Learning is a relatively permanent change in behavior acquired through experience or practice.
What is **Learning**?

- Learning is the process that allows us to *adapt* (be flexible) to the changing conditions of the world around us. We (I) can alter our (my) actions until we (I) find the behavior that leads us (me) to survival and rewards, and we (I) can eliminate actions that have been unsuccessful in the past.

- Psychologists believe that for learning to occur, changes in behavior must be enduring. Likewise, it is believed that when learning occurs, there is a physical change that occurs in our brain to denote that “new learning”.
3 Major Schools of Learning

1) Classical conditioning – Is the process of learning by which a previously neutral stimulus comes to elicit an identical or similar response to one originally elicited by the unconditioned stimulus as the result of the pairing of the two stimuli.

2) Operant conditioning – Is the process of learning in which the manipulation of the consequences of a response influences the probability of the response occurring.

3) Cognitive learning – Is learning that occurs without the opportunity of first performing the learned response or being reinforced for it.
Ivan Pavlov discovered the form of learning called Classical Conditioning. Classical Conditioning is learning by association.

Unconditioned means unlearned or naturally occurring. Therefore, a stimulus that elicits an unconditioned response (UCR) is called an unconditioned stimulus (UCS). A neutral stimulus (NS) is a stimulus that does not naturally elicit a response. After repeated pairings of the NS with the UCS, the NS is transformed to a CS bringing about a CR.
Learning

- The repeated pairing of the NS and the UCS is called __________________, because the organism is in the process of acquiring learning.
- Any event or object that, when following a response, increases the likelihood of that response occurring again is called____________________.
Extinction

- Extinction is the gradual weakening and eventual disappearance of a conditioned response.
- Spontaneous recovery – is the spontaneous return of a conditioned response following extinction.
- Reconditioning - is the process of relearning a conditioned response following extinction.
- Stimulus generalization - is the tendency for stimuli that are similar to the conditioned stimulus to elicit a conditioned response.
Stimulus discrimination – is the tendency to differentiate among stimuli so that stimuli that are related to the original conditioned stimulus, but not identical to it, fail to elicit a conditioned response.

Higher-order conditioning – is when a new stimulus becomes a conditioned stimulus when it is paired with an established conditioned stimulus that already elicits the conditioned response. See p. 183, fig. 5.4.
Factors that Strengthen Conditioned Responses

☐ Frequency of pairings – the more often the CS is paired with the US, the stronger and more reliable the conditioned response will be.

☐ Timing – the strongest conditioned responses occur when the CS is presented first and remains present throughout the administration of the US.

☐ Intensity of US – A stronger US will typically lead to faster conditioning than a weaker one.
Psychologist Robert Rescorla argued that conditioning depends on the informational value that the conditioned stimulus acquires in the occurrence of the unconditioned stimulus. According to Rescorla, people actively seek information that helps them predict the occurrence of important events in their environment.

Conditioned emotional response – is an emotional response to a particular stimulus acquired through classical conditioning.

The classical conditioning of a reflex response or emotion by watching the reaction of another person is called.
**Behavioral therapy** is a form of therapy that involves the systematic application of the principles of learning.

Conditioned taste aversions—refers to aversions to particular tastes acquired through classical conditioning; e.g., Researchers found that rats that were given a sweetened liquid and then injected with a drug or exposed to radiation that caused ______________ would not touch the liquid again. Conditioned taste aversions is an example of ______________ which refers to the tendency of animals to learn certain associations, such as taste and nausea, with only one or few pairings due to the survival value of the learning. What is it that you perhaps should have a conditioned taste (habit) aversion to?
Classical Conditioning and Why it works?

- Pavlov stated that classical conditioning works/occurs because the conditioned stimulus became a substitute for the unconditioned stimulus by being paired closely together. This is called _______________________________________________________.

- The modern theory in which classical conditioning is seen to occur because the conditioned stimulus provides information or an expectancy about the coming of the unconditioned stimulus is called _______________________________________________________.

