

AN ANALYSIS OF STUDENTS' DIFFICULTIES IN COMPREHENDING THE DIGITAL TEADING TEXT

Febi Indah Larasati¹, Bita Dwi Rahmani^{2*}

¹University of Muhammadiyah Prof. Dr. Hamka, ²University of Muhammadiyah Prof. Dr. Hamka

¹email Coresponden: *bita.dwi@uhamka.ac.id

Abstract: The rapid changes in digital technology in higher education have shifted reading practices from print to digital texts. While this digital text offers accessibility and convenience, previous studies have highlighted several challenges, such as eye strain, reduced concentration, and distractions, particularly among English as a Foreign Language (EFL) learners. This study explores the specific difficulties faced by eighth-semester students of the English Education Department at the University of Muhammadiyah Prof. Dr Hamka (UHAMKA) in comprehending digital reading texts. This study employed a sequential explanatory design that combined quantitative and qualitative methods. Quantitative data were collected through reading comprehension tests and questionnaires, while qualitative data were collected through semi-structured interviews. The findings revealed that 78% of students demonstrated a medium level of reading comprehension and that 48 out of 55 students had difficulty understanding text through a digital tool. Five recurring difficulties have been identified, including unstable internet connections, health-related issues such as eye strain and loss of concentration, distractions from digital devices, and time-consuming navigation. Despite these obstacles, students preferred digital texts over printed materials for their accessibility and convenience. The study underscores the need for pedagogical strategies that strengthen digital reading skills and institutional policies that support equitable access to digital resources.

Keywords: Digital Reading, Reading Comprehension, Student Difficulties, Mixed-method

INTRODUCTION

Technology has changed the way humans do things and live (Manalu, 2019). People are finding it easier to access information and knowledge through digital texts. In education, even though digital texts are relatively new, they have increasingly been adopted as a medium of teaching and learning, enabling students to access them easily to gain information. The statistical data reveal that one of the most popular types of digital text, the e-book, showed unit sales almost 200% higher in 2009 than in 2008 (Manalu, 2019). Therefore, as electronic books are increasingly adopted within the K-12 setting, technological developments are changing the way students read a text. As a result, in this technological era, students tend to access reading materials through electronic devices. This phenomenon was noted by Islami & Warni (2020), who stated that the advancement in technology had introduced people to the use of electronic books in the reading activity. Previously, students usually did reading activities with printed textbooks, but now they can do them on smartphones,

tablets, laptops, etc. In addition, the library system at the university has introduced the digital transition. There are many digitized sources in libraries now. The most important advantage of electronic books is that large amounts of books can be stored even in low-capacity flash memories (Alsadoon, 2020). Therefore, this made it easier for students to access reading material or use it as a reference for their learning—one of the advantages of using an electronic resource.

Despite the advantages, reading digital text also has some drawbacks. Jeong (2012) noted that students easily get tired and experience greater eye fatigue when reading on a screen than when reading a printed text. In addition, another reason is that the display contrast and resolution for reading digital text differ from those for print. In other words, he argued that reading digitally caused eye fatigue, mainly due to the low contrast and display resolution of the text on the screen. Alsadoon (2020) also highlighted several issues in comprehending digital reading texts, including health concerns and students becoming distracted while reading them. Furthermore, he added that highlighting and bookmarking were unsatisfactory for the students. It is because there are difficulties with reading from a screen, navigation issues, and problems related to locating materials and searching in general with electronic books, so students still prefer a paper that they can mark up with a pencil or marker (Jeong, 2012). In short, the drawbacks of digital reading were mostly physical: digital screens irritated their eyes, and reading on a screen was tiresome. This left students unable to employ appropriate reading strategies, as they could not concentrate on the screen (Solak, 2014). Another study found several drawbacks to reading digital text. For example, having distracting elements on the screen can make it harder to focus on the text; readers can easily get distracted from the primary text by switching to other applications or the internet, and the screen's brightness can strain their eyes and cause headaches (Kazazoglu, 2020).

From the drawbacks above, it appears that difficulties in reading digital texts on an electronic book are also occurring among English Education students in the eighth semester at the University of Muhammadiyah Prof. Dr. Hamka. They were exposed to various digital reading texts for writing their research for their final project.

Therefore, this study aims to investigate specific challenges experienced by English Education students at the University of Muhammadiyah Prof. Dr Hamka in the eighth semester of Academic Year 2017 in comprehending digital reading texts, thereby contributing to the literature on reading comprehension challenges in digital environments.

