

**STUDY GUIDE: LEARNING**

**Directions:** Complete the study guide below using your class notes, in class assignments, and the textbook if needed. You will turn in the study guide for a grade. You can go to my website if you have missed notes: <https://jstrongpsych.weebly.com/learning.html>

**I. Classical Conditioning**

- 1) Behavioral Psychology - *Events in the environment (rewards and punishments) influence our behavior.*
- 2) Learning – *The relatively permanent change in behavior that results from experience*
- 3) Ivan Pavlov – *Russian physiologist who won Nobel Prize in 1904 for Digestive Physiology; Pavlov conditioned dog to salivate at the ringing of a bell and other stimuli*
- 4) Classical Conditioning – *A learning process in which an association is made between a previously neutral stimulus and a stimulus that naturally evokes a response.*
  - a) Unconditioned Stimulus (UCS) – *A stimulus that naturally and automatically triggers a response; ex: food*
  - b) Unconditioned Response (UCR) – *The unlearned, naturally occurring response to the Unconditional Response; salivation*
  - c) Conditioned Stimulus (CS) – *A previously neutral stimulus that, after association with the UCS, comes to trigger a response; ex: bell or tone*
  - d) Conditioned Response (CR) – *The learned response to a previously neutral stimulus; ex: Salivation in response to the bell*
- 5) Acquisition – *Process by which a CS comes to elicit a Conditional Response; ex: CS = bell, CR = salivation*
- 6) Extinction – *Disappearance of a learned behavior after the associated antecedent or consequence does not appear for a while; ex: CS is presented for some time without the UCS and the animal/person eventually discontinues the behavior*
- 7) Spontaneous Recovery – *After extinction occurs, the CS will again elicit the CR; Often after “brush up” or practice with the CS, the CR comes back*
- 8) Stimulus Generalization – *Occurs when CR is elicited by stimuli similar to the CS; ex: Jingle of keys in addition to a Bell*
- 9) Stimulus Discrimination – *Occurs when CR is not elicited by stimuli that is dissimilar to the CS; ex: footsteps*
- 10) John Watson – *American psychologist that founded the psychological school of behaviorism.*
- 11) Behaviorism - *The school of thought in psychology that sought to measure only observable behaviors.*
- 12) Little Albert - *Watson demonstrated that humans can be conditioned in the same way Pavlov’s dogs were conditioned; Watson used stimuli to make Little Albert (not shown – ethics????) of rats and by extension, other animals, when he was not afraid of them before. Proved that humans can be classically conditioned like dogs.*
- 13) Taste Aversion – *A learned avoidance of a particular food; Example: Person gets food poisoning from eating a contaminated hamburger and throws up; feels nauseous at the smell of hamburgers now.*
- 14) Flooding – *A therapy for a phobia in which the person is suddenly exposed to the object of the phobia to reduce fear. Based on principle of extinction; ex: Snakes, heights, spiders*
- 15) Systematic Desensitization – *Help people overcome fears using relaxation techniques by exposing them gradually to whatever stimulus they fear; ex: Person with a fear of spiders would first be shown pictures of spiders*
- 16) Counterconditioning – *Help people overcome fears from painful experience with a pleasant experience; pleasant stimulus paired repeatedly with a fearful one to counteract the fear; Give a child afraid of dogs a cookie when she plays with dogs*

