

Chapter 2: Learning Theories



Overview of Major Learning Theories



Ivan Pavlov

Classical Conditioning

Learning via involuntary associations between paired environmental stimuli.



B.F. Skinner

Operant Conditioning

Behavior modification driven by consequences and structured reinforcement.



Edward Thorndike

Connectionism

Trial-and-error learning governed by natural laws of effect and exercise.

Overview of Major Learning Theories



PART 02

Insight Theory

Wolfgang Köhler

Gestalt problem solving via sudden cognitive breakthroughs.



PART 03

Social Learning

Albert Bandura

Observational modeling paired with cognitive mediation.

Ivan Pavlov's classical conditioning theory

IVAN PAVLOV

Classical Conditioning

Unconditioned Reflex

Natural response (salivation) triggered by an unconditioned stimulus (food).

Stimulus Pairing

Repeatedly pairing neutral stimulus (bell) with unconditioned stimulus (food).

Conditioned Response

Neutral stimulus independently triggers learned response (conditioned reflex).

CONDITIONING

Pavlov's Dog Experiment

BEFORE CONDITIONING



DURING CONDITIONING



AFTER CONDITIONING



Key Mechanisms of Classical Conditioning

01

Acquisition

Initial learning phase establishing stimulus association.

02

Extinction

Gradual weakening of response without unconditioned stimulus.

03

Generalization

Responding similarly to new stimuli resembling conditioned signal.

04

Discrimination

Ability to differentiate between conditioned and irrelevant stimuli.

Classical Conditioning in Teaching



Positive Climate

Pair learning tasks with encouraging environment to reduce anxiety.



Signal Routines

Establish audio/visual cues for seamless classroom transition management.



Desensitization

Gradual exposure to reduce public speaking and exam stress.

Skinner's operant conditioning theory

B.F. SKINNER

Operant Conditioning

Voluntary Behavior

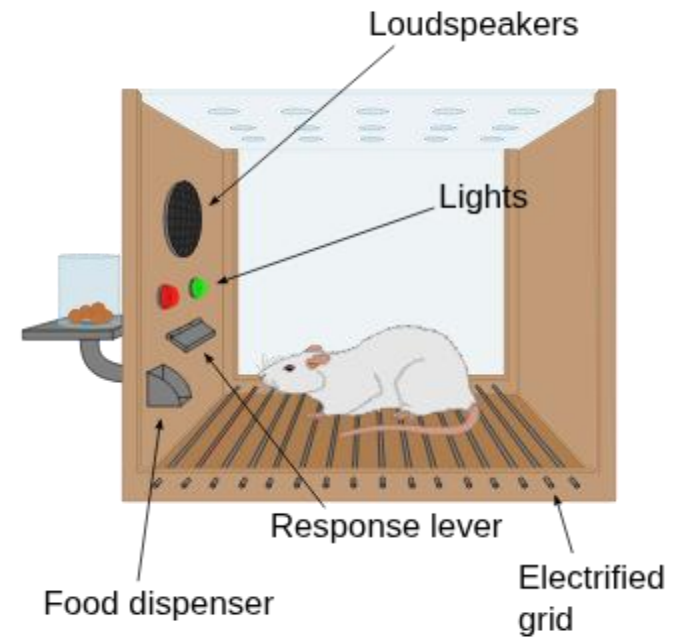
Learners operate on the environment; actions are emitted, not elicited.

Consequence-Driven

Behaviors followed by favorable outcomes tend to be repeated.

Skinner Box Experiment

Lever-pressing action reinforced with food pellets in controlled apparatus.



Consequence Matrix

Positive Reinforcement

Present rewarding stimulus to increase desired behavior.

ADD STIMULUS

Negative Reinforcement

Remove unpleasant stimulus to strengthen target response.

REMOVE STIMULUS

Positive Punishment

Apply adverse stimulus to decrease unwanted behavior.

ADD STIMULUS

Negative Punishment

Withdraw desirable stimulus to suppress target behavior.

REMOVE STIMULUS

Edward Thorndike's Connectionism Theory

Learning occurs through the physical formation of mental bonds between stimuli and responses via continuous trial and error.

