learning and how to apply them at home to improve there child's behavior ! |

Grading Criteria:

1. Correct usage of 5 unit vocabulary words: [ ]/5 points
2. Demonstration of correct understanding of the three types of learning as well as learning unit concepts:
   a. CC [ ]/2 points
   b. OC [ ]/2 points
   c. CL [ ]/2 points
   d. Quality of tips [ ]/1 point
3. Response is written in correct voice and format: [ ]/3 points
4. Response shows demonstration of creativity and effort: [ ]/2 points

Total Points: [ ]/20
<table>
<thead>
<tr>
<th>Date</th>
<th>Hour</th>
<th>Classical Conditioning</th>
<th>Operant Conditioning</th>
<th>Cognitive Learning</th>
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<td>Definition or key words</td>
<td>Father</td>
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UCLA Study: The Internet Is Altering Our Brains

Monday, October 19, 2009

Adults with little Internet experience show changes in their brain activity after just one week online, a new study finds.

The results suggest Internet training can stimulate neural activation patterns and could potentially enhance brain function and cognition in older adults.

As the brain ages, a number of structural and functional changes occur, including atrophy, or decay, reductions in cell activity and increases in complex things like deposits of amyloid plaques and tau tangles, which can impact cognitive function.

Research has shown that mental stimulation similar to the stimulation that occurs in individuals who frequently use the Internet may affect the efficiency of cognitive processing and alter the way the brain encodes new information.

"We found that for older people with minimal experience, performing Internet searches for even a relatively short period of time can change brain activity patterns and enhance function," Dr. Gary Small, study author and professor of psychiatry at the Semel Institute for Neuroscience and Human Behavior at UCLA, said in a statement.

The UCLA team worked with 24 neurologically normal volunteers between the ages of 55 and 78. Prior to the study, half the participants used the Internet daily, while the other half had very little experience. Age, educational level and gender were similar between the two groups.

The participants performed Web searches while undergoing functional magnetic resonance imaging (fMRI) scans, which recorded the subtle brain-circuitry changes experienced during this activity. This type of scan tracks brain activity by measuring the level of blood flow in the brain during cognitive tasks. While the study involves a small number of people and more research on this topic is needed, small study sizes are typical of fMRI-based research.

After the initial brain scan, subjects went home and conducted Internet searches for one hour a day for a total of seven days over a two-week period. These practice searches involved using the web to answer questions about various topics by exploring different websites and reading information. Participants then received a second brain scan using the same Internet simulation task, but with different topics.

The first scan of participants with little Internet experience showed brain activity in the regions controlling language, reading, memory and visual abilities. The second brain scan of these participants, conducted after the home practice searches, demonstrated activation of these same regions, but there was also activity in the middle frontal gyrus and inferior frontal gyrius – areas of the brain known to be important in working memory and decision-making.

Thus, after Internet training at home, participants with minimal online experience displayed brain activation patterns very similar to those seen in the group of savvy Internet users.

"The results suggest that searching online may be a simple form of brain exercise that might be employed to enhance cognition in older adults," Teena D. Moody, the study's first author and UCLA researcher, said in a statement.

When performing an online search, the ability to hold important information in working memory and to take away the important points from competing graphics and words is essential, Moody noted.

Previous research by the UCLA team found that searching online resulted in a more than twofold increase in brain activation in older adults with prior experience, compared with those with little Internet experience.

The new findings suggest that it may take only days for those with minimal experience to match the activity levels of those with years of experience, said Small.

Additional studies will be needed to address the impact of the Internet on younger individuals and help identify aspects of online searching that generate the greatest levels of brain activation.

The findings were presented Oct. 19 at the meeting of the Society for Neuroscience.
Types of Stimuli in Classical Conditioning

**Unconditioned Stimulus:** the “thing” your body reflexively reacts to without being taught.

**Conditioned Stimulus:** the “thing” (sound, smell, touch etc) you teach a new reflex to respond to

**Unconditioned Response:** What your body does without learning

**Conditioned Response:** What your body does AFTER learning

For each of the following CIRCLE the response in the situation, then determine the US and CS

1. You once loved spaghetti, but when you were 8, you ate spaghetti and then contracted to flu and threw up. Now the thought of spaghetti makes you throw up.
   a. UCS: __________________________
   b. CS: __________________________
   c. UCR: __________________________
   d. CR: __________________________

2. As a puppy, you had to push your dog’s rear end to the floor to get her to sit. Now, you just say “sit.”
   a. UCS: __________________________
   b. CS: __________________________
   c. UCR: __________________________
   d. CR: __________________________

3. Pavlov used meat to get dogs to salivate, but eventually only had to ring a bell to induce salivation.
   a. UCS: __________________________
   b. CS: __________________________
   c. UCR: __________________________
   d. CR: __________________________

