Memory

Psychology
Memory

- Capacity to retain and retrieve info.
Encoding

- Step one
- The process of transforming info. Into a form that can enter into and be retained in the memory system.
Storage

• Step two

• The process of retaining information in memory so that it can be used at a later time.
Retrieval

• Step three
• Processing of accessing previously learned information from long-term memory.
Memory is not always accurate

- **Reconstructive memory** = When we remember complex info. We typically alter it in ways that help us make sense of the material.
Source Amnesia

- Sometimes you cannot separate the original experience from what you added after the fact.
Flashbulb Memories

- Some events are so unusual, surprising, or even bizarre that they are easier to retrieve from memory than routine events.
Confabulation

• Confusion of an event that happened to someone else with one that happened to you, or a belief that you remember something when it never actually happened.
Errors by Eyewitnesses

- Suspect’s ethnicity differs from that of the witness.
Errors by Eyewitnesses

• Suggestive comments made during an interrogation or interview.
Errors by Eyewitnesses

- Misleading information from other sources.
Memory Demo: Review

- Visual imagery: many students try to remember the words by forming a visual image of a bedroom.
Explicit Memory

- **Explicit** = information or knowledge that can be consciously recollected.
- Ex. Remembering what you did last night or topics discussed in your last psychology class.
- What did you have for dinner two nights ago?
Retrieval Cue

• A clue, prompt, or hint that can help trigger recall of a stored memory.
• Help you retrieve your explicit memories.

• **Retrieval Cue Failures** refers to the inability to recall long-term memories because of inadequate or missing retrieval cues.
Recall (example of an explicit memory)

- The ability to retrieve information not in conscious awareness.
Examples of recall

- Examples: Fill in the blank, short answer, and essay.
Recognition

- Ability to identify previously learned items.
Retrieval Glitches

- **Tip-of-the Tongue Experience** = inability to get at a bit of information that you’re absolutely certain is stored in your memory.
- On average people have about one TOT experience per week.
- TOT is more common among older adults.
- 90% of TOT are resolved within the first few minutes.
Demonstration

• What are the names of the seven dwarfs?
Demostration

• Select which of the following are names of the seven dwarfs:
  Grouchy, Gabby, Fearful, Sleepy, Smiley, Jumpy, Hopeful, Shy, Droopy, Sniffy, Wishful, Puffy, Dumpy, Sneezy, Lazy, Pop, Grumpy, Bashful, Cheerful, Teach, Shorty, Niffy, Happy, Doc, Wheezy, Stubby, Dopey
Correct list:

- Sleepy, Dopey, Grumpy, Sneezy, Happy, Doc, Bashful
Demo on page 258

- Try the “pay attention!” do you recognize the real penny?
Implicit Memory

- Memory without awareness. Memories cannot be consciously recollected, but they still affect your behavior, knowledge, or performance of some task.
- Motor skills/actions.
- Ex. Riding a bike or feeding ourselves.
- Can not recall exactly when or how we learned the skill.
1. What is the difference between recognition and recall memory? Give an example of each.
Assessment questions

2. We are always aware of ___________memory whereas ___________memory may be incidentally learned.

A. implicit; explicit
B. explicit; implicit
If you look at the particular area of the whiteboard where a certain concept was written to help you remember the term, you are using.

- A. a retrieval cue
- B. implicit memory
- C. a mnemonic device
4.

- If Ms. Miller asks you to provide in writing a definition of flashbulb memory, she is asking you to answer a _____question.
  - A. implicit memory
  - B. recognition
  - C. recall
5.

- In your own words, explain the concept of “flashbulb memory”.
6.

- This refers to the inability to get at a bit of information that you’re absolutely certain is stored in your memory. This is known as....
7.

- The American Psychological Association would agree that hypnosis may be used successfully in all of the following circumstances except in:
  - A. People undergoing dental work
  - B. alleviating chronic pain
  - C. recovering memories from when you were two years old.
8.

- Eyewitness testimonies by victims are most likely to contain errors when the suspect:
  - A. is of a different gender than the victim
  - B. is significantly older than the victim
  - C. is significantly younger than the victim
  - D. is of a different ethnic background than the victim
9.

• Explain why children are highly susceptible to hypnosis.
Hypnosis

- A cooperative social interaction in which the hypnotic participant responds to suggestions made by the hypnotist.

- Perception, memory, thoughts, and behavior.
Myths and Facts

- Myths:
  - You can be hypnotized against your will.
  - When hypnotized you can’t open your eyes.
  - You cannot remember your name.

- Facts:
  - You will do anything
  - You go into a sleep state.
Myths and Facts

• Fact:
   Induction procedure is used.
   Hypnotists DOES NOT hypnotize the individual.
   Hypnotic trance is misleading and rarely used by researchers.
   People do not lose control of their behavior.
Myth and Facts

Fact:

- Willingness to accept distortions of logic or reality.
- Harvard and Stanford studies: completion of simple tasks, ex. Heavy object, post hypnotic suggestion ex. #5 no longer existed.
Myth and Facts

- Fact:
  - Detachment
  - Relaxation
  - Timelessness
  - Temp. blindness, deafness, and loss of sensation
Fact:

- 15% of adults are highly susceptible
- 10% of adults are not
- Children more responsive to hypnosis than are adults.
Myth and Facts

Fact:

- Used in Medical Settings:
  - Painful dental and medical procedures
  - Hypnosis as the only anesthesia.
Myth and Facts

• Fact:
  Post hypnotic suggestions only last temp.
  Studies: does not significantly enhance memory or improve the accuracy of memories.
Myth and Facts

• Facts:

Limits of hypnosis

☐ Will not perform acts that go against your values.