METHOD

This study employed a mixed-method research design. According to Creswell (2009) mixed methods research design is a methodology for mixing, connecting, integrating, and embedding quantitative and qualitative approaches in research to identify and understand research problems. We collected data using an explanatory sequential design. An explanatory sequential design has strong quantitative leanings, as it involves collecting and analyzing quantitative data in the first phase, then following up with qualitative data to examine or interpret the quantitative results in more detail (Creswell, 2009). We employed a reading comprehension test and a questionnaire to collect quantitative data in this research. In the meantime, the researcher conducted interviews to collect qualitative data.

The sample for this study was 55 participants from the eight semesters of the English Education Department in the academic year 2017. They were selected using a purposive sampling technique to obtain the sample. According to Etikan & Bala (2017), the purposive sampling design is based on the researcher's selection of individuals who are most likely to provide the most crucial data for the research problem. Based on students' participation, the research sample comprised up to 60% of 90 students. The data from 55 respondents in this research are shown in the table below.

Table 2.1 Sample Data

Gender	N	Percentstage
Femalee	48	87%
Malle	7	13%
Ttotal	55	100%

We used three types of instruments in this research. To collect quantitative data, two instruments were used: a reading comprehension test and a structured questionnaire distributed via Google Forms. The reading comprehension test was designed to measure students' ability to identify main ideas, vocabulary, inferences, and detailed information within digital texts. Later, the reading scores were categorized into three levels—easy, medium, and difficult—to capture variations in reading comprehension. Next, the questionnaire is used to collect the second set of quantitative data.

to explore students' perceptions of digital reading, including motivation, interest, and perceived challenge. Next, all the quantitative data were analyzed in percentages and described descriptively.

Qualitative data were obtained through semi-structured interviews with 10 students representing different reading score levels. These interviews provided deeper insights into the nature of the difficulties experienced, allowing the researcher to capture personal reflections and contextual factors. Thematic analysis (Braun & Clarke, 2006), which involves identifying, analyzing, and reporting data patterns (themes), was employed to identify recurring issues across the interview transcripts. By triangulating quantitative and qualitative data, the study ensured validity and reliability, offering a nuanced perspective on the phenomenon under investigation.

FINDING AND DISCUSSION

This study revealed several findings in both the quantitative and qualitative phases. We then present the results of the reading comprehension test and questionnaire in percentages for quantitative data. At the same time, the interview is used to gather qualitative data to confirm the findings from the previous phase.

The quantitative analysis showed that students' reading comprehension scores were predominantly at medium to high achievement levels. Of 55 participants, the largest proportion scored 9 on a scale of 10 (25.5%), followed by 8 (20.0%) and 7 (16.4%). This indicates that more than half of the participants demonstrated relatively strong reading comprehension, suggesting that the majority could process and understand digital texts effectively. Only a small number of participants achieved the lowest scores of 3, 4, and 5, each representing less than 6% of the sample, which highlights that severe comprehension difficulties were relatively uncommon. This is shown in the following table.

Table 3.1 The Frequency of the Students' Scores of the Reading Comprehension Test

No.	Score	Frequency	Percentage
1.	3	3	5.5%
2.	4	2	3.6%
3.	5	2	3.6%
4.	6	8	14.5%
5.	7	9	16.4%

6.	8	11	20.0%
7.	9	14	25.5%
8.	10	6	10.9%
Total		55	100%

SSource: SPSS

From the table above, it can be seen that the lowest score is 3, and there were 5.5% of respondents who got 3 on their score of reading comprehension test, while in this case, scores of 4 and 5 earned 3.6%, which is the lowest percentage among the data, and 14.5% of students got 6 as their score. Next, 16.4% of respondents scored 7, and 20.0% scored 8. In addition, the 9 score is the highest, with 25.5% of students earning it, whereas the 10 score, which is the highest in reading, earned only 10.9%.

ASubsequently, the researcher used the categorization score formula to calculate the reading comprehension score (Azwar, 2012). The categorization is divided into three levels, namely easy, medium, and difficult, as seen in the following table :

Table 3.2. Categorization Level of Reading Comprehension

Ccategoriz	Total	Percenttag%
Easy	5	9%
Medium	43	78%
Indifficult	7	13%
Total	55	100%

SSource: SPSS

Based on the results above, 9% of respondents were categorized as easy, representing 5 students in total. The majority, 43 respondents (78%), fell into the medium level, indicating that most students demonstrated moderate comprehension of digital reading texts. Meanwhile, 7 respondents (13%) were identified as being at the difficult level, indicating lower reading comprehension performance. In other words, the medium level had the highest proportion, suggesting that while students generally understood digital texts, only a few achieved effortless comprehensions.

