



# Memory

# Unit	6
📅 Rev 1	
▼ Rate	
🔗 Vocab 1	<a href="https://docs.google.com/document/d/1h8tuyDltLWaRHfUIKumUsvZSm_DEXohQD-Nz9CCjQy4/edit">https://docs.google.com/document/d/1h8tuyDltLWaRHfUIKumUsvZSm_DEXohQD-Nz9CCjQy4/edit</a>
🔗 Vocab 2	

## 6.1 - Memory Intro

### ▼ The Phenomenon of Memory

Memory is our ability to store and retrieve information

### ▼ Flashbulb Memory

A highly emotional event that is very strong and vivid in our memories

- 9/11 Attack
- A family member dying

### ▼ Example

On my way back home from the Holocaust Museum in 8th grade, learning that my Grandma passed away.

These memories may have errors due to other sources of information

### ▼ Stages of Memory

#### ▼ Encoding

### Getting Information In

1. Some information is automatically processed (like route to school)
2. New or unusual information requires attention and effort (friend's new cell phone number)
  - Hippocampus does not store information, it works like the "save" button

#### ▼ *Storage*

#### ▼ *Retrieval*

### ▼ **Information Processing**

The Atkinson-Schiffman **three-stage model** of memory

- a. Sensory Memory
- b. Short-term memory
- c. Long-term memory

### ▼ **Automatic Processing**

Space

Time

Frequency

## 6.2 - Sensory Memory

### ▼ **Rehearsal**

*Shallow vs. Deep Processing*

Effortful learning usually requires rehearsal or conscious repetition

### ▼ **Spacing Effect**

*Distributed vs. Mass Practice*

The spacing effect is when you distribute studying over a number of days, because you are more likely to remember it rather than if you studied all at once. The more times you study, the stronger the synapse gets, easier to remember.

#### ▼ **Example**

Start studying for psychology test a week before, rather than the day before so your brain can retain more information.

## ▼ Encoding

### ▼ Semantic Encoding

Deep processing/elaborative rehearsal

### ▼ What We Encode

1. Encoding by meaning
2. Encoding by images
3. Encoding by organization

### ▼ Visual Encoding

Mental pictures (imagery) are a powerful aid to effortful processing, especially when combined with semantic encoding. Visually see the meaning of the thing you are processing rather than visualizing the thing itself.

#### ▼ Example

Given a sentence, "A man skiing with a funny hat", and visually seeing a man skiing with a funny hat, rather than seeing the words itself.

### ▼ Organizing information

#### ▼ Chunking

Organizing items into a familiar, manageable unit.

Chunk the numbers into groups so you have to remember less things but get the same result

#### ▼ Acronyms

HOMES - Great Lakes

PEMDAS - Order of Operations

ROY G BIV - Colors of the Rainbow

#### ▼ Hierarchy

Complex Information broken down into broad concepts and further subdivided into categories and subcategories

### ▼ Mnemonics

Mnemonic techniques use vivid imagery to process

▼ Loci

▼ Link Method

Involves forming a mental image of items to be remembered in a way that links them together (story)

▼ **Storage**

Retaining Information

Storage is at the heart of memory.

▼ Three Stores of Memory

▼ **Sensory Memory**

Sensory registers are exact copies

The duration of sensory memory varies for the different senses

- Iconic
  - Sight
  - 0.5 sec long
- Echoic
  - Hearing
  - 3-4 sec long
- Haptic
  - Touch
  - < 1 sec long

▼ **Working Memory**

Long-term Memory

## 6.3 - Working Memory

## ▼ Working Memory

- Has a limited capacity (7(+ or -)2 (5-9)) and a short duration (20 seconds)

### ▼ Maintenance Rehearsal

- Repeat in your head to reset the 20 second clock

### ▼ Elaborative Rehearsal

- Link new information to existing
- Rehearse *meaning*

### ▼ Capacity

MUTGIKTLRSIP

## ▼ Long-Term Memory

- Unlimited capacity store
- Estimates on capacity range from 1000 billion to 1,000,000 billion bits of information

### ▼ Synaptic Changes

Long-term Potentiation (LTP) refers to synaptic enhancement after learning. An increase in neurotransmitter release or receptors

### ▼ Stress Hormones & Memory

Heightened emotions (stress-related) make for stronger memories. Continued stress may disrupt memory

## ▼ Implicit Memory

### ▼ Retrieval

- Getting information out of the memory store

### ▼ Measures of Memory

#### ▼ Recognition

In recognition, the person must identify an item amongst other choices.

1. Name the capital of France
  - a. Brussels
  - b. Rome
  - c. Paris

d. Madrid

▼ Recall

In recall, the person must retrieve information using effort.

1. The capital of France is \_\_\_\_.

- Prospective Memory... “remembering to do.”

▼ Relearning

In relearning, the individual shows how much time (or effort) is saved when learning material for the second time.

▼ Retrieval Cues

Memories are held in storage by a web of associations. These associations are like anchors that help retrieve memory

▼ Priming

To retrieve a specific memory from the web of associations, you must first activate one of the strands that leads to it

## 6.4 - Forgetting

▼ Context Effects

- Context dependent memory

Scuba divers recall more words underwater if they learned the list underwater, while they recall more words on land if they learned that list on land.

▼ Deja Vu

Deja Vu means “I’ve experienced this before.” Cues from current situation may unconsciously trigger retrieval of an earlier similar experience

▼ Moods and Memories

We usually recall experiences that are consistent with our current mood. Emotions, or moods, serve as retrieval cues.

- State (mood) dependent memories

▼ Forgetting

An inability to retrieve information due to poor encoding, storage, or retrieval.

▼ Encoding Failure

We cannot remember what we do not encode.

▼ Storage Decay

Poor durability of stored memories leads to their decay.

▼ **Forgetting curve**

Most forgetting happens soon after the memory is formed

▼ Retrieval Failure

Although the information is retained in the memory store, it can not be accessed

Tip-of-the-tongue (TOT) is a retrieval failure phenomenon.

▼ Interference

Learning some new information may disrupt retrieval of other information.

- Proactive interference (forward acting)
- Retroactive interference (backward acting)

▼ Motivated Forgetting

▼ Motivated Forgetting

People unknowingly revise their memories

▼ Repression

A defense mechanism that banishes anxiety-arousing thoughts, feelings, and memories from consciousness.

## **Why do we forget?**

Forgetting can occur at any memory stage. We filter, alter, or lose much information during these stages.

▼ Memory Construction

While tapping our memories, we filter or fill in missing pieces of information to make our recall more coherent.

▼ Misinformation Effect

Incorporating misleading information into one's memory of an event.

▼ Source Amnesia

Attributing an event to the wrong source that we experienced, heard, read, or imagined (misattribution).