

MEMORY = Active system that receives, encodes, stores, organizes, alters, and retrieves info

Encoding = Physical input to representation

Storing = Holding/maintaining

Retrieving = Back into consciousness

Parallel processing - more than one thing at once

Serial processing search for one thing at a time (exhaustive/self-terminating)

Three Stores View (Atkinson/Shiffrin)

Sensory Memory = All of the sensory information you are perceiving at a given moment

Iconic (1/2 – 1 second) – visual images

Echoic (3-4 secs) – auditory continuation (echo)

Short Term Memory = 7 items +/- 2 (George Miller) Up to 30 sec (1 min tops)

Stored phonetically (sound)

Working Memory Area

Rehearsal

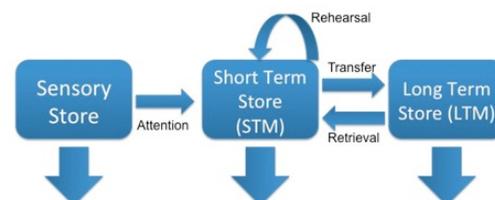
Maintenance – silently repeating

Elaborative – tie info to existing memory

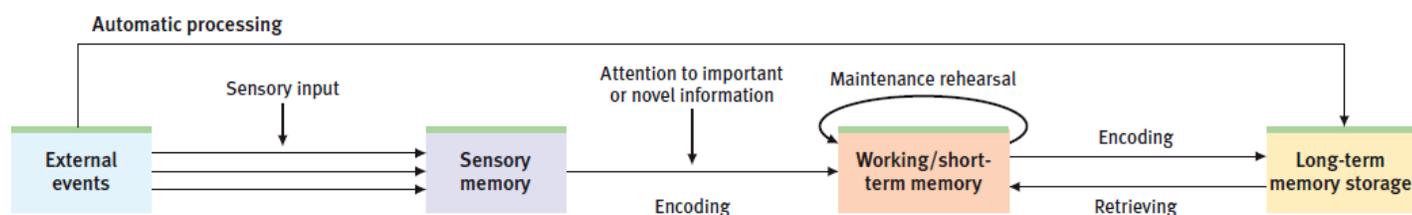
Chunking = Grouping items to recode (reorganize) them

Long Term Memory = Limitless capacity and duration ; Relatively permanent

Stored semantically (meaning)



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A modified three-stage processing model of memory

Redintegrative memories

Procedural memories: Memories for performance of actions or skills. “Knowing how”

Declarative memories: Memories of facts, rules, concepts, and events; includes semantic and episodic memory. “Knowing that”

Semantic memories: General knowledge, including facts, rules, concepts, and propositions.

Episodic memories: Personally experienced events and the contexts in which they occurred.

Recall (from your mind alone)

Serial Recall - in order

Free Recall - in any order

Paired-associate Recall - recall one word when pair is given

Cued Recall - prompt/hint given

Recognition (pick from choices)

Explicit Memory = Consciously act to remember

Implicit Memory = Recall info without trying, occurs on its own (**most** procedural info)

Forgetting

Forgetting Curve = Herman Ebbinghaus/Forgetting was rapid at first and then tapered off.

Decay (forgotten due to time)

Serial position curve

Recency effect - you’ll remember more from the end of the list

Primacy effect - you'll remember more from the beginning of the list

Interference (info that competes)

Proactive - interfering info is presented before (old interferes with the new)

Retroactive - interfering info is presented after (new interferes with the old)

RN, PO

Cue-Dependent Forgetting: The inability to retrieve information stored in memory because of insufficient cues for recall.

State-Dependent Memory: The tendency to remember something when the rememberer is in the same physical or mental state as during the original learning or experience.

Psychogenic Amnesia: The partial or complete loss of memory (due to nonorganic causes) for threatening information or traumatic experiences.

Childhood Amnesia (aka Infantile Amnesia): The inability to remember events and experiences that occurred during the first two or three years of life.

Retrograde Amnesia: inability to remember events prior to a trauma

Anterograde Amnesia: inability to remember events after a trauma

Source Amnesia

Constructive memory - Loftus and Palmer Study (1974)

Priming: facilitating the remembering of an implicit memory by using cues to activate hidden memories.

Flashbulb Memories

Eidetic Memory (photographic)

Mnemonists

Aleksandr Luria studied "Mr. S" (1968)

Ericsson, Chase, Faloon "S.F." (1982)

Rajan Mahadevan - 31,811 digits of pi

Memory and the Brain

Basal Ganglia: procedural memory

Hippocampus: complex learning, consolidation of encoded memories (cross-referencing)

Amygdala: emotional memories

Cerebral cortex: long term declarative memories

Cerebellum: classically conditioned memories

Acetylcholine: NT impt in memory formation, esp hippocampus

LANGUAGE = Words or symbols, and rules for combining them, which are used for thinking and communication

Phone: Basic speech sounds for all humans

Phonemes: Basic speech sounds of a language

Morpheme: Speech sounds collected into meaningful units, like syllables or words

Syntax: Rules for word order in sentences

Transformation Rules: Rules that allow us to change a declarative sentence into other voices (passive, active) or forms

Productivity: Ability of language to generate new thoughts or ideas

Stages for Language

In Utero

Cooing

Babbling

Holophrases

Telegraphic Speech

Basic Adult-Like Syntax

Biological Predisposition/Critical Period – Chomsky

Linguistic Determinism