- ___________________ ________________
**Operant Conditioning**

**In Classical conditioning, we examined learning that results from the association between stimuli before a response occurs. In Operant conditioning, learning is from the association of a response with its consequences, such as rewards and punishments. Classical conditioning is the kind of learning that occurs with reflexive, involuntary behavior. The kind of learning that applies to voluntary behavior is called operant conditioning, which is both different from and similar to classical conditioning.**

**Law of Effect** – states that responses that have satisfying effects are more likely to recur, while those that have unpleasant effects are less likely to recur.
The Concept of Reinforcement

- Operant – Is any behavior that is _______________.
- The basis of operant conditioning is the effect of _______________ on behavior.
- Any event or stimulus, that when following a response, increases the probability that the response will occur again is _______________.
- Any event that is naturally reinforcing by meeting a basic biological need, such as hunger, thirst, or touch is called _______________.
- Any reinforcer that becomes reinforcing after being paired with a primary reinforcer, is called _______________.
Radical Behaviorism

- Radical behaviorism argues that the philosophical position of having “free will” is an illusion or myth and that human and animal behavior is completely determined by environmental and genetic influences. For Skinner, the mind was a “black box” whose contents cannot be illuminated by science. For Skinner, behavior is shaped by its consequences.

- Reinforcer – is any stimulus event that increases the likelihood that the behavior it follows will be repeated. Skinner coined the term operant conditioning to describe the process of learning by which responses are strengthened through manipulating the effects or consequences that follow them. Through this form of learning, organisms learn responses that produce positive or rewarding effects. The responses themselves are called operants because they operate on, or act upon, the environment.

- Superstitious behavior is behavior acquired through coincidental association of a response and a reinforcement.
Discriminative Stimuli – is a cue that signals that reinforcement is available if the subject makes a particular response.

Positive Reinforcement – is the strengthening of a response through the ___________ of a stimulus following the response.

Negative Reinforcement – is the strengthening of a response through the ______________ of a stimulus after the response occurs.

Primary reinforcers – are intrinsically rewarding because they satisfy basic biological needs or drives, e.g., food, water, sleep, sexual stimulation etc.

Secondary reinforcers – are learned reinforcers that develop their reinforcing properties because of their association with primary reinforcers, e.g., money because it can be exchanged for more basic reinforcers.
Positive and Negative Punishment

☐ Any event or object that, when following a response, makes that response less likely to happen again is called ____________________.

☐ The punishment of a response by the addition of an unpleasant stimulus is called ____________________.

☐ The punishment of a response by the removal of a pleasurable stimulus is called ____________________.
The Effects of Using Punishment

- Punishment – 1) It serves to temporarily suppress or inhibit a behavior until enough time has passed. 2) Severe punishment stops the unwanted behavior immediately. It may not stop it permanently, but it does stop it. 3) Severe punishment can lead to abuse. 4) Severe punishment may cause the child to avoid the ___________ instead of the behavior being punished, so the child learns the wrong response. 5) Severe punishment may encourage ______________ to avoid the punishment again, not the response that is desired.
The Effects of Using Punishment

6) Severe punishment creates __________ and ______________, emotional responses that do not promote learning, e.g., Michael Jackson/Joe Jackson. 7) Hitting provides a successful model for aggression. ** It may send the message to children that hitting is an acceptable way of resolving interpersonal conflict.
Making Punishment More Effective

- 1. Punishment should immediately follow the behavior it is meant to punish.
- 2. Punishment should be consistent. Never say, “I’m going to kill you!”
- 3. Punishment of the wrong behavior should be paired with reinforcement of the right behavior.
- 4. Punishment is more effective when it is combined with positive reinforcement for desirable alternative behavior.
Shaping – is a process of learning that involves the reinforcement of increasingly closer approximations of the desired response.

Method of successive approximations – is the method used to shape behavior that involves reinforcing ever-closer approximations of the desired response.

Discriminative stimulus – Any stimulus that provides the organism with a cue for making a certain response in order to obtain reinforcement.

Schedules of reinforcement – is a predetermined plan for timing the delivery of reinforcement- influence learning.

Schedule of continuous reinforcement – is a system of dispensing a reinforcement each time a correct response is produced. However, continuous reinforcement also leads to rapid extinction when reinforcement is withheld.
Schedule of partial reinforcement – is a dispensing a reinforcement for only a portion of responses; this makes responses more resistant to extinction.