This interesting finding triggered us to investigate the participants' challenges further while accessing digital text. Therefore, we employed a questionnaire to identify participants' perceptions of using digital text in a reading comprehension activity. However, an interesting finding shows that 34% of participants agreed that reading digital text was motivating and interesting, as shown in the following chart.

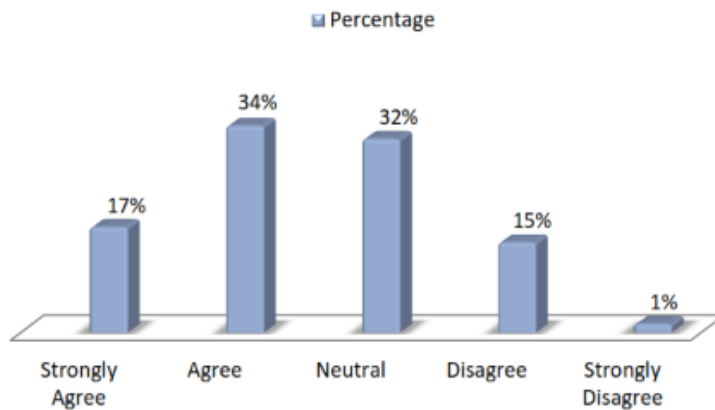


Figure 1: Motivation and Interest in Reading Digital Text

This chart illustrates students' perceptions of their motivation to read digitally. 17% of respondents strongly agreed that reading digital texts is motivating and interesting. In comparison, 34% agreed, indicating that more than half of the participants generally found digital reading motivating and interesting. Meanwhile, 32% expressed a neutral option, suggesting that they neither found digital texts particularly motivating nor discouraging. On the other hand, 15% disagreed, and only 1% strongly disagreed, indicating a small minority who did not find digital texts engaging.

Overall, the results suggest that the majority of participants perceived that digital reading was motivating and interesting, although a notable proportion remained neutral or skeptical. Importantly, this perception aligns with the previously reported reading comprehension findings, which revealed that while most students reported being motivated, their performance was still clustered at the medium level. This indicates that motivation alone does not guarantee high comprehension, and that technical, physical, and cognitive challenges continue to shape students' actual reading outcomes.

Meanwhile, the qualitative study was conducted to further investigate the issues participants experienced while reading digital text. The study resulted in a significant majority of participants reporting loss of concentration, often attributing this to constant notifications and the temptation to multitask while using digital devices, as stated in the following statement: "Sometimes I feel like I lose

concentration. For example, when I read digital media through my cell phone, when I was reading then suddenly a notification came in, that's when I was distracted. It lost my focus on my reading." (R05). This finding suggests that digital environments, while convenient, create cognitive overload that interferes with sustained comprehension.

Another major issue was unstable internet connections, which students described as frustrating and demotivating. Many participants explained that when access to texts was delayed or interrupted, they lost momentum and interest in completing reading tasks. One participant highlighted that, "Signal, we need to have a good signal to read a digital text because otherwise the text won't open or the text is blurry" (R08). This statement highlights the importance of a sufficient signal connection to access digital reading text. In other words, this technical barrier underscores the importance of reliable infrastructure for supporting digital reading.

Health-related problems also become another problem. Several participants experienced eye strain or headaches after prolonged screen exposure. As mentioned by participants below:

"If I use smartphone when reading, I don't focus and sometimes my eyes get tired and sore since exposed to the light of cellphone screen for too long and also causes headaches"(R01)

Finally, time-consuming navigation was reported as a practical obstacle, with students noting that searching for specific information in digital texts was less efficient than in printed materials. One of the participants, R07, explained in more detail her experience of time-consuming while comprehending reading digital text:

"Honestly, when I read text digitally it could take a longer time. I did it for up to 30 minutes, so I had to scroll down and then scroll up to understand the text. So basically, to understand and get a good score, I had to read it and understand it over and over again. It's different when I read through printed text, I can understand better and it's easier to flip through it." (R07)

In short, the questionnaire findings reveal that students' difficulties extend beyond comprehension skills to technical, physical, and behavioral dimensions. These insights confirm that digital reading requires more than access to devices it demands strategies to manage concentration, health, and navigation to optimize learning outcomes.

Taken together, the results of this quantitative study demonstrated that the majority of students (78%) were at the medium reading comprehension level, with only a small proportion (9%) achieving easy comprehension and some (13%) struggling at the difficult level. Questionnaire data further revealed that students were interested in using digital reading texts even though they faced several challenges. Based on the interview data, the most common difficulties were loss of concentration and unstable internet connections, followed by distractions, eye strain, and time-consuming navigation. These results suggest that while digital texts are accessible and widely used, they present significant cognitive and technical challenges that hinder optimal comprehension.

