

7. Learning

Objectives

- Define learning and explain each part of the definition
- Explain Aristotle's laws of association and the process and uses of Pavlov's classical conditioning
- Define and explain operant conditioning
- Identify and explain the cognitive theories of learning and social or observational learning
- Summarize current approaches to learning

Vocabulary

association	conditioned stimulus (CS)	reinforcement	unconditioned stimulus (UCS)
classical conditioning	learning	response	unconditioned response (UCR)
cognition	operant conditioning	schema	
conditioned response (CR)		stimulus	

Background

The process of learning is and has been a central activity in all students' lives. This chapter offers them an opportunity to focus on this complex process and to review and evaluate important theories about how and why they and other organisms learn.

The chapter opens by noting that there are many types of learning. It focuses on the definition of learning as "a relatively permanent change in behavior that results from practice or experience." It then introduces students to Aristotle's laws of associations and Pavlov's development of classical conditioning in his experiments with dogs.

Students gain a new outlook on their learning process and their other behavior as they consider the chapter's information on operant conditioning. This includes review of the work of Thorndike and Skinner, with detail provided about the principles of operant conditioning, primary and secondary reinforcements, changes in operant conditioning, and more. The work of Edward Tolman and Wolfgang Kohler is explained as well.

The chapter moves on to discuss cognitive theories of learning, focusing on two important approaches, the work of Jean Piaget and the information processing approach. Students also read about George A. Miller's TOTE model of HIP.

Students then review social or observational learning, considering the theories of Albert Bandura regarding how children learn. The chapter concludes with a review of current approaches to learning, including discussions of cognitive preferences and learning styles. In this section, students consider three examples of the factors that influence learning: emotional influences, evolutionary influences, and cultural validity.

Students will find ample material in this chapter for personal introspection and class discussion.

Further Resources

Pavlov, Ivan P. *Conditioned Reflexes*. New York: Dover Books, 1978.

Smith, Samuel. *Ideas of the Great Psychologists*. New York: Barnes & Noble, 1983.

For Discussion

Review

1. What are the important components in the definition of learning?
2. Who was Ivan Pavlov and why did he begin research on dogs?
3. What are some of the uses of classical conditioning?
4. What is operant conditioning?

Critical Thinking

1. Why aren't animals good models for learning about human behavior?
2. Why was it important for Pavlov to create a fort-like environment for his experiments with dogs?
3. Why is John Watson's study of conditioning infants to experience fear a controversial one?
4. In operant conditioning, what is the difference between positive reinforcement and negative reinforcement?

Activities

1. Who Is Right?

Choose several major theories of learning and assign each theory to a group of students. Ask these groups to research their theory and make a presentation to the class. After the presentations, discuss these theories, challenging students to evaluate them in the light of their own experience.

2. Investigate Dog Training

Ask students to call dog training centers, asking for information on the training methods they use. Invite an experienced dog trainer to demonstrate his or her methods for the class. Invite students to evaluate this training in light of what they've learned about conditioning.

3. Internet: Major Learning Theorists

Ask students to use the Internet to learn about major learning theorists introduced in this chapter. Have them print out screens from the best Web sites and present their findings to the class.

4. Special Sources: Phobia and Anxiety Therapy

Ask students to use library resources to learn about therapies that are geared towards overcoming phobias and anxieties. Ask them to analyze the types of conditioning used and their results.

Name _____

7. Learning

As you read Chapter 7, write an answer to each question below.

1. What examples can you give of things you have learned through classical conditioning?

2. In what areas of your life do you experience operant conditioning? Explain.

3. What are some examples of biological factors that are important in conditioning? Explain.

4. Why are the work of Jean Piaget and the information processing approach both considered cognitive theories of learning?

5. What are the processes in observational learning, according to Albert Bandura?

Name _____

7. Learning

Find the best answer for each item. Then circle that answer.

