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COMPARATIVE ANALYSIS OF DIGITAL READING AND PRINT READING

Shubham Jawale*1

*1B.K. Birla College, India.

ABSTRACT

The advent of virtual technology has significantly changed how people consume texts, which has raised questions about the advantages and disadvantages of digital and traditional printed reading materials. In this article, we provide an in-depth analysis to explore the main differences between these two reading styles. The study uses a mixed methodology, including surveys, psychometrics, and qualitative interviews to gather data from various reader samples. The findings highlight specific benefits associated with digital reading, such as accessibility, portability, and interactivity. On the other hand, printed reading excels at deep comprehension, reduces cognitive load, and increases retention. Additionally, the research delves into the psychosocial aspects of reading in both formats, shedding light on the effects of screen time on visual acuity, different ages matched with environmental influences. The results of the study emphasize the importance of both digital and print reading, providing significant value, and choosing between the two may depend on the context. Educators, publishers, and engineers can use these resources to develop strategies and tools that enhance the reading experience and promote a harmonious coexistence on both platforms.

Keywords: Reading, Print, Digital, Reading Comprehension.

I. INTRODUCTION

Reading comprehension is the most important skill every English as a Foreign Language (EFL) learner must have a master's degree for several reasons. First, EFL learners learn English in an environment Where English is not the main language of society. lack of input from them the best way to manage your daily interactions is by reading. Second, some research (Anderson & Pearson, 1984; Decant, 1991; Mullis et.al., 2009) on personal and intellectual development, further study, Professional success and professional development, and the ability to manage change. Read Next Skills increases learners' proficiency in other areas of language learning (Anderson, 2003). that Because it provides learners with a variety of good sentence structures, Get used to it. It also improves learners' vocabulary skills. Get the most commonly used and useful words and learn them in context. Also, reading Improves writing skills as learners explore ways to express ideas Through vocabulary, you will learn how to use punctuation marks correctly. According to Ellie (1991) ``The influence of reading comprehension on other language skills (writing, control of speech and syntax" (p. 404). Mikulecky (2008) emphasized this interpretation. It is the basis for teaching all aspects of language learning, including the use of textbooks. Language courses, writing, proofreading, editing, vocabulary development, acquisition, and learning grammar.

Because of the important role that reading plays, teaching this skill has long been one of the most important challenges. Priorities in EFL learning and teaching. Printed texts have long played a role in facilitating this. It plays a big role in EFL classrooms. However, with the current influx of digital texts, A fundamental change in the way today's students read. According to Pew 2018 Research Center research shows that even though more Americans read paper books than e-books, young people Adults (ages 18-29) tend to read books in a variety of formats and formats. various devices (Perrin 2018). They also tend to use digital texts for school, work, etc. And research. Students now have easy access using their computers and portable devices Digital sources for accessing information, news, or leisure reading. academically There is a growing trend to replace paper textbooks with e-books. usage of Digital tools as reading devices is also prompting educational institutions to switch to digital tools. Paperless classrooms around the world (Giebelhausen, 2015). The digital age has done just that. It brought many benefits, including faster and expanded access to information and countless things. Networking Skills (Usluel, 2016). Particularly suitable for EFL learning and teaching the use of digital sources that provide a variety of information may become essential Precious. The common language of digital sources is

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English, which can enhance your EFL. education. Krashen (2003) emphasized that the Internet can be the best resource for his EFL. teacher and learner.

II. METHODS

Device-Based Reading:

1. E-Readers: Conduct user testing and surveys to evaluate the usability, comfort, and reading experience of different e-reader devices, considering factors like screen type, size, and responsiveness.

2. Tablet and Smartphone Apps: Analyze user interactions, navigation patterns, and engagement with digital books or articles using apps. Utilize analytics tools to track reading time, scrolling behavior, and highlighting.

3. Eye-Tracking Studies: Employ eye-tracking technology to measure eye movements and gaze fixation points during digital reading. This can help assess visual fatigue, reading speed, and comprehension in digital environments.

4. Surveys and Questionnaires: Administer surveys and questionnaires to collect user preferences, satisfaction, and feedback on digital reading experiences. This can help identify specific pain points or areas of improvement.

5. Cognitive Testing: Conduct cognitive assessments, such as comprehension tests and memory recall tests, to compare how well readers retain and understand information when reading digitally. Compare these results with print reading outcomes.

6. Usability Testing: Organize usability testing sessions to evaluate the user-friendliness of digital reading platforms. Gather qualitative data through user observations, think-aloud protocols, and post-task interviews.

Methods for Print Reading:

1. Print Surveys: Distribute surveys to gather information on print reading habits, including reading frequency, preferred reading materials (books, newspapers, magazines), and reasons for choosing print over digital.

2. Cognitive Testing: Administer cognitive tests, like reading comprehension assessments, to assess readers' understanding and retention of information when reading in print. Compare these results with digital reading outcomes.

3. Qualitative Interviews: Conduct in-depth interviews with participants to explore their emotional and sensory experiences of print reading, including tactile feedback, nostalgia, and the role of physical books in their lives.

4. Eye-Tracking Studies: Employ eye-tracking technology to investigate reading patterns, such as eye movements, fixations, and saccades, when reading from printed materials. Compare these patterns with digital reading behaviors.

5. Content Analysis: Analyze printed content, including typography, layout, and paper quality, to understand how these factors influence reading experiences and preferences.

