KEY STUDY - Glanzer & Cunitz (1966) – investigation into the way the position of words can influence recall (the serial position effect)

The serial position effect, a term original coined by Hermann Ebbinghaus, refers to the finding that recall accuracy varies as a function of an item's position within a study list. When asked to recall a list of items in any order people tend to begin recall with the end of the list, recalling those items best. This is known as ***recency effect***. Among earlier list items, the first few items are recalled more frequently than the middle items; this is known as the ***primacy effect***.

The serial position effect has been used to support the idea that there are separate stores for STM and LTM, as proposed in the Multi-store Memory Model developed by Atkinson & Schiffrin (1968). In 1966 Glanzer & Cunitz were some of the first to study the primacy and recency in a controlled setting. Their research would add to the theory of MSM.

Aim

- Examine the whether the position of words influences recall (primacy & recency effects) and see if there are two separate stores of memory (STM & LTM)

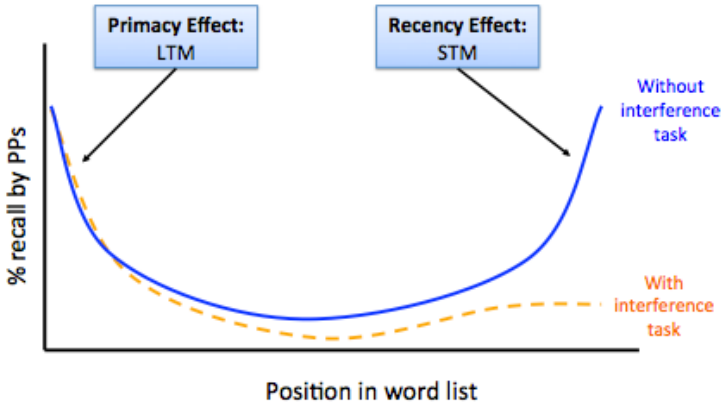
Procedures:

- 240 US Army enlisted males were presented lists of words one at a time. They were asked to recall the words and could do so in any order (free recall)
- **Independent variable**: Presence or absence of a 30 second "distraction task"
- **Dependent variable**: Number of words correctly recalled from different positions in the list (beginning, middle, end)
- Condition 1 - Half of the participants were asked to recall the words immediately after memorizing them (immediate recall)
- Condition 2 - The other half of the participants counted backwards for 30 seconds before recalling the words (recall after distraction)
- However, the participants were not **randomly allocated** to the conditions above

Results

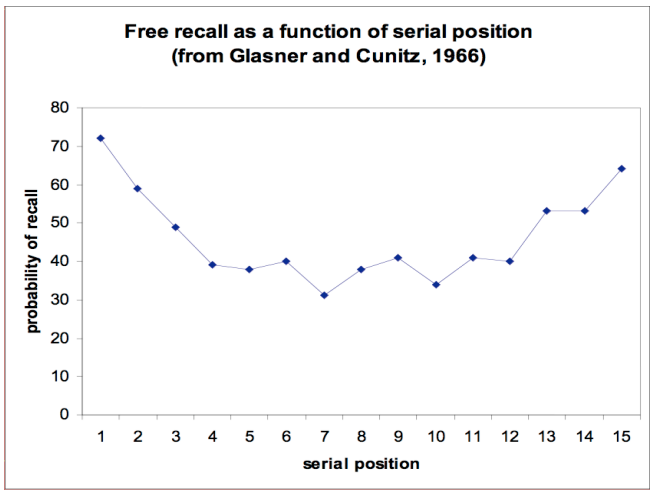
- Delaying recall by 30 seconds destroys the recency effect causing recall of later words to be similar to ones in the middle, however it does not influence primacy effect.
- Participants had a higher probability of recall on items that were near the start of the list (i.e. early serial position). This is called the **primacy effect.**
- Participants had a higher probability of recall on items that were near the end of the list (i.e. late serial position). This is called the **recency effect.**

Graph 1:



The graph demonstrates how delaying recall by 30 seconds with a 'distracting' task destroys the recency effect

Graph 2:



The graph above shows the results of the second condition in more detail.
These results were the basis for the term "serial position curve" (for obvious reasons)

Conclusions:

- When there are too many words for them all to be remembered, the primacy effect results in the first words being recalled and the recency effect results in the last words being recalled.
- According to Glazner & Cunitz the primacy effect occurs because words remembered from the beginning of the list have already been stored in LTM, while the words at the end of the list are still in STM and so are also easily recalled.
- The distracter task reduces recency effects as it interferes with STM.
- The graph of probability of recall against serial position is a U-shaped curve, became known as the "serial position curve."

Evaluation

- The experiment offers evidence for two separate stores of memory (STM and LTM) thus supporting the MSM model of memory
- High control but Low Ecological Validity – memorizing list of random words artificial
- This is a controlled laboratory study with highly controlled variables, but there is no random allocation of participants to experimental conditions so it is not a true experiment.

Application of Primacy and Recency Effects:

- Lawyers scheduling the appearance of witnesses for court testimony, and managers scheduling a list of speakers at a conference, take advantage of these effects when they put speakers they wish to emphasize at the very beginning or the very end of a long list of information.
- Teachers or those involved training employees may want to present the most important information in their lessons at the beginning or the end.
- Politicians may want to present the information they most want the public to know at the beginning or end of speeches.

Explaining the recency effect with the MSM

- *During the presentation of the list of words, people are trying to keep these words in their short term memory.*
- *Short term memory is limited in size to about 7 chunks of information.*
- *Therefore, as new words come into short-term memory, older words must be bumped out of short term memory.*
- *At the end of the task, the only words that are left in short term memory are the ones that have just been heard and therefore have not been bumped out.*
- *This explains why people have better recall of the more recent items.*

Explaining the primacy effect with the MSM

- *According to the multi-store model, the transfer of information from short term memory into long term memory depends on the amount of attention and rehearsal that the information receives.*
- *Suppose the first word in the list is "doctor". Short-term memory can give the word the full attention of the rehearsal mechanism.*
- *Suppose that the second word is "sandwich". Then short term memory must give half its attention to the first word and half its attention to the second word.*
- *When the third word is presented, short term memory will only be able to assign it one third of the attention available.*
- *Words experienced earlier in the list will have more rehearsal, and therefore will have a greater chance of making it to long term memory, and therefore will be more likely to be recalled*