Partial reinforcement is administered under two general kinds of schedules: ratio schedules and interval schedules. In ratio schedules, reinforcement is based on the number of responses. In interval schedules, reinforcement is based on the timing of responses. Within each type, reinforcement can be administered on either a fixed or variable basis. It is the unpredictability of the variable schedule that makes the responses more or less continuous.
In a fixed-ratio schedule, reinforcement is given after a specified number of correct responses. In a variable-ratio schedule, the number of correct responses needed before reinforcement is given varies around some average number. **________________________** typically produce high, steady rates of response. They are also more resistant to **________________________** than fixed-ratio schedules.
In a fixed-interval schedule, reinforcement is given only for a correct response made after a fixed amount of time has elapsed since the last reinforcement. Whereas, in a variable-interval schedule, the amount of time that must elapse before reinforcement can be given for a correct response is variable rather than fixed.

There are biological constraints on operant conditioning. Generally speaking, animals come into the world with certain genetically determined instinctive patterns of behavior already in place.

Instinctive drift – tendency for an animal’s behavior to revert to __________________ controlled patterns of behavior. Instinctual behavior is genetically determined and not under the influence of learning.
Applying Operant Conditioning: Behavior Modification

The use of operant conditioning techniques to bring about desired changes in behavior is called ________________.

The type of behavior modification in which desired behavior is rewarded with tokens is called ________________.

The modern term for a form of behavior modification that uses shaping techniques to mold a desired behavior or response is called ________________.
Cognitive Learning

- Cognitive learning involves mental processes that cannot be directly observed—processes like thinking, information processing, problem solving, and mental imaging.

- Insight learning – involves the process of mentally working through a problem until the sudden realization of a solution occurs.

- Latent Learning – is learning that occurs without apparent reinforcement and that is not displayed until its application becomes needed.
The tendency to fail to act to escape from a situation because of a history of repeated failures in the past is called ___________________. Two crucial elements appear to be present with this type of learning. They are: ________________________ and ________________________________.

Cognitive map – is a mental representation of an area that helps an organism navigate its way from one point to another.

Learning/performance distinction – Learning can take place by observation alone; without the actual performance.

Observational learning – is learning by observing and imitating the behavior of others, also called vicarious learning or modeling.
The Four Elements of Observational Learning

- 1. Attention/ mentally able
- 2. Memory/ mentally able
- 3. Imitation/ physically able
- 4. Motivation/ emotionally wants to
- 5. People pay more attention to those persons perceive as similar to them and to people whom they perceive as attractive; intellectually, financially, spiritually, etc.
Applying Reinforcement

- 1. Be specific
- 2. Use specific language
- 3. Select a reinforcer
- 4. Explain the contingency
- 5. Apply the reinforcer immediately
- 6. Track the frequency of the desired behavior.

- Wean the child from the reinforcer – After the desired response is well established, gradually eliminate the reinforcer but continue using social reinforcement (e.g. praise) to maintain the behavior.
Giving Praise

1. Make eye contact with the child and smile when giving praise.
2. Use hugs.
3. Be specific, connect praise with the desired behavior.
4. Be sincere.
5. Avoid empty flattery.
6. Reward the effort, not the outcome.
7. Avoid repeating yourself, elaborate on your praise, have a repertoire of praise.
8. Don’t, Don’t, Don’t’ end on a sour note.

The End

STUDY

STUDY

STUDY
Punishment as a method of Discipline

- Punishment may temporarily __________ undesirability undesirable behavior, but it doesn’t eliminate it; and the punished behavior often returns when the punishing stimulus is withdrawn. Drawbacks to using punishment: (1) punishment does not teach new behaviors; (2) punishment can have undesirable consequences; (3) punishment may become abusive — persons at times crosses the line between discipline and abuse; and (4) punishment may represent a form of inappropriate modeling. Children may learn that using force is an acceptable way of resolving interpersonal problems.

- Escape learning is learning of behaviors that allow an organism to escape from an aversive stimulus. While, avoidance learning is learning of behaviors that allow an organism to avoid an aversive stimulus.
Punishment is the introduction of an aversive stimulus or the removal of a reinforcing stimulus after a response occurs, which leads to the weakening or suppression of the response.