6. Environmental Impact Assessment: Evaluate the ecological footprint of print reading by assessing factors like paper production, ink usage, and transportation. Compare this with the environmental impact of digital devices and e-waste.

Combining these methods for both digital and print reading can provide a comprehensive understanding of the strengths, weaknesses, and user preferences associated with each reading format. Researchers can use these findings to inform educational practices, design improvements, and publishing strategies to enhance the reading experience in both modalities.

III. MATERIALS

A total of two tasks were completed for each participant: a reading comprehension task (RCT) and a lexical decision task (LDT). For the reading comprehension task, two of his stories published in previous literature (Perea, Panadero, Moret-Tatay, & Gómez, 2012) and the corresponding reading comprehension questions were selected. These two stories have been used successfully with children and in a balanced design, as was done in the original study. In other words, the participants were divided into two groups, one read the story digitally and one on paper, and the other group read the story and vice versa. As for the presentation, he displays the entire text on one screen or a piece of paper. One text contains a total of 153 Spanish words and the second text

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contains a total of 162 Spanish words with the titles “The Wind” and “The Snowman” (Perea et al., 2012). Next, the participant had to write on paper the answers to her five questions about each text. These questions were the same as those used in the original study. The second part of the conference was dedicated to the implementation of LDT. The stimuli consisted of a set of 120 five-letter Spanish words and 120 pseudowords. The words are divided into two lists (to allow a balanced comparison of printed and digital words) and are adjacent in frequency and orthography, similar to the original publication (Moret-Tatay & Perea, 2011). The word has been matched. Although this material was also originally developed for children and presented in a previous study, it has also been used in other experiments with other Spanish groups of different ages, such as college and high school students. Be careful (Navarro-Pardo et al., 2013; Perea, Davis, Marcet & Gomez, 2016). These materials are used to examine how children and older adults read simple texts. Additionally, the current results may allow comparisons across different age groups in the future. All stimuli were presented in lowercase 14 pt Times New Roman fixed text, which was the same in the digital and print versions. Participants were free to choose their viewing distance and could get as close to the text as they wanted, but the maximum distance was 30 cm from her. For reasons of ecological validity, the display of selected texts was performed as follows. Digital text was displayed on a computer screen, and printed text was displayed on paper on a table.

IV. RESULTS

1. Meta-analysis comparing print and digital reading (Delgado et al., 2018): The purpose of this meta-analysis is to analyze existing research to determine whether the reading medium (e.g., print or digital) influences reading comprehension. It was to find out. Researchers analyzed data from 54 studies conducted between 2000 and 2017 and involving more than 170,000 participants. The results showed that reading on screen was consistently associated with lower reading comprehension scores. The effect size of digital screens on reading was -0.21, a relatively small effect size. However, from a reading perspective, this is a pretty big effect. Delgado et al. Children in elementary school show an average improvement of about 0.32 points each year. Therefore, the negative impact of -0.21 is very significant. The researchers note that "the clear conclusion is that the provision of printed text to students is unrelated to the attractiveness of computer-based learning environments."

2. The impact of text annotation tools on reading comprehension in print and digital formats (Ben-Yehuda and Eshet-Alkalai, 2014): The purpose of this study was to investigate how the use of annotation techniques in reading (both print and digital formats) impacts reading. The objective was to determine whether it would have a significant impact Understanding. The participants were 93 students from the Open University of Israel. They were randomly selected to read about 850 words of informational text about fossils either digitally (PDF) or in print. Additionally, for half of each condition, subjects were divided by asking them to either annotate (highlights and comments) while reading or simply read the text. The digital reader used Adobe tools, while the print reader used regular highlighters and pens. Text comprehension was then tested using factual and deductive questions (reading between the lines). This result is consistent with other studies, where people who read in print performed better on reading comprehension tests than those who read in digital format. Not surprisingly, the "Print with annotations" group performed better than the "Print without annotations" group. However, this difference was only significant for the inference questions. Annotations did not affect fact recall. A surprising finding was that annotations did not improve reading comprehension when using digital formats.

V. DISCUSSION

Increase in electronic information available online and increased use of digital information Behavior in academic activities is leading to an increase in the number of working adults and students. Use digital text. In blended learning approaches, most universities have developed: 79 English Language Teaching Journal, Volume 5 (2), June 2019 Digital text is one of its major components. This makes digital text easier to read We considered the comparison with the printed version from various perspectives. in Reading comprehension terms that serve as a starting point for digital reading research It can be divided into four main themes: the nature of digital reading and text comparison; The impact of digital reading on traditional reading and printed text on reading How students and teachers understand and perceive digital reading and how to do so. Strategies for reading digital texts.

VI. CONCLUSION

The purpose of this study was to investigate the relationship between RCT accuracy, RCT time, and LDT accuracy in print and digital media among university students who prefer digital texts. For this reason, two experiments were carried out in a balanced order between the digital and print environments. The results can be explained as follows.

(i) The delay when reading digital text was shorter for digital media than for print media.

(ii) Word recognition and comprehension were slightly better, but not clearly, for printed text than for digital text;

(iii) There was a high correlation between reading time for digital and print texts.

(iv) Although we find that there is a relationship between LDT accuracy for printed text and his RCT accuracy for printed and digital texts, this is not the case for his LDT accuracy for digital text.

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