## II. Operant Conditioning

- 1) Operant Conditioning – *A type of learning in which behavior is strengthened if followed by a reinforcement or diminished if followed by a punishment; unlike classical conditioning, operant deals with voluntary behavior.*
- 2) Edward Thorndike and “Law of Effect” – *Behaviors followed by positive consequences will be more likely to be repeated in the future; those followed by negative consequences will be less likely to be repeated.*
- 3) B. F. Skinner – *Skinner elaborated Thorndike’s Law of Effect; developed behavioral technology*
- 4) “Skinner Box” - *The soundproof chamber with a bar or key that an animal presses or pecks to release a food or water reward; Contains a device to record responses; Skinner and Operant Conditioning - Social engineering*
- 5) Reinforcement – *Any event that strengthens the behavior it follows*
  - a) Positive Reinforcement – *Strengthens a response by presenting a stimulus after a response; good grades for hard work*
  - b) Negative Reinforcement – *Strengthens a response by reducing or removing an aversive (unfavorable) stimulus; ex: If you have a bad headache and then take an aspirin that makes it disappear, you are likely to take the aspirin the next time you have a headache*
  - c) Primary Reinforcement – *something that is biologically important and, thus, rewarding Examples: sleep, air, water, food & shelter*
  - d) Secondary Reinforcement – *something neutral that, when associated with a primary reinforcer, becomes rewarding Examples: gold stars, money, points, & tokens*
- 6) Punishment – *An event that decreases the behavior that it follows; an unpleasant consequence occurs and decreases the behavior that produced it; ex: spanking a naughty child*
- 7) Shaping – *Conditioning procedure in which reinforcers or punishment guide behavior toward closer approximations of a desired goal; ex: potty training and dog training*
- 8) Schedules of Reinforcement:
  - a) Fixed Ratio – *A pattern of reinforcement in which a specific number of correct responses is required before reinforcement can be obtained. i.e. reinforcement after fixed number of responses; being disqualified from a basketball game after 5 fouls*
  - b) Variable Ratio – *A pattern of reinforcement in which an unpredictable number of responses are required before reinforcement can be obtained i.e. reinforcement after varying number of responses; ex: playing the slot machines*
  - c) Fixed Interval – *A pattern of reinforcement in which a specific amount of time must elapse before a response will elicit reinforcement (reinforcement of first response after a fixed amount of time has passed); getting a paycheck on the last day of every month*
  - d) Variable Interval – *A pattern of reinforcement in which changing amounts of time must elapses before a response will obtain reinforcement i.e. reinforcement of the first response after varying amounts of time; ex: surprise pop quiz*

## III. Other Learning Theories

- 1) E.C. Tolman – *learning involves more than mechanical responses to stimuli; experimented with rats in a maze who learned without reinforcement*
- 2) Cognitive Maps - *Mental representations of physical locations. Humans and animals use them to find their way and to help recall important features of the environment.*
- 3) Latent Learning - *learning occurs without obvious reinforcement*

- 4) Learned Helplessness - *condition in which repeated attempts to control a situation fail, resulting in the belief that the situation is uncontrollable.*
- 5) Martin Seligman – *believed learned helplessness is a major cause of depression*
- 6) Social Learning Theory – *process of altering behavior by observing and imitating the behavior of others*
- 7) Observational Learning – *learning by observing and imitating others*
- 8) Modeling – *process of observing and imitating behavior*
- 9) Albert Bandura – *Used inflated Bobo dolls and showed children a scene where a model kicked, punched, and hit the Bobo doll [Observational learning; modeling]*
- 10) Bobo Doll Experiment – *children who watched the model hit the doll and then imitated the model's aggressive behavior towards the bobo doll*

#### IV. Application Questions

Directions: Some or all of the questions below will appear on the Learning Test. For each of the learning situations below, choose a learning theory or strategy (that would best fit the situation, and explain why and how you would use that particular strategy in the situation. Use the following Learning Strategies: a) classical conditioning, b) operant conditioning (shaping), or c) observational learning (modeling)].

- 1) You want to condition a cat to salivate at the sound of a clicker.
  - a) Identify what learning strategy would you use in this situation, and explain why you would use it.
  - b) Explain what procedure would you use to train or condition the animal.
- 2) You want to train your dog to shake hands.
  - a) Identify what learning strategy would you use in this situation, and explain why you would use it.
  - b) Explain what procedure would you use to train or condition the animal.
- 3) You want to teach your six-year old cousin how to hit a baseball.
  - a) Identify what learning strategy would you use in this situation, and explain why you would use it.
  - b) Explain what procedure would you use to train or condition the animal.
- 4) We have studied a number of learning theories and strategies [examples: classical conditioning, operant Conditioning (shaping), observational learning (modeling)]. Providing at least ONE specific example, which learning theory or strategy works best for you i.e. how do you learn best?