HS 002: Introduction to Psychology

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Information processing model

- Atkinson and Shiffren (1977) proposed the Information processing model

1. Encoding stage: sensory events are coded and changed to a format that makes additional processing model.

2. Storage stage: the incoming information is assigned a location and it usually remains there until it is either needed lost together.

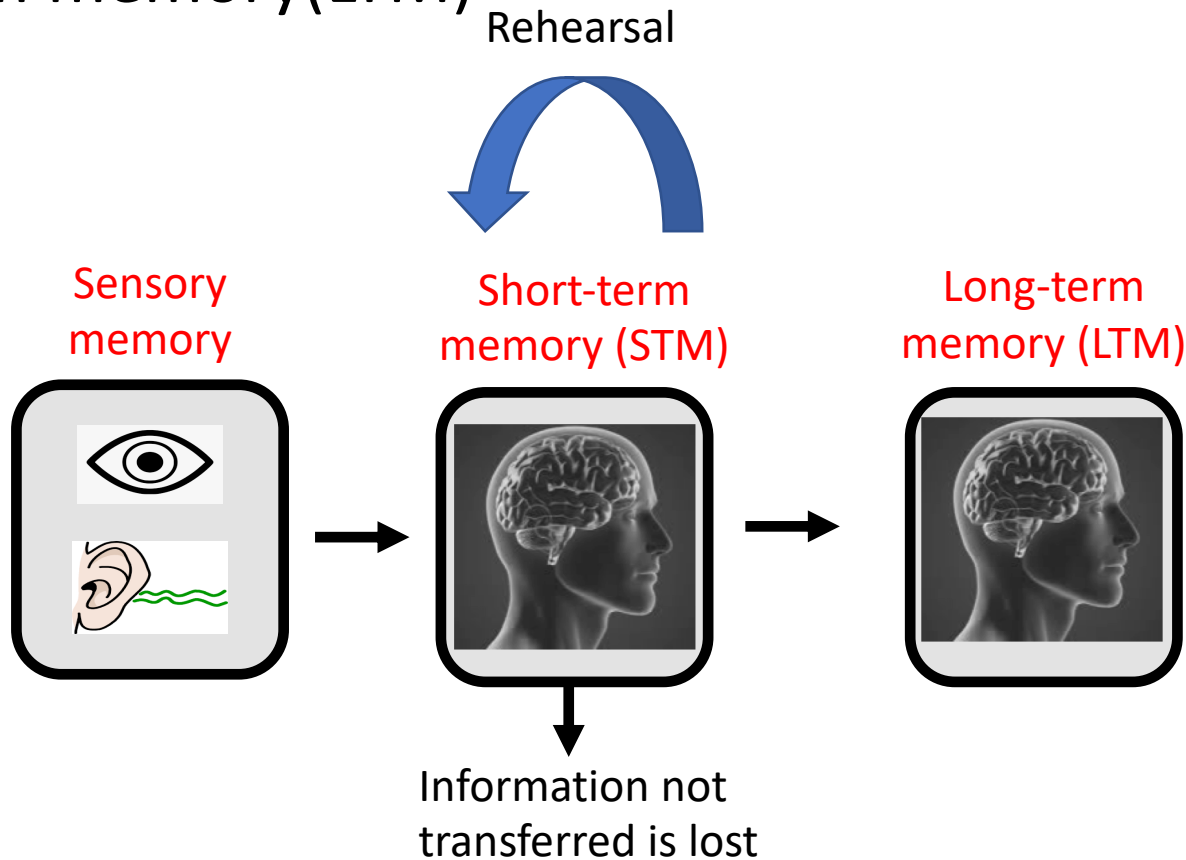3. Retrieval stage: In this stage previously stored material is reclaimed due to a present demand
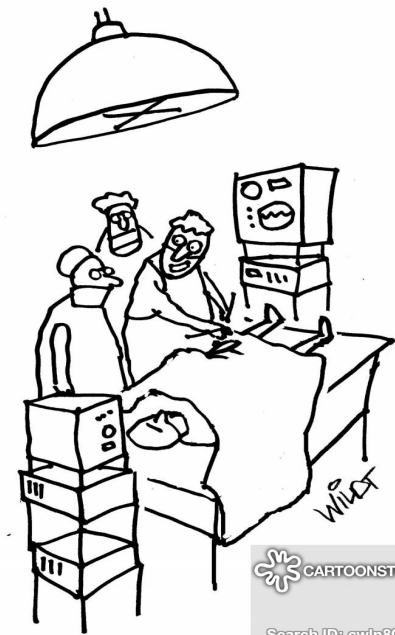
"'The hip bone's connected to the...' Once you start humming, it all comes back to you."
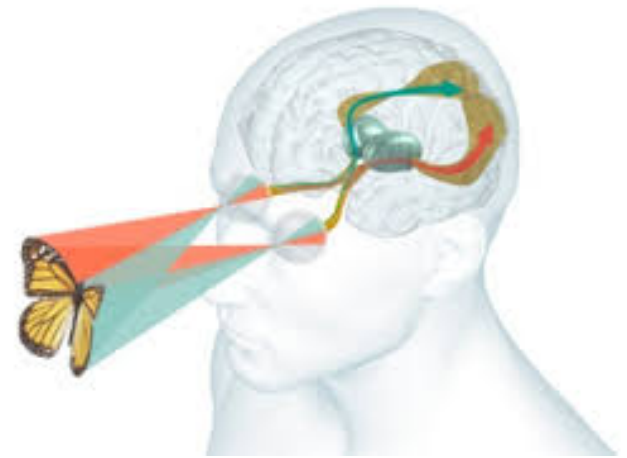
or

