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## Memory: The Use of Technology Versus Reading

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# Memory: The Use of Technology Versus Reading

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### Abstract

This study examined the comparison in retention of information between watching a movie scene and reading a movie script from that scene. There have been controversies on how technology has impacted retention of information among students. The use of technologies can create distractions among those who use it, which may lead to a lower rate of remembered information. I conducted an experiment using block randomization. We looked at a sample of 20 students who either read a movie script or watched a movie scene. After the experiment, each participant was asked to complete a 5-question quiz assessing their knowledge on the scene. The relationship between retention of information after reading a movie script ( $M = 4.200$ ;  $SD = 1.135$ ) versus watching the film clip ( $M = 3.600$ ;  $SD = 1.264$ ) was not statistically significant.

### Introduction

It is hard to avoid technology while learning. In the age of needing information at a rapid pace and with so much information to study, it is easy to hop on the internet and watch a quick video on a history assignment, or a lecture on thermodynamics. What is interesting, though, is that there is a lack of effort among young people to read material if there is a video just as readily available as the reading. People seem to be able to quote clips and lines from movies that they enjoy, so it seems that watching films is a good practice of memory, even though some argue that videos are not effective study tools. The principle of listening to learn is one that has emerged greatly over the last few decades. Listening to material is just as important as reading it (Lund, 1991). This study examines the difference between watching a short video clip and reading the script from that video clip, then being asked to recall the information the participants have been exposed to. The questions ranged from the content of the scene as well as smaller details that should have been able to be picked up those who were intently listening or reading. The hypothesis for this experiment was that those who watched the clip and listened to the audio would be better at retaining information about the excerpt, due to advantage of context.

### Method

#### Design

I conducted a between groups post-test only experiment using block randomization of 20 participants.

#### Participants

I conducted an experiment of 20 undergraduate students at a small, liberal arts college. Of the participants, 16 were females, and 4 were males.

#### Materials and Questions

The first group of participants were asked to watch and listen to a 3-minute video clip from the film *The Imitation Game*. The second group was asked to read the script from the 3-minute clip. Then, all participants were asked a series of 5 questions to see which group better remembered the material from the excerpt of the film. The questions included the following open-ended questions: "Who was about to be attacked in this excerpt?", "What is the moral dispute in this excerpt?", "Complete the sentence, "You know why people like violence, Hugh? Because it \_\_\_\_". And 2 multiple choice questions that read: "What was the "hard part" after cracking Enigma?" and "What party did the team defeat by cracking Enigma?"

#### Procedure

The participants were asked to either watch a 3-minute video clip from the film *The Imitation Game* or read a text script from the same excerpt. 10 participants were randomly assigned to each group using block randomization. The participants were then given 2-minutes to answer a short, 5 question quiz to test their knowledge of the material they had just observed.

### Results

The results were analyzed using SPSS. The relationship between retention of information after reading a movie script ( $M = 4.200$ ;  $SD = 1.135$ ) versus watching the film clip ( $M = 3.600$ ;  $SD = 1.264$ ) was not statistically significant, mean difference = .6000,  $t(18) = .886$ ,  $p = .279$  (*n.s.*),  $d = .499$ , a medium effect size.

### Discussion

The main findings of this study conclude that there is no significance in the difference of retention of information while reading or watching a film. The insignificance of this study points to flaws in either the number of participants in the study, or in how the material was collected. With a higher number of participants, the study would have the advantage of larger numbers of data, making it more likely that a significant result may occur. This study has low internal validity. External factors such as noise and other available distractions make it hard to generalize the lack of retention due to whatever material was viewed by the participant. These external factors could be canceled out by having a uniform environment in which each participant was asked to enter before starting the experiment. This experiment also has low external validity. As there were only 20 participants, 16 of which were female, it is almost impossible to generalize the findings, whether they were significant or not, to the general population, let alone this university. The experiment also had low statistical validity, as none of the results were found to be significant. To have statistical validity, the results would have had to not only be reasonable, but accurate, and the results, for the most part, failed to do so. This study does, however, have high construct validity. The questions were answerable by each participant, the instructions were clear, and they were able to understand the process of the experiment quite easily. The variables were also measured well, as each participant was given a simple score out of 5 points to determine how many questions they had answered correctly. Technology plays a pertinent roll in the learning of many people, especially in Western cultures. The amount of technology use in and out of classrooms as only increased and will continue to do so. One common link has been that an important part of learning has involved technology, which is an important part of education, which can therefore create a meaningful experience to learning (Korwin & Jones 1990).

### References

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