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EFL Pre-service Teachers' Perceptions Towards Digital Academic Reading

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Abstract

E-learning has increasingly focused on improving digital reading skills and developing an efficient digital reading mode as digital reading becomes more prevalent. This study explored students' perceptions of digital academic reading in e-learning, focusing on enhancing digital reading competency and establishing an effective reading mode. Using a qualitative research approach defined by Creswell (2014), the study targeted 2019 A English Department students at Mulawarman University. From a questionnaire, nine participants were selected for interviews. Findings indicated that all participants had positive attitudes toward digital academic reading, with an average questionnaire score of 80.6. Most preferred digital reading over printed materials, particularly in the EFL (English as a Foreign Language) context at higher education levels. The advantages of digital reading included accessibility, practicality, versatility, portability, lighting independence, and reduced sleepiness. However, disadvantages such as reliance on the internet and battery life, notification distractions, and eye strain were noted. Despite some drawbacks, the study concluded that digital academic reading was highly effective for higher-education EFL students. These insights contributed to developing more efficient digital reading strategies in e-learning environments.

Keywords: EFL pre-service teachers, students' perceptions, digital academic reading

1. Introduction

Digital reading has become increasingly important in education, particularly in learning English as a Foreign Language (EFL). Teachers are exploring ways to engage technologically immersed students through digital formats, which offer various educational benefits (Liman-Kaban & Karadeniz, 2021). Due to its increasing prevalence, digital reading, also known as "online reading" or "on-screen reading," has gained attention in e-learning (Chen et al., 2019). Reading digital materials encourages EFL students to read more. Compared to traditional reading formats like PDFs and printed books, students spend less time reading digital content while maintaining engagement and self-efficacy (Liman-Kaban & Karadeniz, 2021). Additionally, digital reading tools can support multilingual households (Yang et al., 2022) and be effective when a human mediator, such as a teacher or tutor, is present (Estaji & Saeedian, 2020). It also enhances students' skills in finding, synthesizing, and navigating information (Li, 2020).

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EFL teachers, particularly Swedish instructors, view digital reading as a practical approach to bridging English skill gaps among students (Bunting et al., 2021). Students express positive attitudes toward digital reading and prefer mobile phones for language learning due to their portability and user-friendly features (Yu et al., 2022). WhatsApp, blogs, and podcasts have proven to improve reading comprehension by offering interactive and critical engagement with texts (Azizi et al., 2022). However, not all students adapt easily to digital reading. Some may struggle to develop a habit of reading digitally. Pilot projects and student feedback are necessary before full classroom implementation to ensure its effectiveness. Stable internet connectivity is also crucial for a successful digital reading experience (Liman-Kaban & Karadeniz, 2021).

Academic reading, which includes scholarly articles and online resources, is essential for EFL students in higher education (Csomay & Prades, 2018). However, research shows that reading skills do not automatically improve at the tertiary level, emphasizing the need for intervention techniques (Desa et al., 2020). Despite its significance, academic reading remains underexplored in EFL contexts (Albashtawi, 2019). Comparative studies between digital and printed reading indicate that digital content positively influences EFL students' reading motivation, self-efficacy, curiosity, and comprehension (Liman-Kaban & Karadeniz, 2021). Students reading digital books demonstrate a better understanding of vocabulary, problem-solving, and plot elements. Digital reading allows students to seek help anonymously, unlike traditional reading, where asking questions in class may cause hesitation. Access to e-books and reading apps enables students to read at their own pace without interruption.

This study is important because digital reading has become widely used in EFL contexts, and it is essential to understand the perceptions of English Language Education Programme students, who are future EFL teachers, on this topic. Additionally, the findings can help schools and universities address this growing trend and support students in adapting to digital reading.

The research focuses on two key questions:
(1) What are EFL pre-service teachers' perceptions of digital academic reading? and
(2) What are the advantages and disadvantages of digital academic reading compared to printed academic reading?

2. Literature Review

Reading in a second language (L2) differs from first-language (L1) reading, as L2 readers employ multiple strategies to overcome language challenges, while L1 readers typically use only one (Yeom & Jun, 2020). At the tertiary level, students must understand reading purposes and learn efficient academic reading techniques (Albashtawi, 2019). With the rise of digital technology, teachers must integrate digital tools to engage students in academic reading (Albashtawi, 2019). Students increasingly prefer online reading due to its interactive nature (Liman-Kaban & Karadeniz, 2021). Digital reading is more dynamic than traditional reading, including text, images, videos, and audio (Chen et al., 2019).

