

Chapter 6: Learning

Learning is the change in behaviour due to experience.

Learning does not only refer to Semantic information, but also skills, conditioning and phobias.

Associative learning: When you link something to a certain stimulus (Bell to dog food), together in the process of conditioning.

Classical conditioning: Pavlov's experiment. Neutral stimulus becomes conditioned stimulus that leads to a conditioned response.

Operant conditioning: Based on a reward system, if you do this you get a cookie (that's how dolphins are trained)

Habituation: Over time, we respond less strongly to repeated stimuli (eg. the feeling of clothes on your skin, the feel of the chair). It is the simplest and earliest form of learning in humans. Foetuses display habituation as early as 32 weeks.

Classical conditioning occurs in 3 phases: Acquisition, extinction, Spontaneous recovery.

1. Acquisition: Learning phase during which a conditioned response is established. The closer in time pairing of the CS (bell) and the UCS (food), the faster the response occurs.
2. Extinction: CR (Salivating) decreases in magnitude and slowly disappears when CS (Bell) is presented alone without the UCS (food).
3. Spontaneous recovery: After hours, or a day after extinction, if you present the CS (bell) again, the CR (salivating) reappears.

Renewal effect: If you extinguished a response in a different setting from where the response was acquired, if you bring the dog back to the original setting, the CR will reappear.

Stimulus generalisation: The dog will not only salivate to the bell, but also sounds similar to it. This is related to Phobias, ex. Little Albert who was scared of Santa claus because he was conditioned to be scared of Furry things.

Stimulus discrimination: The bell is there and a sound similar to the bell is there. (both), then the dog salivates only to the original bell. Ex. A school bell ring for short break vs. Fire alarm.

Higher order conditioning: One conditioning has already occurred and now another neutral stimulus is paired with the conditioned stimulus. (Developing a conditioned response to a conditioned stimulus)

Latent inhibition: It is harder to condition a CS we've seen alone many times before without the Unconditioned stimulus.

Classical conditioning in everyday examples:

1. Advertisement: Advertisers use higher order conditioning to get customers to associate their products with the emotions experienced while looking at an attractive person.
2. Phobias: Little Albert. Rat became the conditioned stimulus to crying (CR), also demonstrated stimulus/ generalisation.
3. Drugs: Conditioned compensatory response. If you drink alcohol at the same place every time, your body develops an enhanced tolerance.
4. Fetishes: People develop fetishes through the repeated pairings of neutral objects with sexual activity.
5. Disgust reactions

Getting rid of phobias: pairing the feared stimuli with relaxation or other pleasurable stimuli.

Thorndike's Law of Effect: If we are rewarded for doing something, we'll do it again in the future. Responses that produce a satisfying effect are repeated, responses that don't produce a satisfying effect are unlikely to be repeated- Thorndike's puzzle (with the cat).

Skinner's box: Skinner was a behaviourist so he was focused on observing behaviour.

Positive and negative reinforcement, punishment.

Positive punishment: Yelling

Negative punishment: Taking away favourite toy

Positive reinforcement: Giving candy

Negative reinforcement: If you take medicine and that medicine takes away your discomfort, you'll take that medicine again.

Its only reinforcement when you make the response more likely to occur in the future.

Do not confuse Stimulus discrimination with **Discriminative stimulus**. Discriminative stimulus is a stimulus associated with the presence of reinforcement. If we snap our fingers at a dog, it'll come to us as the snapping signals the presence of the positive reinforcement (Patting the belly)

Stimulus discrimination: Being able to tell the difference between 2 stimuli: pigeons being able to tell the difference between picasso and monet paintings.

If you want the dog to learn a trick faster, use continuous reinforcement, but if you want him to retain what he learned, use partial reinforcement, because partial reinforcement leads to a greater resistance to extinction.

Classical and Operant conditioning together: **Two process theory**

Classical: Dog bite associated with Dogs—> Phobia of dogs

Operant: By avoiding dogs whenever they see them, people with dog phobia are negatively reinforcing their fear.

Cognitive models of learning

1. **S-O-R Psychology**: Stimulus- Organism's interpretation- Response.

You criticise 2 friends for not being on time, both react to your criticism differently, one defensive, one accepts it. This depends on the organism's interpretation of your criticism. The response depends on what the stimulus means to it. Also, they believe that Classical conditioning occurs when the CS regularly predicts the occurrence of the UCS.

2. Latent learning: Tolman- rats-spatial .

3. Observational learning: Learning by observing others- standing in line for skytrain-don't know how to use card, look at the person in front of you and do what he does. Observational learning can save us from life-threatening mistakes.

Observational learning of aggression: Bandura's bobo doll

Mirror neurons: linked to empathy, located in the prefrontal cortex.

Insight learning: Kohler and the Chimpanzee, who used insight learning to put one bamboo stick inside the other to create a long bamboo stick to reach the bananas.

Conditioned taste aversions - chemotherapy- scapegoat food. Also, this finding contradicts the assumption of equipotentiality: the claim that we can classically condition all CSs equally well to all UCSs- ex. that guy felt nauseated at the thought of the sauce and not opera or his wife.