The effects of memory improvement by saying words aloud

Experience, Memories

This experiment proposes to study the effects of memory improvement by reciting and saying the words out loud to oneself. Participants will be assigned to either two different types of conditions and will then be required to recall the information of words as best as they can. It is assumed that a higher level of generating the targeted words into memory is improved when readers say the words out loud to themselves. Thus, the hypothesis concluded is that people who say words out loud after reading them are expected to improve their memory in retaining information.

The Effects of Memory Improvement by Saying Words Aloud Whenever a person thinks, sees or hear words that are needed later on for remembrance, most of us would automatically try to retain the information by methods of imagery, recitation and elaboration to bring it more meaning in their understanding of the definition of those words. Words and languages are interrelatedly connected and associated with memory. Historically, memory is a complex system which began in primitive organisms that stores an assorted array of fragments that grows more indispensable as we advance through the years.

In terms of retaining memory, humans have extraordinary abilities to accumulate a huge amount of knowledge, but they do not always be able to retrieve or gain access to the parts that have since long been forgotten. Since words serve as a medium to communicate and interact with other people, it is a natural part of daily life that people will say certain words out loud in order to effectively convey particular messages or to recall specific information. According to Macleod et al. 2010), saying a word out loud or at

least mouthing it, improves memory function by increasing its distinctiveness, i. e. making it unusual compared to others. The fact that producing a word aloud, which is relative to simply reading a word silently, improves explicit memory (Hourihan & MacLeod, 2010). The past studies done on the effects of mouthing or vocalizing words to an extent of memory recall often yield consistently similar results in which those who have recited the information out loud were being reinforced to maintain that information for a longer term.

Physically moving or acting out the words by means of vocalization would involve certain electrical muscle movement so that information sent to the brain are known to increase mental response, thus it has its relativity on the ‘ generation effect’. This generation effect refers to an enhanced memory encoding by which a participant has better memory improvement by being involved in its creation or by acting it out. By vocalizing “ out loud”, recitation in past research by Foley et al. (1983) as cited in Dodson & Schacter (2001) had participants to hear and say words out loud.

Reciting words out loud would naturally be one of the most effective method for review because it employs more of the senses than any other review technique (imagery, auditory). For instance, in Schacter et al. ’s (1999) study, when students were reviewing notes or tests immediately after class by means of vocal recitation, they yielded higher scores in memory improvement because not only will they be consolidating the new information, but also it strengthens the neural traces made to the brain. It ‘ provides a basis for employing a distinctiveness heuristic during the test.

(Dodson & Schacter, 2001). Reciting words out loud to understand the message conveyed by a sentence or paragraph would only then have a higher chance of that information moving on into the long-term memory, as most verbal information goes first in the short-term memory. When information is rehearsed aloud, part of it goes into our long-term memory. The most recent research done by Hourihan & MacLeod (2010) found that reading words aloud during study explicitly improves memory compared to reading a word silently and this is called ‘ the production effect’.

The researches hold that the production effect is that by saying words aloud would make them distinctive and better recognized than words which are read silently, which will be easier to forget. This distinctiveness is not available for the words read silently (Hourihan & MacLeod, 2010). The production effect has its basis on the generation effect whereby reciting words out loud produce a certain distinctiveness as done by a series of experiments by Macleod et al. , (2008).

Moreover, a study done by Strain, Patterson & Seidenberg, (1995) as cited in McKay et al. (2008) found that words containing high imageability (e. g. house, chair, elephant) are proposed to have stronger representations in semantic memory. However, past researches found contrasting results compared to Hourihan & MacLeod’s. Research done by Maisto et al. (1977) as cited in Mohindra & Wilding (1980) in a free recall tests found that saying each word out loud three times had impaired their memory performance when subjected to expected recall.

This study is further supported by Folkard & Monk (1979) as cited in Mohindra & Wilding (1980) where they suggested that articulating words impaired free recall. In view of these findings which yielded contrasting or relatively different results in relation to vocalizing words out loud, it can be explained that participants were using a strategic reading process when reading the words aloud, since it does not normally involve the conscious recall of information (MacLeod & Masson, 2000) as cited in McKay et al. 2008). There is also a claim that a potential issue in difference of these researchers' results could be in the time criterion whereby participants shift the influence of certain words to a different semantic pathway (Strain et al. , 1995, as cited in McKay et al. , 2008). However, recent research done by Reynolds & Besner (2008) suggests that contrary to the view that by vocalizing words out loud is entirely an automatic memory encoding, it in fact requires some form of attention.

