

MEMORY

MEMORY - KEY POINTS

- What is memory?
- What are the two common memory models?
- Why do we forget?
- What are some noted problems with memory?
- How can we improve our memory?

Definition of Memory

- An internal record or representation of some prior event or experience
- A set of mental processes that receives, encodes, stores, organizes, alters and retrieves information over time

Two Common Memory Models

- Traditional three-stage memory model
- Encoding, storage and retrieval approach

Traditional Three-Stage Model

- Model focuses on storing information for different lengths of time
- Three stages are sensory, short-term memory and long-term memory

Sensory Memory

- Purpose: to retain exact image of sensory information long enough to focus on important info and transfer it to next stage
- All senses have a sensory memory
- Duration depends on the sense involved
- Capacity is relatively large

Short-Term Memory

- Purpose - temporarily stores info until it is sent to LTM
- Duration - relatively limited
- Capacity: 5 to 9 items
- Duration and capacity can be increased with maintenance rehearsal and/or chunking
- Also known as “working memory”

Long Term Memory

- Purpose is to keep info stored for long periods of time
- Unlimited capacity and duration

Memory Process Model

- Encoding, Storage, Retrieval Model
- How is info changed as it moves through these operations?
- Process can be compared to a computer

Encoding

Process of translating info into neural codes that will be retained in memory

Storage

The process of retaining neural coded info over time

Retrieval

The process of recovering info from
memory storage

Encoding and the 3 Stage Model

- Organization
 - STM and chunking
 - LTM and hierarchies
- Rehearsal
 - STM and shallow processing
 - LTM and elaborative processing

Storage and the 3 Stage Model

- Varieties of LTM
 - Explicit/Declarative
 - Implicit/nondeclarative

Explicit/Declarative Memory

- Memories with conscious recall
 - Semantic (general knowledge)
 - Episodic (personal experiences)

Implicit/Nondeclarative/ Procedural Memory

Memory without awareness

Procedures involved in habits

Retrieval and the 3 Stage Model

- Retrieval Cues - trigger the retrieval process
 - Recognition
 - Recall
- Encoding Specificity Principle
 - Context
 - Mood congruence
 - State dependent retrieval

Factors that Contribute to Forgetting

- Serial Position Effect
 - Primacy
 - Recency
- Spacing of practice
 - Massed practice
 - Distributed practice

Theories of Forgetting

- Decay Theory
- Interference Theory
 - Proactive interference
 - Retroactive interference
- Encoding Failure
- Retrieval Failure Theory

Key Memory Problems

- Organic Causes
 - Injury
 - Disease
- Constructive Processes
 - Eyewitness Testimony
 - Repressed Memories