Studies examining digital reading perceptions, such as Bunting et al. (2021), found that Swedish teachers viewed digital personalized learning tools as a way to address varying English proficiency levels. However, they also noted a mismatch between these tools and the Swedish curriculum's emphasis on communication. Digital academic reading merges digital

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reading—accessing transformed physical texts via electronic devices (Kesson, 2020)—with academic reading, which involves comprehension and interpretation of information (Desa et al., 2020). As instructional methodologies evolve, digital reading has increasingly replaced printed reading. Bresó-Grancha et al. (2022) examined reading times and comprehension across formats with 40 university students. Their study found that digital reading was faster, though comprehension and word recognition were slightly better in print. Despite these marginal differences, students preferred digital reading due to its efficiency.

Several benefits of digital academic reading have been identified. Yeom & Jun (2020) found that students preferred highlighting text digitally rather than using pencils for printed materials. Additionally, Kaban & Karadeniz (2021) demonstrated that gamified e-books significantly boosted reading motivation. Digital books also provide immediate assistance, reducing reliance on instructors and enhancing comprehension (Kaban & Karadeniz, 2021).

Despite its advantages, digital reading presents challenges. Some students struggle with digital EFL materials, making engagement difficult (Kaban & Karadeniz, 2021). Moreover, the divide between digital and print resources complicates integration in educational settings (Håkansson-Lindqvist, 2019). Liman-Kaban and Karadeniz (2021) suggest trial programs and stable internet access for smoother digital learning experiences to address these issues. Additionally, Håkansson-Lindqvist (2019) emphasizes the need for ICT proficiency among students and teachers to bridge the digital-print gap effectively.

Digital academic reading has been widely implemented in EFL education. Yang et al. (2022) found that bilingual prompts in digital storybooks improved young students' comprehension and motivation. Tümen-Akyıldız & Çelik (2022) demonstrated that WhatsApp-supported reading exercises enhanced secondary school students' reading skills. Similarly, Azizi et al. (2022) found podcasting and blogging beneficial for Iranian advanced EFL students' reading comprehension.

3. Methods

This study used qualitative research to explore EFL pre-service teachers' perceptions of digital academic reading. As defined by Creswell (2014), qualitative research focuses on understanding the meanings individuals or groups assign to social or human experiences. The study used a descriptive case study approach that was appropriate for gaining new insights into how pre-service teachers perceive digital academic reading. The research targeted undergraduate students in the English Language Education Programme at Mulawarman University, focusing on their perspectives on the effectiveness and future potential of digital academic reading.

The study participants were selected from the 2019 A class, specifically those who had completed the Advanced Reading Comprehension course. This course incorporated digital academic reading, ensuring students had prior experience with the topic. Out of 25 students who passed the course, a purposive sampling technique was used to select nine participants representing different perspectives. A questionnaire distributed via Google Forms helped identify participants, and students with the highest, middle, and lowest scores were chosen for further study. These participants were then contacted for follow-up interviews.

Data collection involved both a questionnaire and interviews. The questionnaire was adapted from Yu et al. (2022), which utilized the unified theory of technology acceptance and

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usage. Ten out of twelve original items were included, covering perceived usefulness, ease of use, satisfaction, and acceptance. The questionnaire was modified to align with digital academic reading rather than mobile-assisted reading. Additionally, demographic information, such as student names and active contact numbers, was collected. The questionnaire took approximately 5-8 minutes to complete.

The study also conducted semi-structured interviews to gain deeper insights into participants' perceptions. The interview protocol was adapted from previous studies by Caverly et al. (2019), Bunting et al. (2021), and Håkansson-Lindqvist (2019), which examined university students' and teachers' perspectives on digital reading. Depending on availability, interviews consisted of five main and two follow-up questions and were conducted in English, either in person or via Zoom. All interviews were recorded and transcribed, and ethical considerations were strictly followed to ensure confidentiality and informed consent.

For data analysis, thematic analysis was applied, following Creswell's (2014) six-step process: organizing data, reviewing responses, coding information, categorizing themes, structuring narratives, and interpreting findings. Questionnaire results were manually analyzed, while interview transcriptions were processed using Transkriptor Pro for transcription and QDA Miner for coding. The coding process involved segmenting and categorizing data into key themes such as EFL pre-service teachers' perceptions, advantages, and disadvantages of digital academic reading.

