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Introduction

- Smartphone technology has forever changed the way humans communicate with one another. The smartphone has made it faster and more convenient to access the World Wide Web, friends and colleagues from around the globe, and interact with social media. Without a doubt, smartphone use has solved many societal problems. Conversely, smartphone use may have created many new problems to solve in their place. With respect to literacy, what are the effects of smartphone use on students?
- The impact of smartphone activities is difficult to quantify. Does smartphone use, immediately after reading, cause a significant amount of distraction to affect the ability to recall key details and themes from the reading? Does the use of a smartphone affect everyone in a similar manner? Do all levels of reader suffer the same effects of loss of literacy skills due to smartphones? Can some people use a task switch from reading to smartphone use without a loss of literacy skills?
- Is information gained by reading more difficult to recall when a smartphone is used to distract from mental rehearsal of information?

Literature Review

- College students have reported spending an average of 2.47 hours per day using the internet, 2.17 hours per day engaged in academic reading, and just 1.14 hours per day engaged in recreational reading.
- Participants who engaged in task switching needed time to readjust the mental control setting that dictated the rules for completing the task as well as dealing with the effects of errors caused by attempting a new task while still using outdated mental rule sets. Two of the largest negative effects of task switching are an increase in overall time to complete all tasks and an increase in errors.
- College students who multitask prefer to utilize music, text messaging, and social media.
- Pharmacy students from five east coast universities reported spending an average 8.46 minutes of a typical 50-minute class utilizing a social media platform.
- Of the pharmacy students surveyed, 47% agreed or strongly agreed that social media is a distraction while studying at school. The percentage of participants increased to 56.3% when agreeing or strongly agreeing that social media is a distraction while studying at home.
- One study showed that a majority of college students did not consider text messaging, social media and gaming as reading activities.
- There is a strong link between working memory, attention control and reading comprehension.
- Educators are now attempting to integrate the use of Twitter, YouTube, and Facebook into their lesson plans.

Method

1. Participants will be asked to read an essay or short story of appropriate level of difficulty.
 2. After reading the material, the text will be removed from participants.
 3. Participants will be allowed ten minutes of distraction free time to rehearse what they read.
 4. A short survey will then be used to test the participants' ability to recall key themes and details from the text.
 5. A second, similar text will be provided to participants to read.
 6. After reading the material, the text will be removed from participants.
 7. Participants will be encouraged to use their own smartphone in any manner that they normally would for ten minutes.
 8. A short survey will then be used to test the participants' ability to recall key themes and details from the text.
 9. Scores from the distraction free survey will be compared to the smartphone use survey to analyze the degree of impact by smartphones.
- A total of 100 participants, divided into four groups to allow for slight variations in the method.
- Group A will read text 1 with no distraction and then text 2 with smartphone use.
 - Group B will read text 2 with no distraction and then text 1 with smartphone use.
 - Group C will read text 1 with smartphone use and then text 2 with no distraction.
 - Group D will read text 2 with smartphone use and then text 1 with no distraction.
- This method will reduce the effect of the particular texts used as well as the effect of knowing the type of questions that may be asked in the surveys.

Anticipated Results

It is highly likely that the distraction free scores will be higher than the smartphone usage scores. The amount of difference is between the two scores is difficult to estimate. It is likely that participants who score higher on the distraction free treatment of the experiment will see a smaller decrease in score in the smartphone use treatment than those who score lower on the distraction free portion. A result of this type would indicate that participants with high literacy skills are less impacted by smartphone usage.

Discussion and Conclusion

If the result of the experiment confirm my hypothesis, student study habits should be reevaluated. Education about the detrimental habit of using a smartphone upon completion of studying or reading should be given to high school and college students. The practice of introducing and using smartphone-like technology, such as tablets and touch-screen computers, in the classrooms should strongly consider the negative effects on reading comprehension in comparison to any positive aspects of the technology.

If the result of the experiment disprove my hypothesis, smartphones can continue to be used after reading and studying. Many times, a motivating factor, such as using a smartphone, can encourage individuals to complete tasks. It is possible that the benefit of using the smartphone upon completion or during a break causes students to spend more time studying. Additionally, if smartphone use shows no negative impact on reading comprehension, schools and other institutions can expand their used of smartphone-like technology in educational settings.

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