Paper Reading More Effective Than Screen Reading

April 16, 2019

If you want to make sure that you understand this story as fully as possible, you might consider printing the article and reading it on paper. That is one of the findings of a recent study of research done on the differences between paper and screen reading. Virginia Clinton carried out the research examination. She is a professor in the Faculty of Education, Health and Behavior at the University of North Dakota. She found what she called a “small but significant” difference in reading text from screen versus paper.

Researchers have been investigating for years the ways in which screens affect the quality of a person’s reading. The magazine *Scientific American* reported that at least 100 studies have been published on the issue since the 1980s. Until the early 1990s, most studies found that people read more slowly and with less accuracy on screens than on paper. However, later studies show more mixed results. Some continued to report findings similar to those earlier studies. Others suggested technological improvements over the years had improved reading quality on screens.

Clinton’s aim was to bring together some of the most recent findings on reading performance, reading speed and a skill known as metacognition. Clinton looked at 33 studies that examined paper versus screen reading. All of the studies were done between 2008 and 2018. The studies collectively had 2,799 study subjects, including both children and adults. All were native English speakers and had usual reading skills for their age.

Clinton’s examination found that reading from paper generally led to better understanding and improved a person’s performance on tests connected to the reading material. Moreover, she found no major differences in reading speed between the two. In other words, paper reading was found to be more efficient. Such differences were notable only when the reading materials were expository texts, which are explanatory and based on fact. Clinton said she found no major difference when it came to narrative, fictional texts.

Clinton also found that paper readers usually have a higher recognition of how well they have understood a text than screen readers. This skill is called metacognition. The word *cognition* means the mental action of increasing knowledge and understanding. *Metacognition* simply means thinking about one’s own thinking.

Clinton and other researchers have found screen readers often believe they understand a text better than they really do. And, they are more likely than paper readers to overestimate how well they would do on a test of the materials they have read. Clinton said this is common among all readers. She said, “We think that we’re reading the story or the book better than we actually are. We think we understand what we are reading better than how we are actually reading.”

However, this inflated sense of understanding, or overconfidence, is especially common among screen readers. Clinton said there are many possible reasons for such findings. Overconfidence of screen readers, for example, could be the result of a distracted, less focused mind. Reader preference is also important, she said. Research shows the majority of people—of all ages—prefer reading from paper.

On the other hand, if someone prefers screen reading to paper reading, that person’s understanding of the material is not likely to suffer. Clinton said, “If you are enjoying the reading process, you’re going to be more involved. You’re going to be paying better attention. Preferences are a key issue here.”

Several studies have found that people often think of paper materials as more important and serious. “If you are reading from paper, your mind thinks, ‘This is something important. I need to pay attention to it',” Clinton said. Readers might connect computer screens with fun, less serious activities such as checking social media or watching Netflix. That, Clinton said, could explain why most studies find no major difference in screen and paper among narrative, fictional reading materials. Clinton described this kind of reading as “enjoyment reading.”

Although her findings may support paper reading over screen reading, Clinton says she does not believe screen reading should be avoided. Instead, she points to new and developing tools that can be used to improve a screen reader’s understanding and focus. “For example, when you’re reading off of a screen, you might have to answer questions and get them right before you can continue. Paper can’t make you do that.”

Other tools in development will offer students reading at a lower level more simple texts while providing their other classmates more complex versions of the same text. Clinton said, “I think the answer, or appropriate response, to seeing findings like mine...is to think of ‘Okay, what can screen do that paper can’t do?’” Clinton’s findings were published earlier this year in the *Journal of Research in Reading*.

**Comprehension Questions**

1. What were the findings of most early studies on paper versus screen reading?

A. Most early studies found that screen reading was more effective than paper reading.

B. Most early studies found there were no major differences between screen reading and paper reading.

C. Most early studies found that paper reading was more effective than screen reading.

D. Most early studies found that people were showing a preference for screen reading over paper reading.

2. Why does Virginia Clinton say “reader preference” is a key thing to consider when looking at her findings?

A. Because a person will pay more attention and be more involved when reading in the way they most prefer.

B. Because most people prefer screen reading to paper reading.

C. Because paper reading is preferred only by older people, so the results of similar studies in the future might be different.

D. Because people generally enjoy screen and paper reading equally.

3. What is a reason Clinton gives for why screen readers have an inflated sense of their understanding of a text?

A. They may be more tired from looking at a screen.

B. They may lose their place in the text more easily.

C. They may think what they are reading is too easy for them.

D. They may be more distracted.

4. What have several studies shown about people's attitudes toward paper reading materials?

1. People often consider paper to be unimportant.

2. People often view paper materials as important.

3. People often view paper materials as outdated and boring.

4. People often consider paper materials to be hard to find.

**Vocabulary.**

Mark the context of the words in the story. Next, write the part of speech (e.g., adj.) and a definition in English.

(例) significant – (adj.) large enough to be noticed or have an effect

text –

efficient –

distracted –

focused –

appropriate –

response –

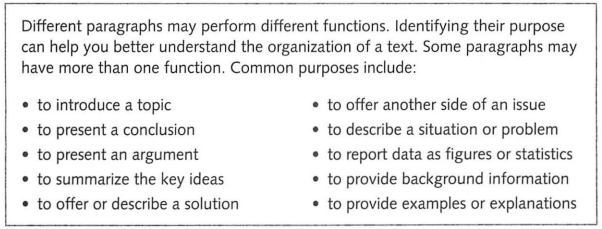
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**Paragraph Purpose**

Using the list on p. 17 of our food reading from last week (below), choose the purpose of each paragraph in this story.



Paragraph 1 (If you want to make sure…) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

¶2 (Researchers …) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

¶3 (Clinton’s aim …)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

¶4 (Clinton’s examination …)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

¶5 (Clinton also …) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

¶6 (Clinton and … )\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

¶7 (However, …) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

¶8 (On the other hand, …)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

¶9 (Several studies …)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

¶10 (Although her findings …) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

¶11 (Other tools …) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Expansion**

With a small group of your classmates, discuss the following questions.

1. Of the reading that you do, how much is on a screen and how much is on paper?
2. For you, is there a difference between reading on a screen and reading on paper? If so, describe the difference(s) you feel.
3. Do you think students learn better from reading on one or the other? Why or why not?
4. “Elementary school students should only read on paper.” Do you agree or disagree with this? For what reasons?

**Finally, one more reading …**

There are many components, factors and conditions that can come into play here, such as the reader, the material, the purpose and the technology. Not only the reader’s proficiency, background and expectations must be kept in mind, but also the type of material that is being referred to and the kind of screen that is being used. It is not a case of “one size fits all,” but patterns are beginning to emerge from empirical research into the subject. The length of the text seems to be the most critical factor. If the text is long, needs to be read carefully and perhaps involves making notes, then studies show that many people, including young people such as students, still often prefer a printed book, even if it is available as both an e-book and in electronic formats with options for making notes, enabling the user to search for and highlight the text digitally. This is not the case when it comes to shorter texts.

*https://learningenglish.voanews.com/a/study-paper-reading-more-effective-than-screen-reading/4876473.html*

*https://phys.org/news/2017-09-differently-paper-screen.html*