Learning

Chapter 5
What is Learning?

• Learning – any relatively permanent change in behavior brought about by experience or practice.
  • When people learn anything, some part of their brain is physically changed to record what they have learned.
  • Any kind of change in the way an organism behaves is learning.
Classical Conditioning

UCS  Loud Noise  UCR  Startle

CS  Bunny Rabbit  UCS  Loud Noise  UCR  Startle

CS  Bunny Rabbit  CR  Startle
LO 5.4 Pavlov’s classic experiment in conditioning

FIGURE 5.2 Strength of the Generalized Response An example of generalization. The subjects had been conditioned originally to a CS (A) of a given frequency. When tested with the original tone, and with tones B, C, and D of differing frequencies, a clear generalization gradient appeared. The closer the frequency of the test tone to the frequency of tones A, the greater was the magnitude of the response to the tone. (Howland, 1937)
LO 5.4 Pavlov’s classic experiment in conditioning

FIGURE 5.3 Extinction and Spontaneous Recovery The acquisition, extinction, spontaneous recovery, and reacquisition of a conditioned salivary response. Typically, the measure of conditioning is the number of drops of saliva elicited by the CS on each trial. Note that on the day following extinction, the first presentation of the CS elicits quite a large response.

Menu
LO 5.7 Operant conditioning and Thorndike's law of effect

FIGURE 5.5 Thorndike puzzle box
A typical Thorndike puzzle box. The cat is placed inside the box and can get out by pushing on the little platform to one side of the door—at first, accidentally. Each time the cat managed to escape, it would be put back into the box until, through trial and error, it knew to push on the platform to open the door.
Schedules of Reinforcement

- **Fixed ratio schedule of reinforcement** - schedule of reinforcement in which the number of responses required for reinforcement is always the same.

- **Variable ratio schedule of reinforcement** - schedule of reinforcement in which the number of responses required for reinforcement is different for each trial or event.
Biofeedback and Neurofeedback

• Biofeedback - the use of feedback about biological conditions to bring involuntary responses such as blood pressure and relaxation under voluntary control.

• Neurofeedback - form of biofeedback using brain scanning devices to provide feedback about brain activity in an effort to modify behavior.
LO 5.17  Tolman’s classic study on latent learning

Another example of latent learning