MindfulnessMavericks.co.uk

Types of Memory

- Sensory memory (iconic & echoic memory)

- Short-term memory (STM)

- Long-term memory(LTM)

Rehearsal

Sensory memory

Short-term memory (STM)

Long-term memory (LTM)

Information not transferred is lost

Atkinson-Shiffrin model of memory (1967)

Sensory Memory

1. ## Sensory register

   • Preliminary bin, time to review novel information and to select key items to consider more extensively.

2. ## <u>Iconic memory</u> (visual sensory register: < 1sec)

• George sperling designed a letter matrix (3R x 4C) which was flashed for 50-msec (4-5 items were recalled).

• Partial report technique (PRT), one of three distinctively different tones signals subject to recall one of the 3-rows. PRT helps in enhancing the recall of information.

B	C	L	N
F	J	V	K
G	A	S	M

3. ## <u>Echoic memory</u> (auditory sensory register: <4sec)

If attention is elsewhere, sounds and words can still be recalled within 3-4sec. A simple test is when a person is asked to remember a series of numbers someone else was reciting immediately after the sequence was stopped.

Short-term Memory (STM / Working memory)

1. **STM** is memory that holds information received from the sensory register for up to about 30seconds (when rehearsal or active maintenance is prevented)

2. **Rehearsal**: The process of rehearsal consists of keeping items of information in the center of attention, perhaps by repeating them silently or aloud. (e.g. following a road map, remembering a grocery list, etc.)

3. **Duration of STM**: Brown-Peterson paradigm (1958-59) rapid deterioration and loss of information housed in STM. Some information stored momentarily, perhaps not more than 20 sec.


Peterson & Peterson (1959)
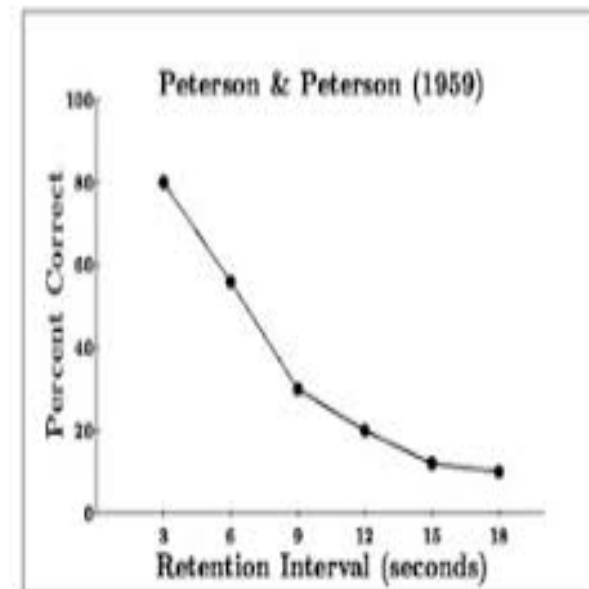
Short-term Memory (STM)

1. **<u>Capacity of STM:</u>** Capacity of STM depends upon how information is encoded. When items are discriminated on the basis of how they sound (acoustical encoding), about 7-items can be accommodated at once (for e.g. telephone numbers, etc). 7-tems acoustically and 3-items non-acoustically.

Chunk of information: is a discrete coherent unit compiled from a smaller bits of data that share common properties and relationships. (eg. Academic concepts of science, etc.) TVFBIJFKY…. [(i) TVF..BIJF…KY…; (ii) TV…FBI…FKY…]

2. **<u>Serial Position Phenomenon</u>**: List of 15-nouns shown to participants, noun presented for 1-sec with 2-sec interval