☐ Cannot make you physiological stronger

☐ Cannot produce long-term cognitive changes

☐ Hypnosis coupled w/ C.B.T. is effective
How we Remember

- All purpose demo
All purpose Demonstration

- Bed
- Clock
- Dream
- Night
- Night
- Artichoke
- Turn
- Doze
- Mattress
- Snooze
- Nod
- Tired
- Night
- Insomnia
- Rest
- Toss
- Yawn
- Alarm
- Nap
- Snore
- Pillow
- Night
Basics of Memory

• Primacy effect:
  Most people recall “bed” because this word is the first presented.
  First bit of info. To enter the memory system has an adv. b/c people rehearse the item.

*Serial-Position Effect
Basics of Memory

• Recency effect:
Nearly everyone remembers “pillow”, b/c this word is presented last. The most recent info. Is better recalled because the info. Is still fresh in the mind.

*Serial Position Effect
Serial Position Effect

• The Tendency for recall of the first and last items on a list. The tendency to forget the items in the middle of the list.
Basics of Memory

- Frequency:
The word “night” also enjoys a memorial adv. b/c it is presented three times. The more we rehearse material, the more likely is the material to enter our memory.
Basics of Memory

• Distinctiveness:
People generally have little trouble recalling “artichoke” because it is distinctly different from the other words, all of which involve sleep.
Basics of Memory

- Organization:
  Many people recall “toss” and “turn” consecutively. This illustrates that the mind imposes an organization on new material; it organizes small units, “toss” and “turn” by chunking them into one larger unit.
Basics of Memory

• Reconstructive:
  Many people “remember” hearing/seeing “sleep” although “sleep” is not included in the list of words. We tend to fill in gaps in our knowledge w/ words or ideas that ought to be there according to our schemas.
Basics of Memory

• Visual Imagery
Many people try to remember the words by forming a visual image of a bedroom. They can use their “mind’s eye” to look around the room, locating objects that were on the list.
How do we remember?

- **Maintenance Rehearsal** =
  Keep information longer in short term memory by consciously repeating the information.

- **Elaborative Rehearsal** =
  The ability to transfer information from short term to long term memory by consciously focusing on the meaning of the information. A.K.A Deep Processing
How do we remember?

- Mnemonic = a device for improving memory. This can be strategies and mental tricks for improving your memory.
- Examples: Treble clef staff (E, G, B, D, and F) *Every Good Boy Does Fine.*
- Popular sayings: “Fall Back, Spring Forward” (time change)
Long-Term Memory Four Types

1. Procedural Memories: Memories for performance of actions or skills. “knowing how”. Retrieval is automatic.

- Involves motor or Performance skills
2\textsuperscript{nd} type of L.M.

- **Declarative Memories**: memories of simple facts, rules, concepts, and events; this system includes **semantic** and **episodic** memories.

- “Knowing that” “Knowing what” Information that can be verbalized.
3rd type of L.M.

- **Semantic Memories**: memories of facts, general knowledge, and beliefs. Mental encyclopedia or storehouse of information we carry in our heads. Describe the *Twilight* series. How do you spell *encyclopedia*? Describe the typical look and behavior of a cat.
4th type of L.M.

- **Episodic Memories** a.k.a. autobiographical memory: Memories of personal experiences that constitute the story of your life. What did you have for dinner last night? First day at the Junior High. First school dance. Episodic memory is like a personal diary.
Why We Forget

Childhood-Adulthood
Forgetting

• Inability to recall information that was previously available.
Childhood Amnesia

• Inability to remember events and experiences that occurred during the first two or three years of life. Recall memories b/w 36-48 months of age.

• Why? Prefrontal cortex and other key brain structures are not developed yet.
Several Theories

• Replacement Theory = New info. Can wipe out old info.

• Decay Theory = Info. in memory eventually disappears if it is not accessed; it applies more to S.T than to L.T. Ex. Long division
Interference

- Retroactive Interference =

Newly acquired info interferes w/ retention of material learned earlier.

Recent learning interferes with recall of what we learned in the past

“New” causes problems for the “old”

Study sociology at 6 p.m.

Study psychology at 8 p.m.

Do poorly on the test in Sociology the next day
Interference

- **Proactive Interference**=
  Material learned earlier interferes with retention of newly acquired info.

  "old causes problems for the "new".

  Past learning interferes with recall of recently learned info.

  Ex. Spanish you learn in high school may interfere with the ability to remember new info. (French).

  Over time Proactive may cause more forgetting b/c we have stored up so much info that can potentially interfere with anything new.
Cue-dependent Forgetting

- Most common type
- Inability to retrieve info stored in memory b/c of insufficient cues for recall.
- Déjà’ vu (already seen) is the overlap b/w present and past cues. Inability to retrieve the explicit memory. Creates an eerie feeling of recognition.
State-Dependent Memory

- Tendency to remember something when the one is in the same physical or mental state as during the original learning or experience.
- Emotional arousal is high or low at the time of the event, you remember that event best when you are once again in the same emotional state.
Psychogenic Amnesia

- Partial or complete loss of memory (due to nonorganic causes) for threatening information or traumatic experiences.

- Cause:
  Embarrassment, guilt, desire to protect self-esteem, extreme emotional shock.

Ex. Rape or horrible car accident, etc.
Anterograde Amnesia

- The inability to transfer new concepts and experiences from short-term to long-term memory is severely impaired.
- Damage to the hippocampus and amygdala
- Difficulty laying down new episodic traces
- Different from Retrograde Amnesia: loss of memory of past events.
Clive

- encephalitis
- Combination of both retro and Anterograde
Exam

- 37 multiple choice
- 3 true/false
- 4 short answer
- Extra credit

100 points total