Triangulation was used to ensure research validity. The study applied theoretical triangulation by incorporating theories from Gutiérrez (2019) and Yu et al. (2022) to support data interpretation. These theoretical perspectives helped align participants' responses with existing research findings.

4. Result

1. Questionnaire

To select participants, a perception questionnaire adapted from Yu et al. (2022) was used. It was distributed through Google Forms to class A of the English Department (2019) and contained ten statements about EFL pre-service teachers' perceptions of digital academic reading. The statements assessed expectations of digital reading's efficiency, convenience, and effectiveness for academic purposes.

Chart 1. Questionnaire Results

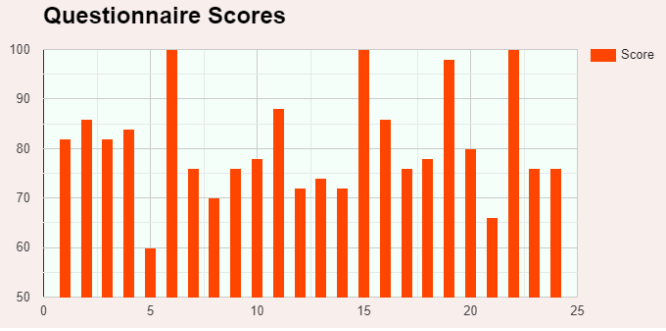

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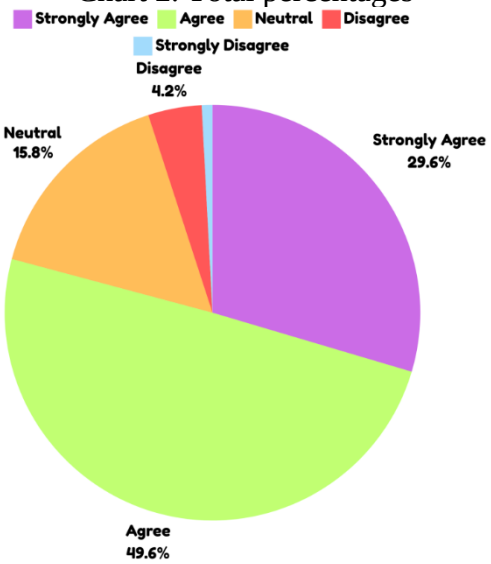
Chart 2. Total percentages



Results:

49.6% agreed, and 29.6% strongly agreed, showing a generally favorable perception.

15.8% remained neutral, while 4.2% disagreed, and 0.8% strongly disagreed.

Scores ranged from 60 to 100, with an average of 80.6, indicating a predominantly positive perception.

To select research participants, the highest (100), middle (74-76), and lowest (60-72) scorers were chosen, resulting in nine participants (P1–P9) for follow-up interviews.

2. Interview

Nine participants were interviewed face-to-face or via Zoom. The interviews used a semi-structured format with five main questions, and responses were analyzed thematically.

a. Preference Between Digital and Printed Reading

Six out of nine participants preferred digital reading due to its features, accessibility, and reduced costs:

- P5: *"Regarding journal articles, I prefer reading using a digital device because of its features. It helped me to understand the material more easily. For example, I have to highlight a sentence. All I need to do is click it, and done. I do not have to print articles, books, or encyclopedias, which will cost me more since I already have a device that can function as a reading tool. Usually, when I read journal articles, I can have more than ten articles, and it is easier for me to find articles that I want, among other articles."*
- P3: *"I prefer digital reading. Because I do not know why… If I read the printed reading materials, I get sleepy easily. If I use digital reading materials, I can distract myself with notifications that help me to avoid sleepiness."*

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- P6: *" I still prefer digital reading to printed reading because of its accessibility. As long as our devices are connected to the internet, we can read them anywhere. Even we could share it with our peers. Unlike printed books, which we are concerned will be damaged."*

Three participants preferred printed reading due to focus, comprehension, and physical engagement:

- P4: *" I prefer printed materials because they strain my eyes less. I also have difficulties staying focused when I am using a gadget. "*
- P9: *" Personally. I prefer printed reading to digital reading. I can read more comprehensively and locate pivotal information faster."*
- P8: *" I prefer printed books when it comes to reading for academic purposes; most printed books provide interactive and even pop-up pictures to support the materials inside the book. They helped me to understand what the book was trying to explain and reduce boredom. I find myself immersed in the materials when I touch the physical book, which is the feeling I cannot find when reading digital materials."*

b. Effectiveness of Digital Academic Reading

All nine participants agreed that digital academic reading is effective, citing different factors:

- Cost & Practicality: P2 emphasized accessing free materials online and avoiding carrying heavy books.
- Reading Comprehension: P5 found digital reading effective in understanding key points.
- Technological Skills: P7 stated, *" I think it is effective. As pre-service teachers, since we are in the digital era, we can gain our reading skills. We can also gain digital or technological skills."*
- Pedagogical Benefits: P3 noted that digital reading can make teaching more engaging.