4. A new way to curb a craving is to tap your arm and think of something gross. Eventually, just the gentle tap will cause the craving to subside.
   a. UCS: __________________________
   b. CS: __________________________
   c. UCR: __________________________
   d. CR: __________________________
Using Classical Conditioning on your Heart

1. Choose a partner
2. Determine who will be the experimenter and who will be the test subject
3. **Experimenter**, take subject's resting heart rate by placing your index and middle finger on their wrist and counting beats for 10 seconds. Multiply this number by 6 and record in chart. (If it is easier to have the subject take their own heart rate, that is fine).
4. **Experimenter**, tap your desk 5 times.
5. **Subject**, immediately following the 5th tap, stand and do 10 jumping jacks, then run in place for 30 seconds. (**Experimenter**, keep count/time for them)
6. **Subject/Experimenter**, immediately take your heart rate and record in chart (1st).
7. Repeat steps 4-6 four more times, recording heart rates 2-5 in the chart
8. **Subject**, sit quietly for several minutes. Check your pulse when you feel relaxed.
   a. Once your heart rate returns to its initial resting rate, proceed to step 9.
9. **Experimenter**, tap your desk 5 times
10. Immediately check subject’s heart rate and record in the final slot on the chart!

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<th>Chart</th>
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<td>Resting Heart Rate</td>
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<td>2&lt;sup&gt;nd&lt;/sup&gt;</td>
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<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt;</td>
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<td>4&lt;sup&gt;th&lt;/sup&gt;</td>
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<tr>
<td>5&lt;sup&gt;th&lt;/sup&gt;</td>
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</table>

***Return to Resting Rate***

| Final RATE |

Based on your experiment, answer the following questions:

1. Were you able to classically condition your heart rate? Explain.

2. Evaluate how classical conditioning works?

3. Determine how this experiment is similar to Pavlov’s dogs?
Operant Conditioning

Directions: For each of the following, show how you would use operant conditioning to remedy the situation.

1. Your dog does not "heel" when you take him for a walk.

2. Your best friend drives like a maniac, and you are afraid for her and others.

3. You want to get straight A's this year.

4. Your mom yells at you too much.

5. Your cat tries to sleep right on your face every night.

6. Your sibling distracts you from studying.

7. Your fish hides when you turn the tank light on.

8. The kids you babysit cry when you come over.

9. Your dad is always burning dinner.

10. You want to potty train your chinchilla.
Fun Theory Ideas for WHS

Name(s)__________________________________________________________

Problem you’ve identified at WHS
__________________________________________________________
__________________________________________________________
__________________________________________________________

Summary of how you will use operant conditioning to “fix” this problem at Windsor.
__________________________________________________________
__________________________________________________________
__________________________________________________________
__________________________________________________________
__________________________________________________________

Diagram or illustration of your plan at work:
Why Toddlers Don't Do What They're Told

LiveScience Staff

LiveScience.com liveScience Staff

livescience.com Tue Mar 24, 10:45 pm ET
Are you listening to me? Didn't I just tell you to get your coat? Helloooo! It's cold out there...

So goes many a conversation between parent and toddler. It seems everything you tell them either falls on deaf ears or goes in one ear and out the other. But that's not how it works.

Toddlers listen, they just store the information for later use, a new study finds. "I went into this study expecting a completely different set of findings," said psychology professor Yuko Munakata at the University of Colorado at Boulder. "There is a lot of work in the field of cognitive development that focuses on how kids are basically little versions of adults trying to do the same things adults do, but they're just not as good at it yet. What we show here is they are doing something completely different."

Munakata and colleagues used a computer game and a setup that measures the diameter of the pupil of the eye to determine the mental effort of the child to study the cognitive abilities of 3-and-a-half-year-olds and 8-year-olds.

The game involved teaching children simple rules about two cartoon characters - Blue from Blue's Clues and SpongeBob SquarePants - and their preferences for different objects. The children were told that Blue likes watermelon, so they were to press the happy face on the computer screen only when they saw Blue followed by a watermelon. When SpongeBob appeared, they were to press the sad face on the screen.

"The older kids found this sequence easy, because they can anticipate the answer before the object appears," said doctoral student Christopher Chatham, who participated in the study. "But preschoolers fail to anticipate in this way. Instead, they slow down and exert mental effort after being presented with the watermelon, as if they're thinking back to the character they had seen only after the fact."

The pupil measurements showed that 3-year-olds neither plan for the future nor live completely in the present. Instead, they call up the past as they need it.

"For example, let's say it's cold outside and you tell your 3-year-old to go get his jacket out of his bedroom and get ready to go outside," Chatham explained. "You might expect the child to plan for the future, think 'OK it's cold outside so the jacket will keep me warm.' But what we suggest is that this isn't what goes on in a 3-year-old's brain. Rather, they run outside, discover that it is cold, and then retrieve the memory of where their jacket is, and then they go get it."
The findings are detailed this week in the Proceedings of the National Academy of Sciences.