These findings resonate with previous research in the Indonesian higher education context. A previous study found that students perceived digital reading as flexible and motivating, yet acknowledged persistent comprehension challenges due to technical and cultural factors (Nisak & Yunus, 2020). Similarly, another study also reported that students had a positive attitude toward digital texts but noted eye strain as a recurring problem (Manalu, 2020). Thus, these studies confirm that while digital reading is motivating and practical, students still face several challenges. In other words, these findings confirm that digital texts, although widely preferred for their accessibility and convenience, present barriers that can hinder effective comprehension and academic performance (Jeong, 2012; Kazazoğlu, 2020; Solak, 2014). Meanwhile, the effectiveness of its digital reading text depends on students' ability to manage technical barriers.

In terms of practice, lecturers are encouraged to adopt strategies that strengthen students' digital reading skills, including guided annotation, structured reading tasks, and balanced screen-time management (Hidayati, 2018; Kopitski, 2007). Training in digital literacy and ergonomic awareness can also help mitigate health-related issues and improve concentration.

From a policy perspective, institutions should prioritize investment in stable digital infrastructure, promote awareness campaigns on healthy digital habits, and consider blended learning models that combine digital and printed resources (Alsadoon, 2020; Islami & Warni, 2020).

Such measures would not only enhance comprehension but also ensure that the integration of digital texts in education supports equitable, sustainable, and effective learning outcomes.

CONCLUSION AND SUGGESTION

This study concludes that students in the English Education Department at University Muhammadiyah of Prof. Dr. Hamka (UHAMKA) faces multifaceted challenges in comprehending digital reading texts. Quantitative results showed that most respondents (78%) were at the medium comprehension level, with only 9% at the easy level and 13% at the difficult level. Questionnaire data revealed high student motivation to access the digital reading text. However, they experienced recurring difficulties such as loss of concentration, unstable internet connections, distractions, eye strain, and time-consuming navigation, as revealed in the interview results.

In the Indonesian higher education context, where digital integration is rapidly expanding, this study highlights the importance of aligning motivation with effective reading comprehension strategies. While many students perceive digital texts as motivating and interesting, their performance remains clustered at the medium level. This suggests that motivation alone is insufficient without institutional support and pedagogical innovation. By addressing both the opportunities and challenges of digital reading, universities can empower students to achieve higher levels of reading comprehension.

REFERENCES

- Alsadoon, H. (2020). Electronic books in higher education: Opportunities and challenges. *Journal of Educational Technology*, 15(2), 45–56. <http://dx.doi.org/10.7575/aiac.ijels.v.8n.2p.44>
- Azwar, S. (2012). *Compilation of Psychological Scales*, 2nd Edition. Student Library.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Creswell. (2009). *Creswell (2008) Research Design.pdf* (3rd ed.). SAGE Publications.
- EtiKan, I., & Bala, K. (2017). Sampling and sampling methods. 5(6), 215–217. <https://doi.org/10.15406/bbij.2017.05.00149>
- Hidayati, N. (2018). Reading comprehension difficulties among EFL learners. *Indonesian Journal of English Education*, 5(1), 23–34. <https://doi.org/10.15408/ijee.v5i1>

- Islami, R., & Warni, S. (2020). The use of e-books in reading activities: A case study in higher education. *International Journal of Language Education*, 4(2), 112–121. <https://doi.org/10.26858/ijole.v4i2>
- Jeong, H. (2012). The advantages and disadvantages of digital reading. *Computers & Education*, 59(2), 338–348. <https://doi.org/10.1016/j.compedu.2012.01.017>
- Kazazoglu, S. (2020). Digital reading and its challenges. *International Journal of Language Education*, 8(3), 112–125. <https://doi.org/10.26858/ijole.v8i3>
- Kopitski, A. (2007). Inference-making in reading comprehension. *Literacy Studies*, 12(4), 56–67. <https://doi.org/10.4135/9781036235383.n5>
- MomNalu, B. H. (2019). Students' Perception of Digital Texts Reading: A Case Study at the English Education Department of Indonesian Christian University. *JET (Journal of English Teaching)*, 5(3), 191–203. <https://doi.org/10.33541/jet.v5i3.1312>
- Nisak, K., & Yunus, M. (2020). Perceptions of digital reading motivation among EFL learners at Malang Islamic University. *Journal of English Language Teaching and Research*, 5(3), 211–220.
- Solak, E. (2014). Digital reading strategies and comprehension difficulties. *Procedia – Social and Behavioral Sciences*, 152, 104–110. <https://doi.org/10.1016/j.sbspro.2014.09.168>