Key Terms

acquisition period of initial learning in classical conditioning in which a human or an animal begins to connect a neutral stimulus and an unconditioned stimulus so that the neutral stimulus will begin to elicit the conditioned response

associative learning form of learning that involves connecting certain stimuli or events that occur together in the environment (classical and operant conditioning)

classical conditioning learning in which the stimulus or experience occurs before the behavior and then gets paired or associated with the behavior

cognitive map mental picture of the layout of the environment

conditioned response (CR) response caused by the conditioned stimulus

conditioned stimulus (CS) stimulus that elicits a response due to its being paired with an unconditioned stimulus

continuous reinforcement rewarding a behavior every time it occurs

extinction decrease in the conditioned response when the unconditioned stimulus is no longer paired with the conditioned stimulus

fixed interval reinforcement schedule behavior is rewarded after a set amount of time

fixed ratio reinforcement schedule set number of responses must occur before a behavior is rewarded

habituation when we learn not to respond to a stimulus that is presented repeatedly without change

higher-order conditioning (also, second-order conditioning) using a conditioned stimulus to condition a neutral stimulus

instinct unlearned knowledge, involving complex patterns of behavior; instincts are thought to be more prevalent in lower animals than in humans

latent learning learning that occurs, but it may not be evident until there is a reason to demonstrate it

law of effect behavior that is followed by consequences satisfying to the organism will be repeated and behaviors that are followed by unpleasant consequences will be discouraged

learning change in behavior or knowledge that is the result of experience

model person who performs a behavior that serves as an example (in observational learning)

negative punishment taking away a pleasant stimulus to decrease or stop a behavior

negative reinforcement taking away an undesirable stimulus to increase a behavior

neutral stimulus (NS) stimulus that does not initially elicit a response

observational learning type of learning that occurs by watching others

operant conditioning form of learning in which the stimulus/experience happens after the behavior is demonstrated

partial reinforcement rewarding behavior only some of the time

positive punishment adding an undesirable stimulus to stop or decrease a behavior

positive reinforcement adding a desirable stimulus to increase a behavior

primary reinforcer has innate reinforcing qualities (e.g., food, water, shelter, sex)

punishment implementation of a consequence in order to decrease a behavior

reflex unlearned, automatic response by an organism to a stimulus in the environment

reinforcement implementation of a consequence in order to increase a behavior

secondary reinforcer has no inherent value unto itself and only has reinforcing qualities when linked with something else (e.g., money, gold stars, poker chips)

shaping rewarding successive approximations toward a target behavior

spontaneous recovery return of a previously extinguished conditioned response

stimulus discrimination ability to respond differently to similar stimuli

stimulus generalization demonstrating the conditioned response to stimuli that are similar to the conditioned stimulus

unconditioned response (UCR) natural (unlearned) behavior to a given stimulus

unconditioned stimulus (UCS) stimulus that elicits a reflexive response

variable interval reinforcement schedule behavior is rewarded after unpredictable amounts of time have passed

variable ratio reinforcement schedule number of responses differ before a behavior is rewarded

vicarious punishment process where the observer sees the model punished, making the observer less likely to imitate the model's behavior

vicarious reinforcement process where the observer sees the model rewarded, making the observer more likely to imitate the model's behavior

Summary

6.1 What Is Learning?

Instincts and reflexes are innate behaviors—they occur naturally and do not involve learning. In contrast, learning is a change in behavior or knowledge that results from experience. There are three main types of learning: classical conditioning, operant conditioning, and observational learning. Both classical and operant conditioning are forms of associative learning where associations are made between events that occur together. Observational learning is just as it sounds: learning by observing others.

6.2 Classical Conditioning

Pavlov's pioneering work with dogs contributed greatly to what we know about learning. His experiments explored the type of associative learning we now call classical conditioning. In classical conditioning, organisms learn to associate events that repeatedly happen together, and researchers study how a reflexive response to a stimulus can be mapped to a different stimulus—by training an association between the two stimuli. Pavlov's experiments show how stimulus-response bonds are formed. Watson, the founder of behaviorism, was greatly influenced by Pavlov's work. He tested humans by conditioning fear in an infant known as Little Albert. His findings suggest that classical conditioning can explain how some fears

develop.

