

The self-reference effect

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Abstract

The Self Reference effect is claimed to be the most effective method in information retrieval. The study cited in this paper explores 3 different encoding strategies and are compared with each other. Students from the University of California San Diego (N=185) completed an online survey that consisted of answering 3 yes/no questions to 3 lists of words, 16 words were associated with each question presented, and a total of 48 words were presented in the study. The students recalled more in the self reference condition with its average being the highest than the other two conditions. Thus, showing that the self reference effect is in fact the most effective encoding strategy for information recall.

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The self reference effect is the process in which a person uses themselves to be able to retain information easier. The self reference effect is used on a daily basis. It is shown that those people who encode any type of information that they encounter by relating it to themselves show an increase in information recall than in any other recall method. (Rogers and Kuiper 1977).

Additionally, Rogers and Kuiper(1977) also explain this effect. In this experiment they placed subjects in that out of the 4 different encoding strategies stated: semantic,phonemic,structural, and self reference. The participants in this study were given 40 adjectives, followed by answering yes or no questions. Participants were then asked to recall the words that they had remembered during the second half of the study. They found that the most efficient method for retaining information is the self reference method. This is similar to this study, in which participants are also asked to recall how many words they successfully remember at the end of the whole study.

Gutchess & Serbun (2011) also explain this effect. They explain that the self referencing effect is used on a daily basis, with tasks as simple as going shopping for clothing, and deciding on whether or not to buy the clothing item.They also explain that it is in fact shown that once information has been processed on the self reference level, it is much easier to recall that information. The participants in this study were presented with pictures of animals, and were asked 3 different questions that were related to them and had to answer either yes or no.

Wilder & Anderton(1981) look into the different coding strategies and conduct an experiment on the retrieval of readings on college students that were specifically enrolled in a reading comprehension course. They gave the students different reading skills and found that there was a significant difference between the tests that were given immediately than the tests given after some time had passed for the students in the reading classes. There was no difference between both conditions in students that were not in the reading comprehension class.

Moscovitch and Craik(1976) also similarly viewed at the different levels of reference that could potentially recall words better. They found that recalling words was higher from the specific categories rather than in general, to which they call these terms as cued and free recall. It shows how trying to recall a word and relating it to a specific concept is a more effective way of remembering words rather than relating it to something more broad.

This study was conducted with college students to test whether or not the self reference effect does in fact create an easier way of remembering certain types of information. During the study, the participants had to answer yes or no questions after they were exposed to the words. Those questions were made to make the participants think of the word in 3 different ways, if the word related to themselves, related to someone, or the amount of syllables that the word had. They were not asked to remember them. This study was meant to show that the participants would spontaneously recall more words at the end of the study with the question that they had of if the word was related to them, the self reference effect question, than the other reference or phonological (the amount of syllables the word had) question.

Method

Participants

The sample of 185 students consisted of students aged 18 through 22 ($M=19.3$, $SD=1.10$) that attend the University of California, San Diego. These students were recruited from an undergraduate research methods course at UC San Diego's Psychology Department, an undergraduate research methods course. Students were voluntarily recruited. In this sample, there were 143 women, 37 men, and 5 Non-binary people. 137 sample are Native English Speakers, 176 participants are fluent in English.

Design

The independent variable is each of the 3 conditions that the participants were exposed to, and was operationalized by the 3 lists that the participants were exposed to, in which each set of questions were listed differently. The independent variable was manipulated within 3 different subjects, but all had the same goal. All 185 participants were part of all 3 groups. The dependent variable was the amount of words recalled, which was tested by the number of words from each category that were successfully recalled after the study.

Materials

The participants did not know in which category they were placed, nor knew that there were such categories. The task was made so that the answers , yes or no, to the questions would be balanced (half yes, half no).. Each of the 3 lists had a mix of 16 different words, 8 of the

words in each category had more than 2 syllables, and the other 8 had fewer syllables.

Additionally, 8 words were positive, and 8 were negative. All of the words that were displayed in the lists were at random order.

Procedure

This experiment, an online study, consisted of 3 practice trials. Every participant in each category was introduced to a list of 16 words in each pairing at a random order. The participants were followed to answer 3 yes/no questions that were based on Phonological, Self Reference, or Other Reference. Those questions were “Does this word have more than two syllables?” (Phonological), “Does this word describe Albert Einstein?” (Other Reference), “Does this word describe you?” (Self Reference). Participants were randomly assigned to a set list of questions, there were 3 sections, all which included the same questions in but different order. Participants in the first pairing set were presented with 3 sets of questions, in the order of Self-Reference, Other-Reference, and Phonological. The second set of pairings’ questions were presented as Other reference, Phonological, and Self-Reference. Lastly, the third pairings questions were presented as Phonological, Self Reference, and Other-Reference. The participants were not aware that they were presented with the question and word pairings in this order. Participants were then asked to complete a distractor test, which was to answer 20 mathematical problems, and was followed by a “free recall”, in which the participants did not know that they would be asked to, and were required to list all of the words that they remembered in 2 minutes. These scores were then reported and lastly had to complete a series of demographic questions. The questions were about the participants’ age, gender, and whether they spoke English fluently and if it was their native language.

