

Learning and Memory

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Learning



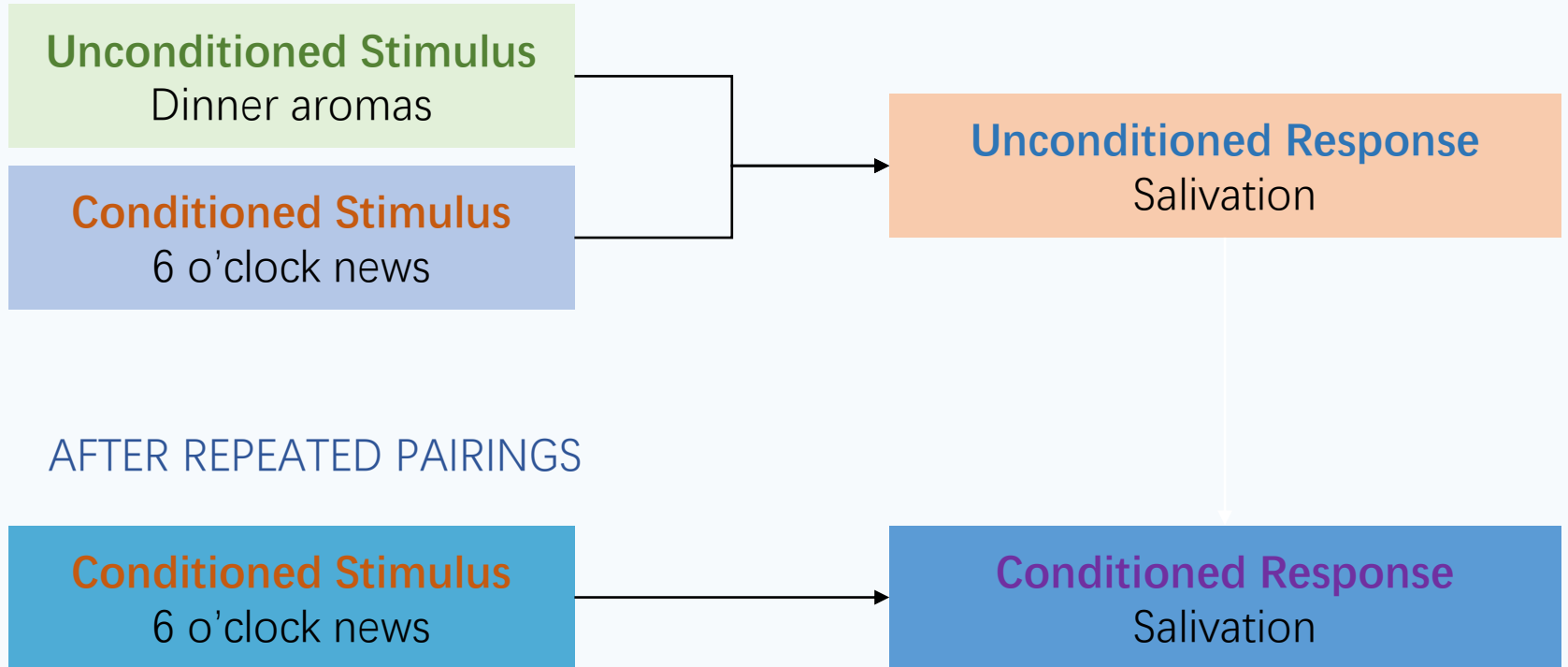
Learning

Learning is applying past knowledge and experience to present circumstances and behavior.

Behavioral learning: focus on stimulus-response connections.

- *Classical conditioning*
- *Operant conditioning*

Classical conditioning



Operant Conditioning

Operant conditioning (instrumental learning): The process of changing behavior by providing a reinforcer or a punishment after a response.

Learning curve: A graph of the changes in behavior that occur over the course of learning.

Reinforcement: Process of increasing the future probability of a response that is followed by a positive consequence .

Law of effect: Increased likelihood of repeating responses that lead to favorable consequences, even if we don't understand why.

Applications of Operant conditioning

Persuasion: Start by reinforcing a slight degree of cooperation and then work up to the goal little by little.

Applied behavior analysis (behavior modification): Procedure in which a psychologist removes reinforcement for unwanted behaviors and provides reinforcement for more acceptable behaviors.

Social Learning

Social Learning approach is learning many behaviors by observing the behavior of others..

Social learning is a type of operant conditioning, with similar underlying mechanisms:

- *Modeling and imitation*
- *Vicarious reinforcement and punishment*
- *Self-efficacy*
- *Self-reinforcement and self-punishment*

Social Learning

Modeling and Imitation

- Learning by observing other people's actions and their consequences.
- Behavior often provides information.
- Establishes a norm or rule.
- Imitation may occur automatically.

Vicarious Reinforcement and Punishment

- Study of people's tendency to make hits, correct rejections, misses and false alarms.
- Response depends on willingness to risk misses or false alarms.
- When trying to detect an item, more likely to overlook if it occurs rarely.

Social Learning

Self-efficacy in Social Learning

The belief of being able to perform the task successfully

Compare self to others and estimate chance of success



Consider strength and weaknesses

If chances of success are small, people will get discouraged

2

Memory



Memory

Memory is a process of acquiring information and storing it over time so that it will be available when we need it.

Sensory memory

Temporary storage of sensory information

Short-term memory

Temporary storage of recent events

Long-term memory

A relatively permanent storage of events.

How Memory works?



- Concentration level
- Attention
- Emotion

- Sensory memory
- Short-term memory
- Long-term memory

- Recall
- Recognition
- Relearning

Forgetting



Why did you forget?