Connectionism & Trial-and-Error

Puzzle Box Experiment

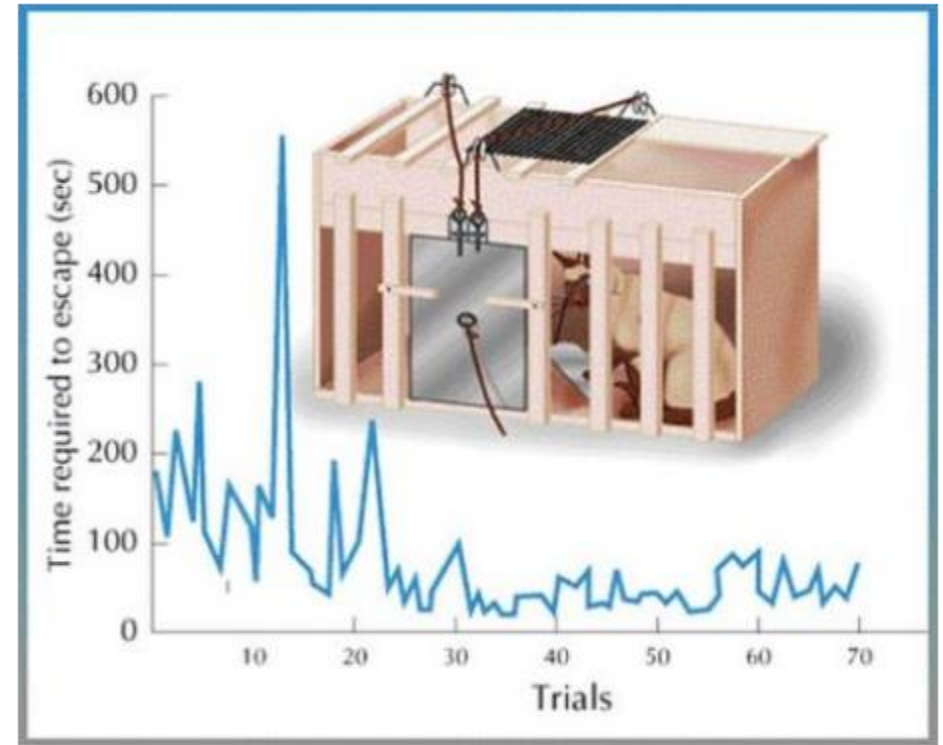
Hungry cat learning lever escape mechanism through trial-and-error.

S-R Bond Formation

Learning occurs by establishing physical/neural connection between stimulus and response.

Incremental Progress

Time to escape decreases gradually, demonstrating habit formation over insight.



The Three Primary Laws of Learning



Law of Effect

Rewarding outcomes strengthen S-R connections.



Law of Exercise

Frequent practice reinforces learning bonds.



Law of Readiness

Learner preparedness maximizes performance satisfaction.

Wolfgang Köhler's Insight Learning Theory

Problem solving driven by sudden mental breakthroughs and holistic perception of relationships rather than gradual trial and error.

Insight theory posits problem-solving often involves a sudden, unexpected breakthrough or "aha" moment, rather than a gradual accumulation of information. It emphasizes recognizing patterns, restructuring information, and forming new connections between bits of information.



Insight & The Sultan Experiment

Holistic Perception

The whole situation exceeds the sum of parts.

The "Aha!" Moment

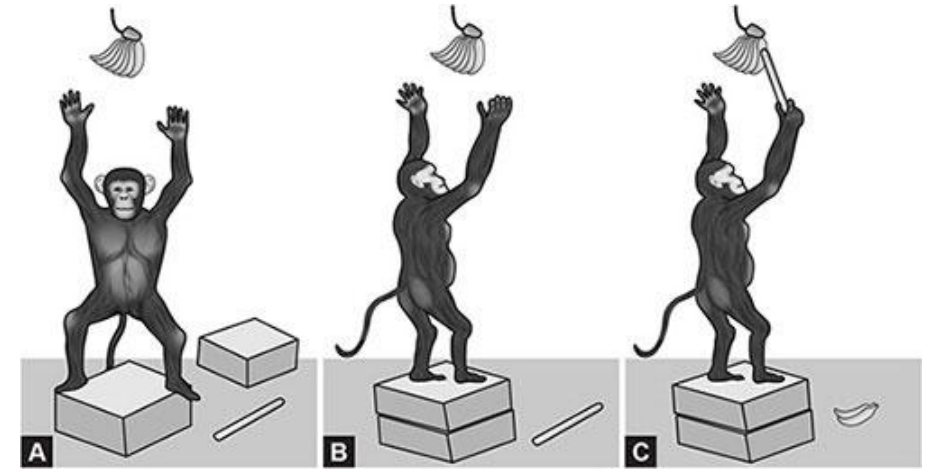
Sudden cognitive restructuring yields solutions.

Tool Manipulation

Sultan stacked boxes and joined sticks to reach food.



The 5 Steps of Insight Learning



01

Problem Identification

Defining the primary goal.

02

Initial Efforts

Testing basic approaches.

03

Incubation

Pause for internal processing.

04

Insight Flash

Sudden solution discovery.

