Experiment 2: Levels of Processing and Encoding Information

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Abstract

This experiment compares four conditions of mnemonic strategies. Participants were shown a selection of words and asked four different types of questions pertaining to Phonemic, Self-Referent, Semantic, and Structural devices. They were asked to recall as many of the words that they could. Our hypothesis was supported by the data of the Self-Referent strategy having the most recalled words.

Introduction

The purpose of this study is to conduct a psychology experiment that compares four conditions. In this study, four mnemonic processors are used to determine which is most efficient in remembering more words. Using different levels of processing, we predict that the participants will recall more when it comes to responding to self-referent processing. A probable explanation would be that people tend to remember more descriptives when they are able to reflect it back upon themselves (Zhang et al., 2020). From the shallowest effect (structural), to the deepest (self-referent), participants will able to show which technique allow them to fully encapsulate the outlook on themselves through the encoding words shown. When it comes to psychological studies, researchers rely on the self-referent effect to further enhance their studies by showing the participants' full cognitive encoding (Bentley et al., 2017). The self-referent category, or deepest effect, ultimately had the highest number of words recalled. This shows that encoding words are more effective when people can reflect the descriptor back onto themself.

Method

Participants

In this experiment, 113 psychology students from UCF in PSY3213C with Dr. Matthew Chin were selected to perform a task to determine the most efficient level of processing.

Procedures

The students were then presented with a series of questions in which they would respond 'yes' or 'no' to using the letters "d" and "k" on the keyboard respectively. Four question types were presented based on the four levels of processing. The first type of question, semantic, asked participants if the word they saw meant the same thing as the original word. The second type,

structural, asked if the word was in capital letters. The third type, phonemic, asked if the word shown sounded the same as the original word. The fourth type, self-referent, asked if the word shown described the participant. At the end of the questionnaire, the participants were asked to type out as many of the words presented to them as they could recall. The number of words that participants recalled from each question category (structural, phonemic, semantic, and self-referent) was recorded.

Results

The results of the experiment support the original hypothesis that there would be greater recall when it came to self-referencing words. These results also concur with previous research done on the topic by Bentley et al. (2017), suggesting that linking words and information to whether they describe a participant or not is one of the best ways to remember and recall the words. The results show that Structural processing ($M = 0.15$, $SD = 0.41$) showed to be the least effective in terms of recall. Next was Phonemic processing ($M = 0.88$, $SD = 0.82$) which was the second least effective. Semantic processing ($M = 1.75$, $SD = 1.30$) was second best when it came to recall. Lastly, Self-Referent processing ($M = 2.30$, $SD = 1.52$) showed to be the most effective form of processing when participants were asked to recall the words.

Discussion

The results show that self-referent mnemonics had the highest mean and standard deviation when being used to recall. This supports our hypothesis of the participants being able to recall more when it comes to responding to self-referencing, when using different levels of processing. The data also shows that using semantic mnemonics comes in a close second place to being useful with recalling information. This also aligns with the results in a previous study,

done by Bentley et al. (2017), where self-reference was found to have a higher significance among the mnemonics devices for recall.

There are some potential problems with the methodology regarding the selection of words used, the amount of time the word is shown, and the amount of vocabulary known by the participants. If people are unfamiliar or have never seen the word before and didn't have enough time to process the word shown, this could have a major effect on the words they are able to recall and which mnemonic strategy it pertains to. Further research can be done on this topic with a more broad selection of words, not ones just pertaining to personality traits. A broader selection of participants can be used as well, that includes people of all ages and different backgrounds.

Overall, the results support the hypothesis that self-referencing mnemonics have a more accurate recall when compared to other mnemonics such as phonemic, semantic, and structural.

References

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