1. **<u>Primacy effect</u>**: better recall at the beginning of the list

2. **<u>Recency effect</u>**: better recall at the end of the list
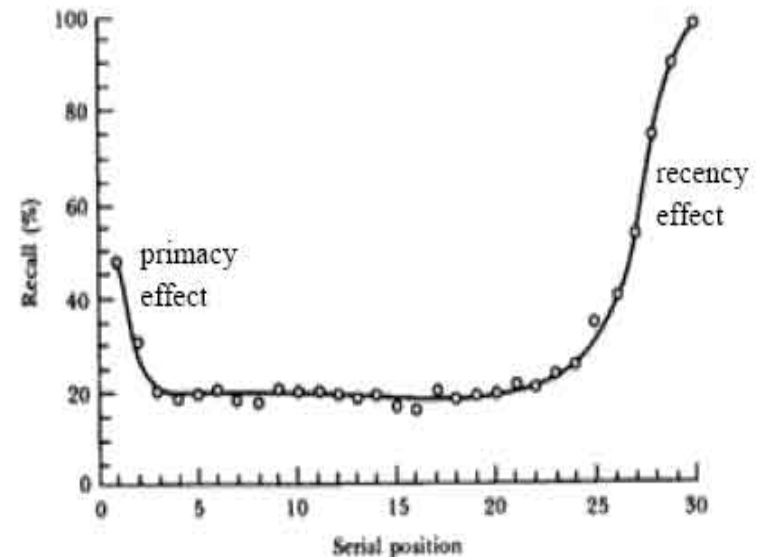
Serial position curve

Long-term memory (LTM)

LTM is the final stage of the multi-store model proposed by Atkinson-Shiffrin (1968). It has two important features:

1. Lasting nature of the stored information
2. Great size of the repository

Rehearsal

Sensory memory → Short-term memory (STM) → Long-term memory (LTM)

Information not transferred is lost
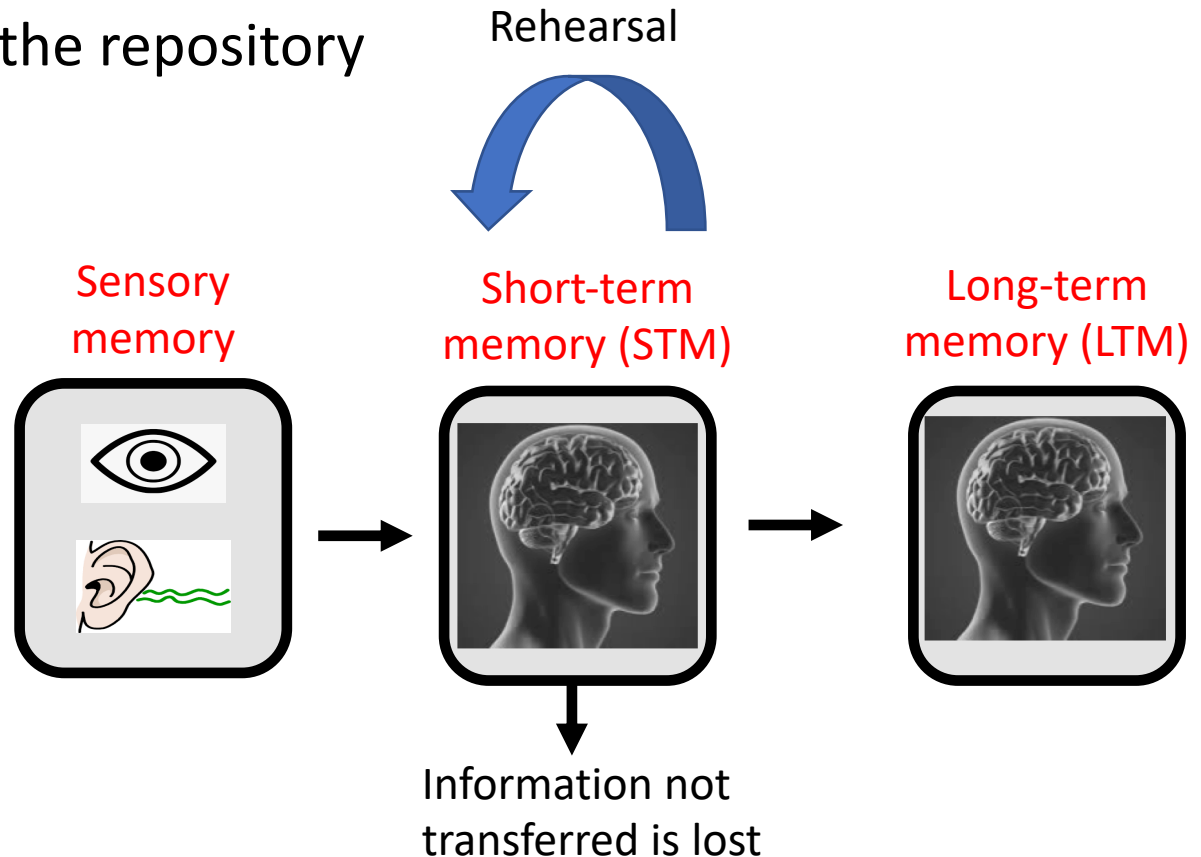
THANKS!

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