6.3 Operant Conditioning

Operant conditioning is based on the work of B. F. Skinner. Operant conditioning is a form of learning in which the motivation for a behavior happens *after* the behavior is demonstrated. An animal or a human receives a consequence after performing a specific behavior. The consequence is either a reinforcer or a punisher. All reinforcement (positive or negative) *increases* the likelihood of a behavioral response. All punishment (positive or negative) *decreases* the likelihood of a behavioral response. Several types of reinforcement schedules are used to reward behavior depending on either a set or variable period of time.

6.4 Observational Learning (Modeling)

According to Bandura, learning can occur by watching others and then modeling what they do or say. This is known as observational learning. There are specific steps in the process of modeling that must be followed if learning is to be successful. These steps include attention, retention, reproduction, and motivation. Through modeling, Bandura has shown that children learn many things both good and bad simply by watching their parents, siblings, and others.

Review Questions

1. Which of the following is an example of a reflex that occurs at some point in the development of a human being?

a. child riding a bike
b. teen socializing
c. infant sucking on a nipple
d. toddler walking

2. Learning is best defined as a relatively permanent change in behavior that _____.

a. is innate
b. occurs as a result of experience
c. is found only in humans
d. occurs by observing others

3. Two forms of associative learning are _____ and _____.

a. classical conditioning; operant conditioning
b. classical conditioning; Pavlovian conditioning
c. operant conditioning; observational learning
d. operant conditioning; learning conditioning

4. In _____ the stimulus or experience occurs before the behavior and then gets paired with the behavior.

a. associative learning
b. observational learning
c. operant conditioning
d. classical conditioning

5. A stimulus that does not initially elicit a response in an organism is a(n) _____.

a. unconditioned stimulus
b. neutral stimulus
c. conditioned stimulus
d. unconditioned response

6. In Watson and Rayner's experiments, Little Albert was conditioned to fear a white rat, and then he began to be afraid of other furry white objects. This demonstrates _____.

a. higher order conditioning
b. acquisition
c. stimulus discrimination
d. stimulus generalization

7. Extinction occurs when _____.

a. the conditioned stimulus is presented repeatedly without being paired with an unconditioned stimulus
b. the unconditioned stimulus is presented repeatedly without being paired with a conditioned stimulus
c. the neutral stimulus is presented repeatedly without being paired with an unconditioned stimulus
d. the neutral stimulus is presented repeatedly without being paired with a conditioned stimulus

8. In Pavlov's work with dogs, the psychic secretions were _____.
a. unconditioned responses
b. conditioned responses
c. unconditioned stimuli
d. conditioned stimuli

9. _____ is when you take away a pleasant stimulus to stop a behavior.
a. positive reinforcement
b. negative reinforcement
c. positive punishment
d. negative punishment

10. Which of the following is *not* an example of a primary reinforcer?
a. food
b. money
c. water
d. sex

11. Rewarding successive approximations toward a target behavior is _____.
a. shaping
b. extinction
c. positive reinforcement
d. negative reinforcement

12. Slot machines reward gamblers with money according to which reinforcement schedule?
a. fixed ratio
b. variable ratio
c. fixed interval
d. variable interval

13. The person who performs a behavior that serves as an example is called a _____.
a. teacher
b. model
c. instructor
d. coach

14. In Bandura's Bobo doll study, when the children who watched the aggressive model were placed in a room with the doll and other toys, they _____.
a. ignored the doll
b. played nicely with the doll
c. played with tinker toys
d. kicked and threw the doll

15. Which is the correct order of steps in the modeling process?
a. attention, retention, reproduction, motivation
b. motivation, attention, reproduction, retention
c. attention, motivation, retention, reproduction
d. motivation, attention, retention, reproduction

16. Who proposed observational learning?
a. Ivan Pavlov
b. John Watson
c. Albert Bandura
d. B. F. Skinner

Critical Thinking Questions

17. Compare and contrast classical and operant conditioning. How are they alike? How do they differ?

18. What is the difference between a reflex and a learned behavior?

19. If the sound of your toaster popping up toast causes your mouth to water, what are the UCS, CS, and CR?

20. Explain how the processes of stimulus generalization and stimulus discrimination are considered opposites.

21. How does a neutral stimulus become a conditioned stimulus?

22. What is a Skinner box and what is its purpose?