Needham Heights, MA: Allyn and Bacon.

Principal Features

Introduction

Question: Why do psychologists study learning? (222)

Complete the following:

"Psychologists define learning as a relatively permanent change in
the organism that occurs as a result of…"

Question: What's the meaning of the following statement?

"… psychologist study the results of learning."
Introduction

(Continued)

Complete the following:

"This definition of learning has three other important parts:

(1) experiences in the …

(2) change in the …

and (3) …

"Behavior is always being …

"new experiences …

"And, along with the external environment, an organism's internal motivation, abilities, and physiological state influence its ability to learn."

[Example] Learning.
Pavlovian, or Classical, Conditioning Theory

"Psychologists often use the term *conditioning* in a general sense, to mean learning."

Complete the following:

"But more precisely, *conditioning* is a systematic procedure through which … (223)

[Example] Conditioning.

**Question:** What is a *stimulus*?

**Question:** What is a *response*?

[Example] Stimulus and response.
Pavlovian, or Classical, Conditioning Theory

(Continued)

Question: What is a reflex?

[Example] Reflex.

Question: How are conditioned behaviors like reflexes?

Question: How are conditioned behaviors unlike reflexes?

"In 1927, Ivan Pavlov (1849-1936), a Russian physiologist, summarized a now-famous series of experiments in which he uncovered a basic principle of learning—conditioning."

Question: What's the meaning of the following statement?

"His study of conditioning began quite accidentally … "

Terms and Procedures

Question: What is classical conditioning?

Question: What is the unconditioned stimulus?

Question: What is the unconditioned response?

[Example] Classical conditioning.

Question: What is the conditioned stimulus?

Question: What is the conditioned response?
Terms and Procedures
(Continued)

Question: What's the meaning of the following statements?

"The key characteristic of classical conditioning is the use of an originally neutral stimulus …"

"Classical conditioning occurs regularly in the everyday world."

"Classical conditioning doesn't always involve associations of positive things."

Classical Conditioning in Humans

"… psychologists were able to see that conditioning also occurs in human beings."

[Example] Classical conditioning in humans.
Classical Conditioning in Humans (Continued)

Question: What's the meaning of the following statement?

"The complex process of learning is not automatic … " (226)


Higher-Order Conditioning

Question: What is the higher-order conditioning?

Complete the following:

" … higher-order conditioning permits increasingly remote associations. which can result in a …"
Key Variables in Classical Conditioning

"Classical conditioning is not a simple process … "

[Examples] Conditioning as a matrix of events. (227)

Strength, Timing, and Frequency

■ STRENGTH OF THE UNCONDITIONED STIMULUS.

[Example] Strength of the unconditioned stimulus.

■ TIMING OF THE UNCONDITIONED STIMULUS.

Strength, Timing, and Frequency
(Continued)

■ FREQUENCY OF PAIRINGS.

[Example] Frequency of pairings.

Predictability

"A key factor determining whether conditioning will occur is the predictability of an association of the unconditioned and conditioned stimuli."

[Example] Predictability of an association of the unconditioned and conditioned stimuli.

Extinction and Spontaneous Recovery

Question: What is the classical conditioning procedure called extinction? (228-229)
Extinction and Spontaneous Recovery

(Continued)

Question: What is the classical conditioning procedure termed spontaneous recovery?

Stimulus Generalization and Stimulus Discrimination

Question: What is the classical conditioning process called stimulus generalization?

[Example] Stimulus generalization.

Question: What is the classical conditioning process called stimulus discrimination?

[Examples] Stimulus discrimination.
Classical Conditioning in Daily Life

- THE GARCIA EFFECT.

Question: What is the Garcia effect? (231)

[Examples] Garcia effect. (231-232)

- LEARNING AND CHEMOTHERAPY.

[Examples] Classical conditioning and chemotherapy treatments. (232)
Pavlov's Understanding Reinterpreted

Question: How is Ivan Pavlov's original research applicable to behavioral research and practice today?

Operant Conditioning

The Pioneers: B. F. Skinner and E. L. Thorndike

"In the 1030's, B. F. Skinner (1904-1990) began to change the way psychologists think about conditioning and learning."

Question: What was B. F. Skinner's critique of Pavlovian (classical) conditioning?
The Pioneers: B. F. Skinner and E. L. Thorndike
(Continued)

Question: What is operant conditioning?

"… the American psychologist E. L. Thorndike (1874-1949) … pioneered the study of operant conditioning …"

Question: What is the difference between an emitted and an elicited response?
The Skinner Box and Shaping

"Much of the research on operant conditioning has used an apparatus that most psychologists call a Skinner box … "

[Description] Skinner box. (235-236)

Question: What is operant conditioning process called shaping? (236)

[Illustrations] Shaping in animals and humans.

Reinforcement: A Consequence That Strengthens a Response

"To really understand operant conditioning, you need to study the basic principles of reinforcement."

Question: What is a reinforcer in the operant conditioning process?
Reinforcement: A Consequence That Strengthens a Response

(Continued)

POSITIVE REINFORCEMENT.

"Most people have used positive reinforcement at one time or another."

NEGATIVE REINFORCEMENT.

Question: What is negative reinforcement in the operant conditioning process?

Example] Negative reinforcement.
NEGATIVE REINFORCEMENT.

Question: What is escape conditioning?

Question: What is avoidance conditioning?

[Examples] Escape and avoidance reinforcement.

