Experiment 3: Recall on Watching a Video Versus Passage Reading

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Abstract

This study investigates video versus written passages for information recall in an experiment involving 24 randomly assigned participants to either watch a video or read a passage depicting a fictional character's life. Results showed a non-significant difference in recall, challenging the hypothesis of video superiority. Methodological confounds suggest the need for future controlled lab experiments for more accurate conclusions.

Intro

The purpose of this study is to conduct a psychological experiment that compares 2 types of media: a video and a written passage, and assess which is more effective with information recall. The participant was shown one of two types of media, telling the same story about a woman, her job, and her hobbies. Then, they were asked to recall certain information about the woman in the form of a multiple-choice test. The test scores from the participants were then separated into two groups: those who watched the video and those who read the passage, and were compared. Between watching a video and reading a passage, we predict that if a video is presented, it will be more effective when recalling information than only being presented with a text passage. One study explored the "picture superiority effect," a phenomenon that proposes pictures are more likely to be remembered than words, and had consistently supportive results for semantically-paired and picture items over words (Baadte & Meinhardt, 2019). Similar findings were discovered in other studies conducted by Beentjes et al. (1993), where viewers' retention was superior to that of readers, after taking a delayed test as opposed to an immediate test. Crawshaw et al. (2020) found that one explanation for this could be that people have a lesser degree of control over the pace of the visual (video) presentation in contrast to book reading, which can activate different cognitive methods for processing the information shown, possibly at different levels of meaning. A study that tested participants understanding different text and picture tasks had similar findings that correlated with spatial information being key in providing readers with a mental scaffold that allows better informational processing (Eitel et al., 2013). Similar conclusions were found in another study conducted by Tlauka et al. (2005) where they discovered there was stronger right hemisphere (attention & memory) than left hemisphere activation in those who originally learned map information visuospatial (viewing it) compared to

those who learned map information verbally (reading about it). This information shows that viewing information leaves a much more powerful impact on memory. From a study that tested if participants recalled more with related pictures or words to a topic, there were no significant findings because the participants performed about the same. However, the researchers, Cole et al. (2020), include that future experiments could benefit from more detailed images (such as ours intends to do) to help participants recall correct concepts. As college students, we are naturally driven to find the most effective way to study for our next exam. Inspired by this curiosity and the previous six articles, we wanted to gain a better understanding of which kind of media that could stimulate the most amount of information recalled.

Method

Participants

In this experiment, 24 psychology students from a college class were randomly assigned into two conditions of twelve people each to determine the most efficient method of recalling information about a fictional character in a story.

Procedure

In this experiment, the independent variable was the type of media presented: video or passage. In the first condition, twelve participants were presented with a video that showed visual cues about a character's personal life and occupation. The video displayed a cartoon drawn to portray a fictional character that was employed at a certain job and conducted day-to-day tasks. To combat going back to the video and rewatching it, participants were asked

to watch the entire video only once and then proceed to the next section. The twelve individuals were then asked 16 multiple-choice questions about the fictional character's job and personal life. Additionally, there were five buffer questions and one manipulation check question to eliminate those who had a lack of immersion in the study or those who had gotten distracted. The manipulation check asked "What media were you presented?" In the second condition of twelve participants, they were tasked to read a short passage that contained the same information portrayed in the video, but in text form. Participants were asked to read the entire passage only once and proceed to the next section. The second condition repeated the same steps as condition one, where a separate group of twelve participants completed the same 16 questions about the character, five buffer questions, and the same manipulation check used for the first condition. After participants in both conditions completed all 22 multiple-choice questions in a Google Form, the number of correct responses recalled was recorded and analyzed through SPSS. The dependent variable in our study was the number of correct responses recalled after completing the passage quiz or the video quiz.

Results

After receiving responses from the 24 psychology students, 12 from the video group and 12 from the text passage group, the data collected was analyzed through SPSS via an independent sample t-test. All participants answered the buffer and manipulation questions correctly except for one participant who failed the manipulation check question. The results indicated that those who read the passage ($M = 20.83$, $SD = 1.11$) scored a higher number of correct answers than those who watched the video ($M = 19.83$, $SD = 2.52$). However, the results were not statistically significant ($t(22) = -1.26$, $p > .05$). Therefore, these results do not support our research hypothesis, and fail to reject the null hypothesis.

Discussion

Once the experiment was completed and the data analyzed, it was found that the original research hypothesis was not supported by the results. While there was differentiation in the data collected between the two treatment conditions, the results were found to be insignificant. The data gathered found that those who read the passage responded more accurately on the following questions regarding the passage.

Although the data shown was contained in an experimental condition, there were a few found issues. A potential confound that could account for this is the lack of official supervision during the experiment. Google Forms was used to administer the experiment, the link to which was sent to participants via email. While participants were strictly instructed to not refer to the passage or video for answers, it is still possible that they did, as they were under their own supervision. Another potential confound to this experiment is the modality and method in which the testing was administered. The use of Google Forms allowed for ease of administration of the experiment, however, it left participants vulnerable to possible distractions. Another potential confounding variable was the lack of a timer during the reading/viewing phase. The video was one minute and thirty-eight seconds long whereas the passage had no timer or limit to how long participants were allowed to take to read it. This could have provided an unfair advantage to the reading section, as they had as much time as they needed to read it, under the condition that it only be read once.

In the future, it would be highly useful to provide a timer for the reading condition in order to control how long participants are allowed to view the information. Re-administering this

experiment in a controlled lab environment would aid in controlling the confounds. Having the ability to readily and easily control what information and stimuli participants are presented with would greatly increase the accuracy of the desired results. Overall, the experiment conducted proved useful in determining a slightly more efficient way to recall information from a story.

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