Munakata figures the results might help with real situations.

"If you just repeat something again and again that requires your young child to prepare for something in advance, that is not likely to be effective," Munakata said. "What would be more effective would be to somehow try to trigger this reactive function. So don't do something that requires them to plan ahead in their mind, but rather try to highlight the conflict that they are going to face. Perhaps you could say something like 'I know you don't want to take your coat now, but when you're standing in the yard shivering later, remember that you can get your coat from your bedroom.'"

Questions for Consideration:
1. Based on context clues, define cognitive development.

2. Summarize the Blue/SpongeBob experiment.

3. Apply this experiment to a 3-year-old who wants to wear sandals in the dead of winter.
   a. How could this 3-year-old’s parent help foster their child’s cognitive development in this situation?
Cognitive Map Exercise

Based on the article, *Why Toddlers don’t do what They’re Told*, illustrate the cognitive map for each of the following:

1. Your mom says to put your shoes on before you go outside to play on the gravel drive.

   A 3-year-old
   
   Before you go out
   
   After you go out

   An 8-year-old

2. Aunt Jenny says, “Don’t pet that kitty, she’ll bite you!”

   A 3-year-old
   
   Before you pet kitty
   
   After you pet kitty

   An 8-year-old
Social Learning Theory Jigsaw

Part 1: Causes of Violence
1. Describe the “Ball of Wax” Problem:

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

2. Describe the “Cause and Effect” Problem

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

<table>
<thead>
<tr>
<th>Issue</th>
<th>Likelihood to Commit a Violent Crime</th>
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<tbody>
<tr>
<td>Region/neighborhood</td>
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<td>Economics</td>
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<td>Gender</td>
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<td>Age</td>
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<td>Race</td>
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<td>Abused by Parent</td>
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<td>Education</td>
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<td>Stability</td>
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<td>Parental Supervision</td>
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<td>Drugs and Alcohol</td>
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Part 2: The Media and Sex
1. Describe the Research

_________________________________________________________________________

_________________________________________________________________________

2. Exposure to sexual media increased risk of early intercourse by ____%

3. Compare the results between races

<table>
<thead>
<tr>
<th>White Teens</th>
<th>Black Teens</th>
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</table>
4. Media is not the only influence! How can parents help prevent early sexual activity in their teens?

Part 3: Kids Exposed to Kids Exposed to Domestic Violence can become Violent

1. ____% of kids are linked to domestic violence, but

2. How does domestic violence relate to academic performance and school behavior?

3. According to the study, how might children exposed to children exposed to domestic violence be affected in school?

4. Relate this study to the Social Learning Theory.

Part 4: Grand Theft Auto Murderer Lawsuit

1. Summarize the case.

2. Why might violent video games have a lesser impact on violence in adults as opposed to violence in teens, according to brain research?

3. Infer as to why Devin Moore may have been more at risk for increased violence due to video game exposure than the average teen?
Part 5: The Claim: Violent Video Games Make Young People Aggressive

1. Describe Kevin M. Kieffer's finding on video games and their relationship to violence.

2. According to a separate study on violence, how do the long and short turn affects of playing violent video games compare?

3. Infer as to how Devin Moore's guilty verdict relates to the social learning theory and violence in video games.
Types of Learning Worksheet

Directions: Identify each of the following as Classical Conditioning (CC), Operant Conditioning (OC), or Cognitive Learning (CL)

___ 1. was founded by E. L. Thorndike

___ 2. was proven in an experiment which resulted in dogs learning to salivate upon hearing a bell ring

___ 3. was proven with an experiment involving 2 groups of rats in a maze

___ 4. Molly works to get straight A’s in school because her Grandpa gives her $100 for every 4.0 report card.

___ 5. Bob sees the possible maneuvers and consequences of them in his “mind’s eye” while driving through traffic.

___ 6. is linked with the theory of vicarious reinforcement

___ 7. Harry gives his puppy a treat each time the puppy responds to his commands.

___ 8. Maria hops up when the bell to dismiss class rings.

___ 9. Jackie’s foot automatically applies pressure to the brake pedal when she sees a red light.

___ 10. was founded by Tolman

___ 11. Sammy’s dog runs to the kitchen every time the pantry door squeaks open in hopes of some food.

___ 12. is linked with the theory of learned helplessness

___ 13. Barbie won’t skip school because she hates getting ISS.

___ 14. Ken has a painful medical diagnosis and is working with doctors to condition his body to numb the pain when he touches his earlobe.

___ 15. Skipper automatically turns lights off when she exits a room.