

Learning: Classical and Operant Conditioning

Types of Learning:

Classical Conditioning = Pairing two things (stimuli), so that the second (neutral stimulus) elicits a similar reaction to the first (unconditioned stimulus)

Operant = Learning through a system of rewards and punishments

Important Terms

Classical Conditioning:

Extinction: The behavior stops when the CS is no longer paired with the UCS
(The dog no longer salivates to the sound of the bell since no food is presented with the bell)

Spontaneous Recovery: The behavior resumes when the CS again is paired with the UCS after extinction.
(The dog again salivates to the bell alone)

Phobia: An *illogical* fear of something. Some psychologists believe that all phobias are a result of some form of classical conditioning earlier in life

Flooding: Method of deconditioning phobias where the person with the phobia is subjected to an intense version of their fear until their anxiety level falls to a manageable level (a person with arachnophobia holding a spider until they were okay)

Systematic Desensitization: Method of deconditioning phobias where the person with the phobia is subjected to their phobia gradually, and in stages. Each stage is completed when the reported anxiety level falls back to a manageable level

Hierarchy of Fears: List from 1 – 10 created by the person with the phobia used in systematic desensitization, where the “1” is an event which is the least anxiety provoking and the “10” is the most (realistic and productive) anxiety provoking.

Operant Conditioning: (SKINNER)

Shaping: Allows for the creation and reinforcement of behaviors that do not naturally occur by successively reinforcing, or “shaping” the behavior in small increments

Successive Approximation: Small steps used in shaping. To make a pigeon turn in a circle, first, you might reinforce for a small head turn, then a stronger head turn, then a quarter body turn...

Chaining: Teaching a complex behavior or set of behaviors by connecting, or “chaining” together simpler ones (you might first teach your dog to pick up slippers, and come before teaching your dog to bring you your slippers)

Skinner Box: B.F. Skinner’s box created to quickly reinforce animals placed in it. Typically with a lever that, when pressed, distributes food. This can quickly train the animal to press the lever (or whatever variation of lever and food is used)

Superstition: An overestimation of patterns. Pigeons start to show superstitious behaviors when reinforced at random or fixed time periods in a Skinner box. Humans show superstitions in many situations, including a slot machine (the “human skinner box”)

CLASSICAL CONDITIONING

Unconditioned Stimulus: Event which naturally causes a response (UCR)

Unconditioned Response: The natural response from the UCS

Neutral Stimulus: Event or object which does not naturally cause the UCR

Conditioned Stimulus: The neutral stimulus is paired with the UCS to create a response (CR)

Conditioned Response: The new response created with just the CS

Example:

When Pavlov gives his dogs food (UCS), they salivate (UCR). Ordinarily, a bell (NS) does not cause the dogs to salivate. However, when the bell is paired with the food enough times, the bell (CS) will now cause the dog to salivate (CR) without even the food!

OPERANT CONDITIONING

Types of Reinforcement

	Reinforcement (encourages a behavior)	Punishment (discourages a behavior)
Positive (giving something)	A piece of candy for buckling seatbelt	A spanking for not buckling your seatbelt
Negative (taking something away)	The buzzing sound stops when you buckle your seatbelt	Time Out for not buckling your seatbelt

Partial Schedules of Reinforcement

Ratio schedules (per incident) vs. Interval schedules (time)

Fixed ratio: rewards offered after a set number of responses.
(Being paid per item you sew, factory quotas)

Variable ratio: rewards offered after an unpredictable number of responses
(slot machines, hitting in a batting cage)

Fixed interval: rewards offered after a fixed time period.
(semester grades, monthly paychecks)

Variable interval: rewards offered after varying time periods.
(shooting stars, arrival of the mail, light bulbs burning out)

Continuous: rewards offered every single time
(put a dollar in a coke machine, first training dog to sit)