05

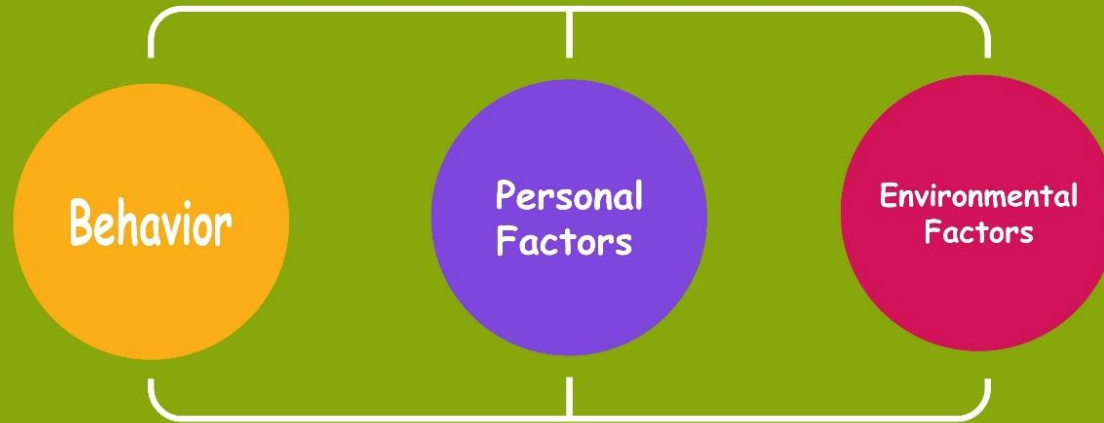
Generalization

Applying rule to new contexts.

Albert Bandura's Social Learning Theory

Learning occurs within social contexts by observing role models, bridging behavioral reinforcement with cognitive mediation.

Social Learning Theory



Core Principles

Observational Learning: You learn by watching a model, such as a parent, peer, or media character.

Mental States: Internal thoughts and cognition affect whether a behavior is learned and repeated.

No Immediate Change: Learning can happen without showing an immediate change in behavior.

Triadic Reciprocal Determinism



Personal Factors

Internal cognitive processes and expectations.

Behavioral Factors

Observed physical execution of actions.

Environmental Factors

Social models and vicarious reinforcement.

Four Stages of Observational Learning



1. Attention

Focusing on unique model behaviors.



2. Retention

Encoding observed actions into memory.



3. Reproduction

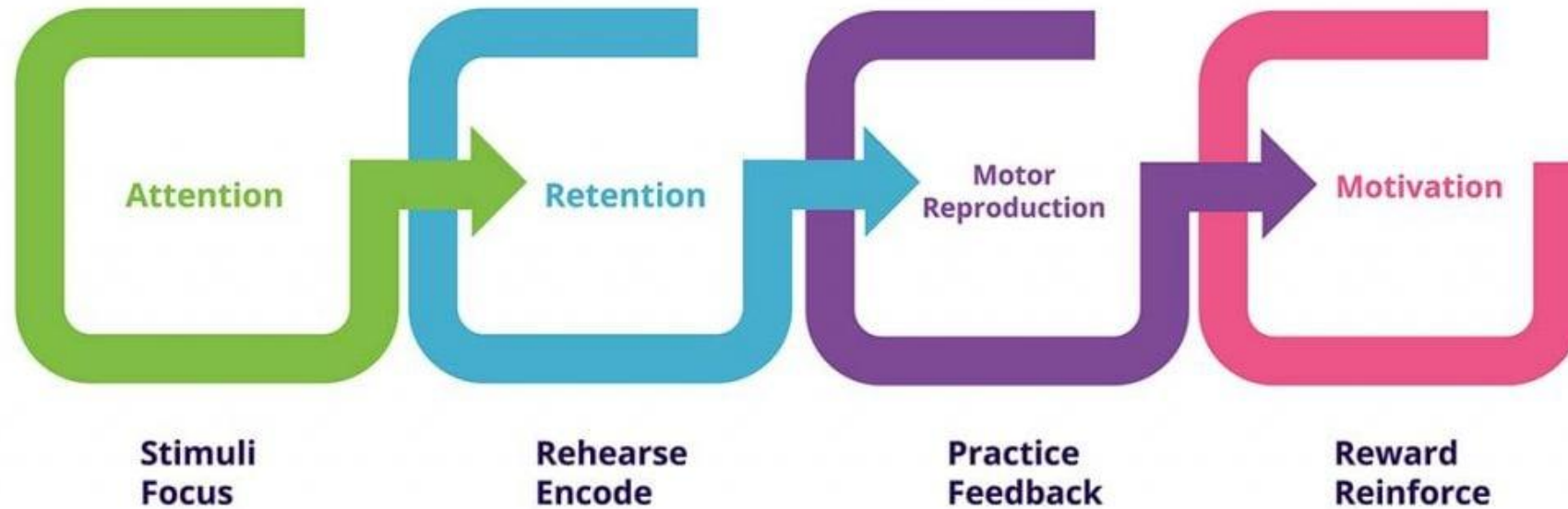
Physical capability to execute behavior.



4. Motivation

Incentive driven by vicarious outcomes.

Social Learning Theory



Albert Bandura's Social Learning Theory proposes that people learn new behaviors, attitudes, and cognitive processes by observing others within a social context, rather than solely through direct experience. It bridges behaviorist and cognitive theories, emphasizing that attention, retention, reproduction, and motivation, is key to observational learning.



SUMMARY & DISCUSSION