Previous research was investigated further where participants were exposed to reading lexicon and pseudo homophones aloud that required the use of central attention. In research done by Blais & Besner (2007), repetition of words of lexical representations suggests longer persistence in the early memory processing, as cited by Reynolds & Malley (2008). It was discussed earlier that possibly the mere action of vocalizing words for memory recall will encourage memory improvement at a higher level, thus making a person to be able to better retrieve previous information if need be (Macleod et al. 2010). In another study, Kappel, Harfard, Burns & Anderson, (1973) gave another possible explanation on the advantage of reading words out loud, indicating that serial voiced recall were found to be superior for the later

positions, and these results replicates previous experiments done by Murray (1966) and Conrad & Hull (1968). However, Kappel et al. , (1973) proposed that the results reported suggest that differences in participants' level of processing information to memory between saying out loud and reading silently.

Similar to the researches done by Macleod and Hourihan (2010), our proposed study focuses in determining whether reading and saying words out loud would have an effect on people's memory improvement and recall when acquiring new information. The hypothesis of our proposed experiment is that adults, who vocalize new information aloud is expected to have higher memory improvement and better recall of information, thus have the highest number of correct answers in the test as indication of their reading the story out loud during the experiment.

Based on past researches, I am taking the side with the assumption that saying words aloud can aid in memory improvement to gather information during other reviewing or learning new knowledge, as such an act would require a certain amount of cognitive effort, thus enabling adults to improve their memory technique on learning tasks at hand. Methods Participants As many as 200 participants from schools and offices will be recruited in this study. All participants will include both English speaking males and females and should be between the ages of 18 to 30 years old.

All participants will be divided into two categories, each receiving a story in the English language of an average English proficiency level. It should be estimated that the total number of males and females selected are

approximately equal in number. The participants will not engage in any other experiments beforehand. Design In this experiment, we will be using a 1 (memory improvement or performance) x 2 (participants recite the story out loud or does not recite the story out loud) independent design. The first independent variable (IV) is the participants' memory improvement and their ability to remember certain information in the story.

For this proposed experiment, the operational definition of reciting the story out loud is where a participant vocally recites aloud a story as they read and comprehend the story at the same time. The dependent variable (DV) is the vocal recitation of the story either the participants read it out loud, or to just read the story silently. Materials The materials to be used in this experiment include administrative letters sent out to the participants informing them of the research and what is expected of them.

Procedural materials include the sheets of paper containing the story, test papers with 30 fill-in-the-blank questions, experimenters' scripts and a stopwatch to keep track of time. The sheets of paper which contains the story to be later recalled by the participants will be a short story that is in English and contains approximately 1000 words. It is entirely fictional and unique, therefore it is not in any way affiliated to share any resemblance or similarities to stories the participants would have known in the past i. e. fairytales or well-knownchildhoodstories.

Thus, we expect the participants to be reading and learning about new information based on the fictional story given. This is done so as to reduce any extraneous variables that may interfere with the results of the

experiment. The test papers consist of 30 fill-in-the-blank questions that require the participants to answer by recalling information based on the story provided. This format is chosen to avoid any possibility that participants may get the correct answer by chance of lucky guesses. The experimenters' scripts will contain the standard instructions for the experimenters to read out to the participants when conducting the experiment.

Procedure Participants will be randomly assigned to 1 of 2 rooms. In each of the rooms, it is expected to have approximately similar ratio of male and female participants so as to avoid gender directed outcomes and to maintain neutrality. Participants will be led into the room by the experimenter and be asked to take a seat. They will then be briefed on the experiment and will be required to sign two consent forms, one of which is to be kept for themselves and the other, for the research copy of the experimenter.

In Room 1, each participant will be provided with a sheet of paper containing the fictional story to be read out loud by the participants. The following instructions will be read out to them: " You are required to read the fictional story provided out loud. You are highly encouraged to vocalize your words aloud at your own pace. " In Room 2, each participant will be provided with a sheet of paper containing the fictional story. The instructions read will be as follows: " You are required to read the fictional story given silently. You are not allowed to vocalize your words by reading the story out loud.

You will read the story silently at your own pace. " The experiment will take 25 minutes for the participants to take time to read the story. After they read

the story, each participant will be given a surprise fill-in-the-blanks test. The test consists of 30 questions relating to the fictional short story that they had to read earlier. Participants will be given 20 minutes to answer the set of questions. Their answer sheets will then be collected and the participants will be thanked for participating in the research. Statistical Analysis

This experiment will use an independent t-test to calculate the results of the experiment. This test will be used because this study has only 1 IV with 2 levels (1x2) and uses between-subjects design, in which the participants will experience different levels of the IV.

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