Results

The purpose of these tests are to find any difference in each of the 3 levels of processing. According to the data, participants recalled more words in the self-reflection condition ($M=3.7, SD=2.0$), than in the phonological conditions ($M=1.2, SD=1.3$). Participants also did better at recalling more words in the self reflection condition than the other reference condition ($M=2.2, SD=2.02$). A ONE WAY Repeated Measures ANOVA test was conducted to measure the difference between the levels of processing, ($F(2,368)=125, p<.001$). A Post Hoc Test was also conducted to test the differences of each specific condition. It was found that the difference between the phonological and the self reference conditions is statistically significant ($t(184)=-14.3, p<.001$).

Discussion

The results show that self reflection is the most effective recall method. The participants recalled more words in the Self reflection condition than the phonological condition and the reference condition. measured in this study.

Our findings tell us that when you are trying to remember any sort of information, it will be most useful to connect that information to yourself, whereas if you relate the information to another person or just by remembering how many syllables it has will not be as helpful. Our findings tell us that the self reference effect is the most useful form of identifying and remembering information previously seen. If a person wants to remember more information

about a topic in a class, they should try to relate that information to themselves to ensure recall during an exam.

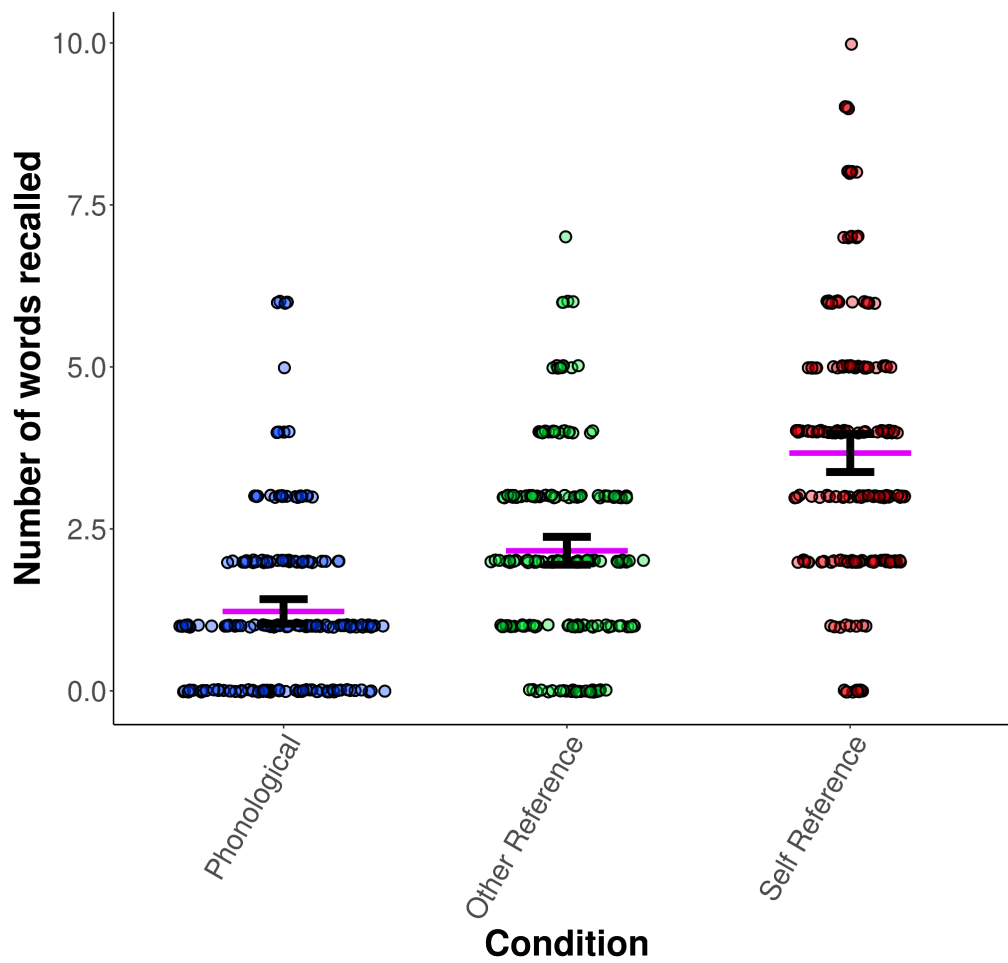
One possible limitation is that some participants have a better memory than others. This may have altered the results given in each of the 3 conditions, making the results vary in the recall of the words. Another confounding variable is that some of the words are more likely to be recalled than others. Which, again, may have altered the results in which the recall was successful for each condition. Another confound is that the study might interfere with the recency effect; words might be easier to recall in either the beginning or the end of the list. Since these confounds may interfere with the data, it is difficult to generalize the results because of those confounds. Additionally, since it is only a sample of the students of the University of California San Diego, it limits the ability to generalize the results because not everyone has the same memory capacity.

Fourth Paragraph: Future Directions

What should be done in a future study is to ask the participants if they tend to forget simple things easily or not. For example, after the whole study is conducted, the participants should answer an additional question regarding their memory capacity. This would make sure that the researchers are accounting for the participants memory and their successful recall, and may answer questions to any possible implications in the study.

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Figure 1*Words recalled after each condition*

Note: Error bars indicate the 95% confidence interval of Mean.