

1 **Chapter 6: Learning**

2 **Truth or Fiction?**

A single nauseating meal can give rise to a taste aversion that lasts for years.

Psychologists helped a young boy overcome his fear of rabbits by having him eat cookies while a rabbit was brought closer and closer.

3 **Truth or Fiction?**

During World War II, a psychologist created a missile that would use pigeons to guide the missile to its target.

Slot machine players pop coins into the machines most rapidly when they have no idea when they might win.

4 **Truth or Fiction?**

You can train a rat to climb a ramp, cross a bridge, climb a ladder, pedal a toy car, and do several other tasks – all in proper sequence.

Scientists have implanted electrodes in the brains of rats and guided them through mazes by means of remote control.

5 **Truth or Fiction?**

You have to make mistakes to learn.

Despite all the media hoopla, no scientific connection has been established between violence in the media and real-life aggression.

6 **Preview of Chapter Six**

- Classical Conditioning
- Operant Conditioning
- Cognitive Factors in Learning

7 **What is Learning?**

- A relatively permanent change in behavior that arises from practice or experience

8 **Classical Conditioning**

9 **Classical Conditioning**

- Simple form of associative learning that enables organisms to anticipate events
 - Previously neutral stimulus (CS) comes to elicit the response evoked by a second stimulus (UCS) as a result of repeatedly being paired with the second stimulus

10 **Contribution of Ivan Pavlov**

- While studying salivation in dogs, Pavlov “happened” upon the principles of conditioning
- Reflexes (unlearned) can be learned (or conditioned) through association

11 **Classical Conditioning**

12 **Why Did Pavlov’s Dogs Salivate?**

- Behaviorist perspective
 - Dog learned to salivate in response to the tone *because* the tone had been paired with the meat powder
- Cognitive perspective
 - The dog salivated in response to the tone *because* the tone became mentally connected with the meat

13 **Taste Aversion**

- Example of classical conditioning
- Adaptive; motivate organism to avoid harmful foods
- Only one association may be required; time between unconditioned and conditioned stimulus can occur hours apart

14 **Extinction and Spontaneous Recovery**

- Extinction
 - CS no longer followed by an UCS, no longer elicits CR
- Spontaneous Recovery
 - CS once again elicits CR
 - A function of time that has elapsed since extinction occurred

15 **Generalization and Discrimination**

- Generalization
 - Tendency for CR to be evoked by stimuli similar to the stimulus to which the response was conditioned
- Discrimination
 - CR evoked by limited range of stimuli due to pairing only the limited stimulus with the US

16 **Features and Phases of Classical Conditioning**

17 **Higher-Order Conditioning**

- Previously neutral stimulus becomes a conditioned stimulus after being repeatedly paired with a stimulus that has already become a conditioned stimulus
 - Condition dog to salivate to tone
 - Repeatedly pair light with tone
 - Light evokes salivation

18 **Video Connections: “Little Albert”**

- How would you go about reversing Little Albert’s conditioning?
- Explain how classical conditioning and stimulus generalization might be related to the development of phobias

19 **Little Albert**

20 **Operant Conditioning**

21 **Operant Conditioning**

- Learn to do, or not do, things based on the consequences of the behavior
- Behavior operates on, or manipulates, the environment
- Voluntary responses are acquired or conditioned

22 **B.F. Skinner’s Contributions**

- Skinner focused on measurable behaviors
 - Behavior modification and programmed learning
- Skinner box
 - Experimental conditions can be maintained

23 **Rat in a Skinner Box**

24 **Types of Reinforcements**

- Reinforcer is any stimulus that increases the probability that responses preceding it will be repeated
- Positive reinforcer
 - Increase probability behavior will occur when it is added
- Negative reinforcer
 - Increase probability behavior will occur when it is removed

25 **Positive Versus Negative Reinforcers**

26 **Negative Reinforcers Versus Punishment**

27 **Immediate versus Delayed Reinforcers**

- Immediate reinforcers are more effective than delayed
 - Short-term consequences are more of incentive than long-term

28 **Primary and Secondary Reinforcers**

- Primary reinforcer effective because of biological makeup of organism
 - Food, water, warmth, pain (negative reinforcer)

- Secondary reinforcer acquire value through association with established reinforcers
 - Conditioned reinforcers
 - Money – learn it may be exchanged for primary reinforcer

29 **Extinction and Spontaneous Recovery in Operant Conditioning**

- Extinction
 - Learned responses are extinguished after repeated performance without reinforcement
- Spontaneous Recovery
 - Occurs as a function of time

30 **Reinforcers versus Rewards and Punishment**

- Reinforcers are known by their effect (increase response)
- Rewards are pleasant events that affect behavior
- Punishment are aversive events that decrease the frequency of the behavior they follow

31 **Discriminative Stimuli**

- Stimulus that indicates whether behavior will be reinforced
 - Behavior not reinforced will be extinguished

32 **Schedules of Reinforcement**

- Continuous reinforcement
 - Most rapid acquisition
 - Most easily extinguished
- Partial reinforcement

33 **Interval Schedules of Reinforcement**

- Fixed-interval schedule
 - Fixed amount of time
 - Response rate falls off after each reinforcement and then picks up as reinforcer approaches
- Variable-interval schedule
 - Unpredictable time elapses
 - Steadier but lower response rate (than fixed-interval)

34 **The Fixed-Interval Scallop**

35 **Ratio Schedules of Reinforcement**

- Fixed-ratio schedule
 - Fixed number of correct responses
 - High response rate; higher immediately after reinforcement
- Variable-ratio schedule
 - Unpredictable number of correct responses
 - High response rate

36 **Shaping**

- Reinforce progressive steps toward the behavioral goal
 - As training proceeds, reinforce successive approximations of the goal

37 **Skinner Shaping a Pigeon**

38 **Applications of Operant Conditioning**

- Biofeedback Training
- Behavior Modification
- Programmed Learning

39 **Cognitive Factors in Learning**

- 40 **Latent Learning and Cognitive Maps**
- Edward Tolman
 - Rats formed a cognitive map
 - Learning was hidden, or latent, until food motivated them
- 41 **Contingency Theory**
- Learning only occurs when CS provides *information* about the UCS
 - Rescorla – pairing tone (CS) with shock (US)
- 42 **Observational Learning**
- Acquire skills by observing others (Bandura)
 - Can occur without overt responses
 - Paying attention to the behavior is sufficient
 - Learning may be latent
 - Model – person who engages in response that is imitated
 - Vicarious reinforcement
- 43 **Violence in the Media and Aggression**
- Bandura and colleagues classic study of media violence – Bobo and preschool children
 - Children who saw aggressive model showed significantly more aggressive behavior toward the doll themselves
- 44 **Consensus on the Effects of Violence in the Media**
- Depictions of violence contribute to aggression
 - Observational learning
 - Disinhibition
 - Increased arousal
 - Priming of aggressive thoughts and memories
 - Habituation
 - Circular relationship between exposure to media violence and aggressive behavior
- 45 **What Are the Connections Between Media Violence and Aggressive Behavior?**