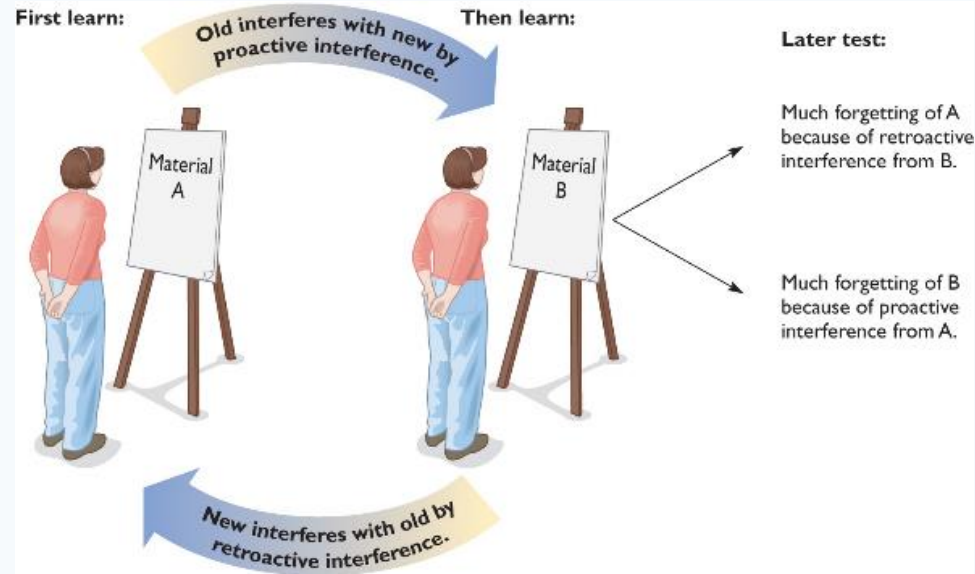


Forgetting

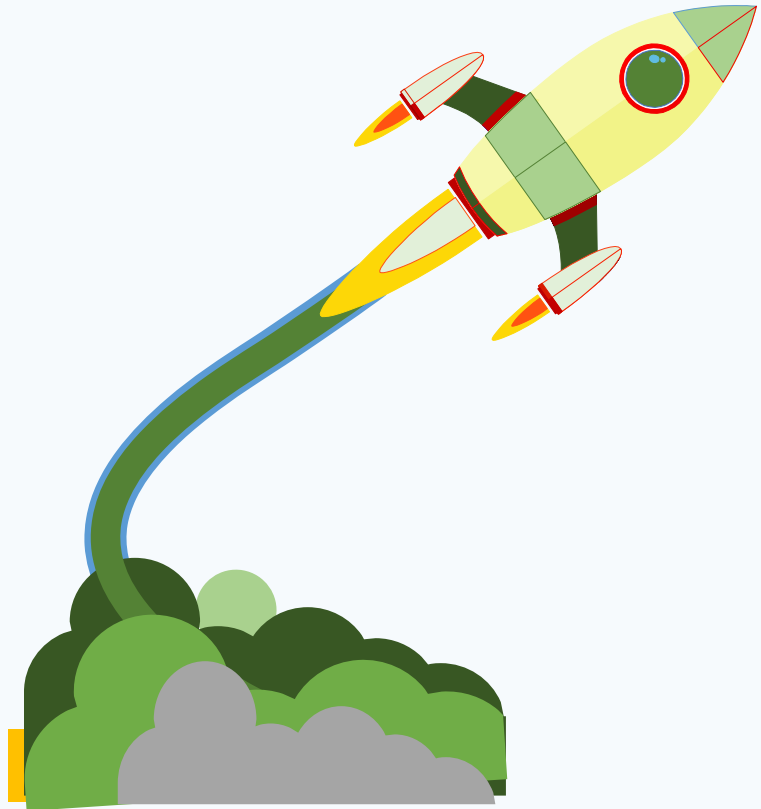
Proactive interference is when old materials increase forgetting of new materials.

Retroactive interference is when new materials increase forgetting of old materials.

Interference is a major cause of forgetting.



How to improve memory?



What do you do to improve your memory?

How to improve memory?

Retrieval cues

Serve as reminders to prompt your memory later.

Encoding specificity principle

The associations you form at the time of learning will be the most effective retrieval cues later.

If you want to remember something at a particular time and place, study under the same conditions where you will try to remember.

How to improve memory?



Studying spread out



Varying the conditions of studying



Need effort to refresh ideas

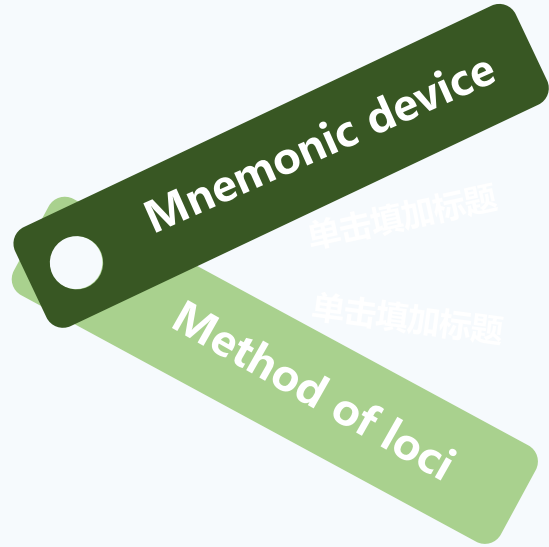


Taking notes during class



Test yourself

How to improve memory?



Mnemonic device

is any memory aid based on encoding items in a special way.

Mnemonic device

Memorize a series of places, then use a vivid image to associate each location with something you want to remember

Thanks

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