


Memory:
Studying and
Building Memories

Module 21
Information Processing

Memory is learning that
has persisted over time.

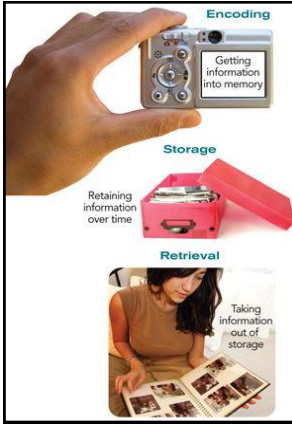
It is information that has been
stored and can be retrieved.



Memory is a constructive
process through which we

Thinking and memory are flexible and capable
of constant change...this can lead to errors.

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Information processing model focuses on how information is cognitively organized

The Study of Memory

- ☞ How does information get into memory?
- _____
- ☞ How is information maintained in memory?
- _____
- ☞ How is information pulled back out of memory?
- _____

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Encoding

- ☞ Encoding is the organizing _____
- This is the first step in the flow of memory
- ☞ Learners must encode information to store it.
- _____

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Remember Dual Processing?



☞ Some information gets into memory automatically, whereas encoding other information takes conscious effort.

- These include paying attention, processing deeply, elaborating, and using mental imagery.

☞ _____

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Attention



☞ Divided attention involves concentrating on more

- Divided attention (multi-tasking) during encoding hurts performance on memory tasks, especially during retrieval





Do students often divide their attention by multi-tasking?



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Another factor that influences memory is the degree to which we



The term "levels of processing" refers to a continuum from shallow to intermediate to deep, with deeper processing producing better memory.

It suggests that memory relies on how *deeply* we process information.



By adding meaning, developing organizations and associations, or relating it to things we already know, it can be stored for a lifetime.

Parallel Distributed Processing (PDP)



The brain performs multiple, parallel operations all at once, allowing memory is



Information Processing Model suggests that memory is very similar to a computer



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Limitations of the information processing model



☞ Memories are described as literal, "hard" data stored on a computer disk or hard drive.

- But human memories are often fuzzy and fragile.

☞ Also, computers process one piece of data at a time, while human memory can process a lot of information at the same time

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STORAGE:



Maintaining Information in Memory-
Three-Stage Memory Model

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Storage



Storage involves maintaining the information available in memory

- Whenever people have access to



It's a memory when...



Example- if you look up a phone number, go to the telephone, and dial the number then memory is involved- even if for only seconds.



There are 3 Separate Memory Stores



Sensory Memory performs the initial encoding of

The sensory memory recodes a complete memory of the image, but it fades too rapidly for people to "read"

Sensory Memory



Iconic Memory is a _____

- Capacity: 4 ± 2 bits of info

Echoic Memory is a momentary auditory memory _____

- Capacity: about 6 bits of info

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Working memory is where _____



Allows you to comprehend what you are reading

The working memory has many limitations



Short-term memory is a limited-capacity store that

Capacity:

- "The magic number" (George Miller)
- Humans have the ability to retain _____

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Why is it that...?



- Phone numbers are 7 digits?
- Social security numbers are 9 digits?
- Commercials use words in the phone numbers?

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People can group information in ways to expand their short-term memory capacity.



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How long can this information stay in STM?



- ☞ Memories disappear unless:
 - _____
 - They are really meaningful so they get stored quickly into long-term memory
- ☞ Rehearsal:
 - _____
 - _____

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Long Term Memory



☞ An unlimited capacity store that can hold information over length periods of time

- Capacity: _____
- Duration: _____

☞ Information can be stored in separate units and some information can be retrieved without retrieving others

- Tip of the tongue phenomenon (temporarily inaccessible)

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How Do We Get Information Out of Memory?



Retrieval
