

Chapter 2 Learning: Principles and Applications

Sec 1: Classical Conditioning

Learning – a relatively permanent change in behavior that results from experience

- Three Basic Types:
 1. Classical Conditioning
 2. Operant Conditioning
 3. Modeling

Classical Conditioning – a neutral stimulus acquires the ability to evoke a response that was originally evoked by another stimulus

1. Ivan Pavlov – Russian scientist, while studying digestion discovered classical conditioning
2. Neutral Stimulus – does not initially elicit a response
3. Unconditioned Stimulus (UCS) – an event that elicits a certain predictable response without previous training
4. Unconditioned Response (UCR) – an organism's automatic (natural) reaction to a stimulus
5. Conditioned Stimulus (CS) – a once-neutral event that has come to elicit a given response after a period of training in which it has been paired with an UCS
6. Conditioned Response (CR) – learned reaction to a CS

Principles of Classical Conditioning

1. Generalization – responding similarly to a range of similar stimuli
2. Discrimination – ability to respond differently to different stimuli
3. Extinction – gradual disappearance of a CR because the reinforcement is withheld or because the CS is repeatedly presented without the US

Classical Conditioning and Human Behavior

1. O. Hobart and Mollie Mowrer's bedwetting experiment
2. Taste Aversion

Sec 2: Operant Conditioning

Operant Conditioning – learning from the consequences of behavior (B.F. Skinner)

1. Reinforcement – stimulus or event that affects the likelihood that an immediately preceding behavior will be repeated
 - A. Primary and Secondary Reinforcers
 - i. Primary Reinforcer – stimuli that are naturally rewarding such as food or water
 - ii. Secondary Reinforcer – stimulus that becomes reinforcing through its link to a primary reinforcer
2. Schedules of Reinforcement

- A. Continuous Schedule – behavior is reinforced every time it occurs
- B. Partial Schedule – reinforcement occurs intermittently
- C. Partial Reinforcement Schedules
 - i. Fixed-Ratio Schedule – reinforcement depends on a specified quantity of responses
 - ii. Variable-Ratio Schedule – number of responses needed for a reinforcement changes from one time to the next
 - iii. Fixed-Interval Schedule – a specific amount of time must elapse before a response will elicit reinforcement
 - iv. Variable-Interval Schedule – time at which the reinforcement becomes available changes throughout the conditioning procedure

Shaping and Chaining

1. Shaping – a process in which reinforcement is used to sculpt new responses out of old ones
2. Response Chains – learned reactions that follow one another in sequence, each reaction producing the signal for the next

Aversive Control – process of influencing behavior by means of unpleasant stimuli

1. Negative Reinforcement – a painful or unpleasant stimulus is removed or is not applied at all
 - a. Escape Conditioning – a person’s behavior causes an unpleasant event to stop
 - b. Avoidance Conditioning – the person’s behavior has the effect of preventing an unpleasant situation from happening
2. Punishment – an unpleasant consequence occurs and decreases the frequency of the behavior that produced it
 - a. Negative Reinforcement vs. Punishment – escape or avoidance behavior is repeated in negative reinforcement while in punishment behavior that is punished is not repeated
 - b. Disadvantages of Punishment
 - i. Can produce unwanted side effects such as rage, aggression, and fear
 - ii. Children avoid punishers
 - iii. Does not eliminate behaviors, only suppresses them

Sec 3: Social Learning

Social Learning – process of altering behavior by observing and imitating the behavior of others

1. Cognitive Learning – form of altering behavior that involves mental processes

Learned Helplessness – pain comes no matter how hard one tries, individuals have no control over outcomes

1. Responses to uncontrollable events:
 - a. Less motivated to act so stop trying
 - b. Lowered self-esteem, negative image of oneself
 - c. Depression

Modeling – changes in behavior, thinking, or emotions that occur through observing another person

1. Imitation

Behavior Modification – systematic application of learning principles to change people's actions and feelings

1. Token Economy – conditioning in which desirable behavior is reinforced with valueless objects which can be exchanged for valued rewards
2. Self-control – using a personal system of rewards and punishments to shape one's own thoughts or behaviors