1. In learning theory, what does the term "association" mean?
 - a. a permanent change in behavior
 - b. mental connection between two stimuli
 - c. physiological process involving involuntary responses
 - d. a type of external stimulus
2. What is meant by "classical conditioning"?
 - a. learning by associating various stimuli with a response
 - b. learning through rewards and punishments
 - c. learning through the study of socialization
 - d. learning by trial and error
3. Which term means "the processes of thinking, memory formation, learning, and problem solving, among others"?
 - a. stimulus
 - b. operant conditioning
 - c. cognition
 - d. association
4. What is a "conditioned response (CR)"?
 - a. a natural response to a stimulus
 - b. an evolutionary influence
 - c. a response to an unconditioned stimulus
 - d. learned response to a conditioned stimulus that is not natural
5. What is the definition of the term "learning"?
 - a. a temporary behavior change that results from practice and behavior
 - b. a biological change that occurs from overexposure to a stimulus
 - c. a relatively permanent change in behavior (potential) resulting from practice or experience
 - d. an organism's natural response to a stimulus
6. What is operant conditioning?
 - a. encouraging behavior through use of a stimulus
 - b. discouraging behavior through the use of a stimulus
 - c. directing a behavior toward the desired response through socialization techniques
 - d. encouraging or discouraging a behavior through reinforcement or punishment
7. Which term refers to an event that encourages or discourages repetition of a behavior?
 - a. reinforcement
 - b. cognition
 - c. evolutionary influence
 - d. perceptual process
8. What does the term "response" mean?
 - a. an action that produces an activity
 - b. reaction of an organism to a stimulus
 - c. a permanent change in the brain
 - d. a type of trial-and-error learning
9. Which of the following is a definition of "schema"?
 - a. a type of primary reinforcement
 - b. a pattern of behavior that uses an organism's unnatural response to a stimulus
 - c. a pattern that is recognized in experience or complex reality that helps to explain or deal with it
 - d. an action resulting from a conditioned stimulus
10. What is a "stimulus"?
 - a. a person, place or thing that increases the chances that an unnatural response will occur
 - b. some action that produces activity in an organism
 - c. the central focus of the TOTE model of HIP
 - d. anything that produces a biological change in the brain

Name _____

7. Learning

Read each description, and write the letter of the correct term on the line.

1. Pavlov's dogs' response to hearing the bell and being presented with the food is called a(n) _____.
 - a. conditioned response
 - b. conditioned stimulus
 - c. unconditioned response
 - d. unconditioned stimulus
2. When you feel a shock, pulling your finger away involuntarily is called a(n) _____.
 - a. conditioned response
 - b. instinctual drift
 - c. the law of association
 - d. unconditioned response
3. Extinction happens when _____.
 - a. the subject experiences flooding
 - b. the conditioned stimulus is used repeatedly without the unconditioned stimulus
 - c. an allergic reaction occurs
 - d. the conditioned response fails for no reason
4. Counter-conditioning involves _____.
 - a. forcing someone into contact with a feared stimulus
 - b. presenting a feared stimulus paired with a pleasurable stimulus
 - c. using a sequence of events to gradually reduce a person's response to a feared object
 - d. repetition of rewards and punishments
5. An example of E. L. Thorndike's trial-and-error learning is _____.
 - a. a cat's selecting the one device that frees it from a puzzle box
 - b. a baby's eventually crawling away from a rat
 - c. an employee rewarded with vacation time
 - d. a person whose allergy to tomatoes causes him or her to avoid similar foods
6. A reinforcing stimulus that is tied to some aspect of survival is called _____.
 - a. secondary reinforcement
 - b. reinforcement
 - c. primary reinforcement
 - d. respondent behavior
7. A worker who must produce 30 parts per hour to meet a quota that determines his pay is an example of _____.
 - a. fixed-interval schedule
 - b. variable-interval schedule
 - c. fixed-ratio schedule
 - d. variable ratio schedule
8. In the field of human information processing, input and output are used to replace _____.
 - a. behavior and reaction
 - b. association and assimilation
 - c. accommodation and schema
 - d. stimulus and response (or behavior)
9. _____ is often considered to have stimulated interest in cognitive psychology.
 - a. Ivan Pavlov
 - b. Jean Piaget
 - c. Edward Tolman
 - d. Albert Bandura
10. The TOTE model of HIP stands for _____.
 - a. test, operate, time, exit
 - b. test, operate, test, exit
 - c. time, operate, test, exit
 - d. test, operate, teach, exit

Essay Question

Which theories of learning do you think have most influenced educators? Explain.