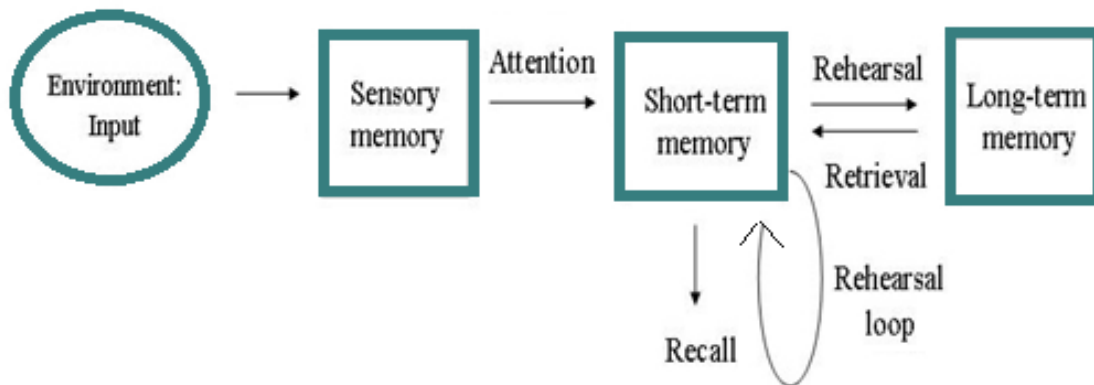


Multi-Store Model of Memory



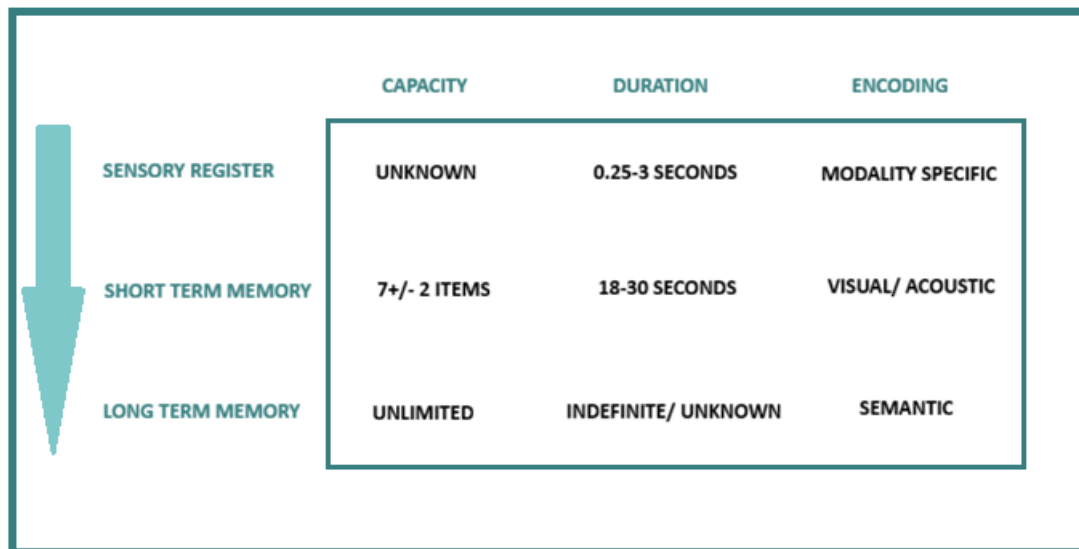
Atkinson & Shiffrin (1968) devised the Multi-Store Model of memory to try and explain how human memory works. They believed that there were three main components that processed and stored information –

- Sensory store/ register
- Short-term store
- Long-term store

Description

This was one of the first theories of memory and was later superseded by more complex explanations. Atkinson and Shiffrin (1968) believed that memory was a linear process, as information would first be processed by the individual modality of the senses for a very brief amount of time, before being pushed into short-term memory if attended to. If the information was rehearsed, it could be pushed into long-term memory. Failure to do so would result in the information being lost. They claimed that information could only get into long-term memory if it was passed through short-term memory first.

Research has highlighted two different types of rehearsal in memory; maintenance and elaborative. Maintenance is pure repetition, whereas elaborative is adding more meaning to the information, maybe by grouping it together or adding categories. However, maintenance rehearsal is effective in STM, but less so in LTM. Craik & Watkins (1973) found that elaborative rehearsal is needed for LTM. To use the information in LTM we need to bring it out of the long-term memory and back into STM. This process is called retrieval.



Evaluation

There is much laboratory research that supports the model (Peterson and Peterson, 1959; Glanzer and Cunitz, 1966; Miller, 1956). However, most of this research uses number sequences, letter trigrams, or lists of words. It can be argued that these types of stimulus material do not represent the typical use of real memory, so the findings are unrealistic and artificial. The experiments are also conducted in laboratory settings so lack ecological validity.

Strong evidence for the existence of the separate memory stores comes from the 'primacy-recency effect'. Glanzer and Cunitz (1966) tested the recall of a word list. Participants were required to learn a list of words and recall them in any order. It was found that more words at the beginning and end of the list were recalled than the middle. They explained that the words at the beginning of the list were rehearsed and, as they were stored, the longest were likely to have been transferred into long-term memory. The middle words were least recalled as we are too busy rehearsing the beginning words or they suffered interference from later words in the list. The last words in the lists were stored in short-term memory and recalled quickly, meaning they are stored more recently.

In addition, a central feature of the model is that rehearsal maintains short-term memories and facilitates the transfer to long-term memory. Bekerian and Baddeley (1980) found that, despite repeated attempts to broadcast newly-introduced radio wavelengths on more than 1,000 occasions, even devoted listeners could not recall them. It seems that rehearsal does not always lead to retention. Rehearsal can help memory, but there are more effective ways to remember, such as using imagery and creating meaningful links.

