
The Role Of Memory In Humans Life

Memory is an important aspect in a person's life. It makes an individual capable of learning and adapting from previous experiences (human-memory.net, 2019). One theory within the concept is that of retrieval failure. The theory explains an instance where individuals are unable to recover information stored in long-term memory. It explains that forgetting occurs due to the lack of correct or relevant cues to access stored information (Powell, 2014). The relevant study is Tulving and Pearlstone's Availability versus accessibility of information in memory for words (1966). Its aim was to investigate whether information would be more readily retrieved if the cues present when the information was encoded were also present when retrieval is required. The method was as following; Categorized lists consisting of category names, and categorized words were presented to participants once. Immediately after, two recall tests were given. Participants were asked to recall words. Three independent variables were manipulated: list length, word numbers or items per category, and conditions of recall. The study found that cued recall was higher than non-cued recall. It was concluded that cue-dependent forgetting explains the difference between the two conditions (Tulving and Pearlstone, 1966).

In the following investigation one independent variable was manipulated, being whether the participant received a cued recall test. Randomly selected participants were given a paper containing pairs of cues, correlating to the word on the screen. While the other group had a non-cued recall test. The dependent variable, the number of words memorised, was kept constant with the original investigation. This was measured through the number of words participants wrote onto the paper.

The research hypothesis that was generated believed that participants who received a cued recall test (condition 1) would be able to remember a larger number of words when compared to those who did not (condition 2). The generated null hypothesis, on the other hand, states that there will be no significant difference in the number of word remembered between participants who received a cued recall test and those who did not.

Research Design

Independent samples was used during the investigation. This strategy eradicates order effects, which may include practice, fatigue and boredom. Hence, being the most reasonable design to choose. Opportunity sampling was also used to carry out the investigation. This method of sampling is the easiest to be attained, and saves the investigators time and money.

Out of those who participated in the investigation, ten in condition 1 and 12 in condition 2, were males. There were 28 females in both conditions. There were 19 people who had English as their second language in both conditions. 14 cued and 12 non-cued participants wore glasses. Additionally, two cued and six non-cued participants should have worn glasses. The age range of participants were 14 – 16 in both conditions.

Method:

1. Consent forms were returned; included parent/guardian consent.

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2. Participants unknowingly allocated condition 1 or 2.
 3. Instructions were read (made clear that were able to discontinue participation throughout experiment).
 4. Participants in condition 1 were given a piece of paper with cues, those in condition 2 were given a blank sheet.
 5. 24 words were projected on board. Each word appeared for 2 seconds, with its allocated cue in the top corner.
 6. Participants were asked to write words they could remember on the sheet of paper in 2 minutes.
 7. After the time limit ended the papers were collected.
 8. A debrief was given to participants to inform them of the experiment's aim.
 9. The demographic details of the sample are recorded by the participants.

Materials:

- Consent form (eradicate deception)
- Standardised instructions
- Writing utensils
- Cued recall test
- Blank paper
- Projector showing words (each word shown for 2 seconds)
- A timer

Results:

Mean and standard deviation were used to analyse the data as this was used in the original investigation.

The calculations in central tendency showed that condition 1 (given cues) had a higher rate of word recall than condition 2 (without cues). This is shown through the difference in mean, 2.82 (condition 1 was higher). The calculations of standard deviation showed that condition 1 was higher than condition 2, the difference being 0.6 (condition 1 was higher). This shows that condition 1 had a more broad set of data than condition 2, although, this may have been affected by outliers. Hence it is evident that the research hypothesis is supported. For the data collected for central tendency showed that those who were given prompts had a higher memory recall than those who were not given prompts.

Discussion:

The hypothesis stated that participants who were given cues to assist in memory recall would be able to recall more words than those who did not.

The results supported this with the mean (difference of 2.82), in condition 1 was higher than condition 2. Hence, supporting the overall retrieval failure theory, as the results showed that those who acquired the same environmental cues, of when the words were shown, were able to recall a higher number.

Due to the fact that there were inconsistencies between the two conditions in relation to the

participants who wore glasses and those who should have worn glasses, it can be concluded that the data is significant however, factors that may have influenced the data cannot be accounted for.

In reference to the original study it was found that those who were given cues in order to facilitate their word memorisation were able to recollect and produce the words in a more accurate manner when compared to those who were not given the same cues. Hence, the results of the original investigation fully support and validate the hypothesis as well as the results that were found.

The design, independent samples, was used to carry out the following investigation. Although this design is in need of more people who are willing to participate in the study, this strategy eradicates order effects, which may include practice, fatigue, and boredom when by the time that the participants were faced with the second condition. Hence, being the most reasonable design to choose.

Opportunity sampling was also used to carry out the investigation. Although this may result in bias of data, as well as difficulty in acquiring generalised conclusions. This method of sampling is the easiest to be attained, and saves the investigators time and money, which was needed throughout this investigation.

A matched pairs design could have been used during the investigation as this required fewer participants, allowing more trials to have been done to make the data more reliable. This design structure could also lower the risk of demand characteristics as the aim of the investigation may become more difficult to recognise. Thus, this may lower the chance of participants possibly intentionally altering the results of the study. However, this design is time consuming and difficult and participants may become exhausted or bored during the study.

Counterbalancing was not used, however much like the matched pairs design, could have lowered the risk of demand characteristics, as well as a wider set of data to create a more standardized mean. However, this may lead to fatigue and/or boredom whilst completing the investigation.

The directions that were given to the participants were clear and understandable, however more time could have been given to those partaking in the investigation as the stress of a time limit may of also affected the intake of information among individuals.

The dependent variable was well operationalised and could be measured in an unsophisticated and straight forward manner.

As a result from the study it can be concluded that individuals who are given cues when memorising a group of words have a higher word recall than those who were not given cues.

References:

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