THE NATURE OF REINFORCERS.

Question: What's the meaning of the following statement?

"The precise nature of reinforcers is somewhat murky."
THE NATURE OF REINFORCERS.

(Continued)

Question: What is a primary reinforcer?

Question: What is a secondary reinforcer?

Question: What's the meaning of the following statement?

"Secondary reinforcers are generally used to modify human behavior."

SUPERSTITIOUS BEHAVIORS.

[Examples] Superstitious Behaviors.
Punishment: A Consequence That Weakens a Response

Question: What is punishment?
THE NATURE OF PUNISHERS.

"Like reinforcers, punishers can be primary or secondary."

**Question:** What is a primary punisher?

**Question:** What is a secondary punisher?

[Examples] Primary and secondary punishers.

PUNISHMENT PLUS REINFORCEMENT.

[Examples] Punishment plus reinforcement.

(240-241)
LIMITATIONS OF PUNISHMENT.

Question: What is a serious limitation of punishment? (241)

Examples: Limitations of punishment. (241-242)

Key Variables in Operant Conditioning

Strength, Timing, and Frequency

STRENGTH OF CONSEQUENCES.

Examples: Strength of consequences. (242)
**TIMING OF CONSEQUENCES.**


**FREQUENCY OF CONSEQUENCES.**

"How often do people need to be reinforced."

**Question:** What is a schedule of reinforcement?

**Question:** What is continuous reinforcement?

**Question:** What are interval schedules of reinforcement?

**Question:** What are ratio schedules of reinforcement?
FREQUENCY OF CONSEQUENCES.

Question: What is a fixed-interval schedule of reinforcement? (243)

Question: What is a variable-interval schedule of reinforcement? (243-244)

Question: What is a fixed-ratio schedule of reinforcement? (244)

Question: What is a variable-ratio schedule of reinforcement?

[Examples] Schedules of reinforcement. (244-245)
Stimulus Generalization and Stimulus Discrimination

"Stimulus generalization and stimulus discrimination occur in operant conditioning much as they do in classical conditioning."

[Examples] Stimulus generalization and Stimulus discrimination. (246)

Extinction and Spontaneous Recovery

Question: What is a extinction in operant conditioning?

[Examples] Extinction in operant conditioning. (246-247)
**Extinction and Spontaneous Recovery**  
(Continued)

**Question:** What is a *spontaneous recovery* in operant conditioning? (247)

**Operant Conditioning in Daily Life**

"Our world is full of reinforcers and punishers."

■ **INTRINSICALLY MOTIVATED BEHAVIOR.**

"Psychologists have shown that reinforcement is effective in establishing and maintaining behavior."

Complete the following:

"But some behaviors are intrinsically rewarding—they are …"
Question: What are extrinsically motivated behaviors in operant conditioning?

"Behavioral regulation theorists assume that people and animals will choose, if possible, activities that seem optimal to them."
The Biology that Underpins Learning

Nature and Nurture

"Our nature consists of our inherited characteristics determined by genetics; our nurture refers to our experiences in the environment."

Complete the following:

"It can be difficult to discern which behaviors derive from …" (250)

Are Evolutionary Theory and Learning Theory Incompatible?

Question: What's the meaning of the following statements?

Evolutionary theory does not rule out learning, and evolution does not strictly determine behavior …"

"Evolutionary theory asserts that evolution is continuously setting the framework for human learning …"
"Whenever learning occurs, there is a relatively permanent change in behavior; and this change is reflected in the nervous system."

"Donald O. Hebb (1904-1985), a Canadian psychologist, was one of the first to suggest that, with each learning situation, the structure of the brain changes."

**Question:** What is D. O. Hebb's description of a *reverberating circuit*?

**Question:** What is D. O. Hebb's description of a *consolidation*?

[Description] Reverberating circuit and consolidation.
"Thinking about a problem allows you to solve the problem and makes other behaviors possible; thus, thinking and imagination become crucial to learning and problem solving."

**Insight**

**Question:** What is *insight*? (253)

**Example:** Insight. (253-254)

**Latent Learning**

**Question:** What is *latent learning*? (254)

**Example:** Latent learning.
Generative Learning

Question: What is generative learning model of cognitive learning?

Learning to Learn and Cooperative Learning

Question: What's the meaning of the following statement?

"Human beings learn how to learn … "

Note the following learning strategies.

- Elaboration
- Attention
- Organization
- Scheduling
- Managing anxiety
Learning to Learn and Cooperative Learning

- Expecting success

- Note taking

- Learning in groups

Question: What is metacognition?

[Examples] Metacognition. (255-256)

Cognitive Maps

Question: What are cognitive maps? (256)
Cognitive Maps
(Continued)

[Examples] Cognitive map.

The Theory of Observational Learning

"A truly comprehensive learning theory of behavior must be able to explain how people learn behaviors that are not taught through reinforcement."

[Illustration] Observational learning.

Question: What is observational learning theory?

KEY VARIABLES IN OBSERVATIONAL LEARNING.

"… all learning is active, takes place within a context, constantly changes, and depends on the active participation (whether undertaken consciously or unconsciously) of the learner."

Complete the following:

"Given that people can learn through many sources, psychologists know that the effectiveness and likelihood of learning are affected by certain key elements."

"One is the type and … (259)"

"Another element is the learner's …"

"A third factor is the situation. People are more likely to …"