However, P9 mentioned that effectiveness varies by education level: *"I think it depends. It is ineffective in certain levels of education, for example, from elementary to junior high school. Not every student has the devices to access digital reading materials. Otherwise, I think it is already effective enough if we talk about how it is used in tertiary levels, for example, senior high school and higher education."*

c. Advantages of Digital Academic Reading

Participants identified several advantages of digital academic reading:

1. Accessible (P8): *"Digital reading is usually easy to access and read anywhere."*
2. Practical (P4): *"Its practicality. In this era, we often use modern technology. It is everywhere, and its purpose is to make our lives easier and simpler."*
3. Versatile (P1): *"We can use different apps and various features when we do digital academic readings. Because in apps such as Adobe Premiere, we can use tools like highlight, make notes, or just want to make a scratch. I can do it all at one, just in one place and a few tools rather than a printed one."*

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4. Portable (P7): *"It is portable so that we can read anywhere and anytime. Unlike printed reading, which requires us to bring physical books. Sometimes, we do not want to carry it, right?"*
5. Lighting-Free (P5): *"I can also do many things with the filter in a device and can read anytime, anywhere I want. Unlike the physical book, it is because I do not need a light source to read with a digital device."*
6. Sleepiness-Free (P3): *"It helps me to avoid sleepiness. When I read printed reading materials, I get sleepy easily. However, when I read digital reading materials, I can distract myself with notifications that help me to avoid sleepiness."*

d. Disadvantages of Digital Academic Reading

Despite having many advantages, digital academic reading also has some disadvantages.

1. Connection and Battery Dependency (P2): *"You have to make sure you have a good connection, and you might have to make sure that you are not running off the battery because if it is running out of battery, then you cannot even open your device. Moreover, that may be a problem because sometimes we forget to bring our charger when we go out."*
2. Notification Distractions (P6): *"It can be challenging to focus on digital sources due to many online distractions. The notification from the other apps is concerning."*
3. Eye strain (P1): *"Digital reading might affect our health since we often interact with digital devices emitting radiation. Also, it can affect our eyes from Blu-ray."*

5. Discussion

1. EFL pre-service teachers' perceptions towards digital academic reading

The research explored EFL pre-service teachers' perceptions of digital academic reading, highlighting its advantages and disadvantages. Overall, the findings indicate that EFL pre-service teachers generally perceive digital academic reading positively, as reflected in an average questionnaire score of 80.6. Many respondents preferred digital reading over printed reading due to its accessibility, convenience, and effectiveness in an EFL learning context.

Regarding personal preferences, most pre-service teachers favored digital reading because of its multiple features, affordability, and ability to reduce sleepiness. Digital applications allow for easy note-taking, highlighting, and organization of materials without requiring additional tools such as pens or paper. Furthermore, digital reading offers flexibility and convenience; readers can access materials from anywhere. These findings align with Bresó-Grancha et al. (2022), who found that university students also prefer digital reading. However, a minority of pre-service teachers still favored printed reading due to its ability to reduce eye strain, enhance comprehension, and provide a more immersive reading experience. Printed materials allow for better focus and deeper engagement with the text, making them a preferred choice for some learners.

Digital academic reading is also considered effective in an EFL context. Many pre-service teachers reported that it enhances comprehension and makes absorbing

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information easier. Additionally, digital reading helps learners develop technological and pedagogical skills essential for modern education. This supports Li (2020), who stated that digital academic reading improves computer skills such as finding, organizing, and storing information. Similarly, Albashtawi (2019) emphasized the importance of exploring how technology can enhance teaching and learning. However, while digital reading is effective in higher education, it may be less successful at lower education levels due to unequal access to technology, which needs to be addressed.

2. Advantages and disadvantages of digital academic reading

Among the key advantages of digital academic reading is accessibility. Digital materials can be accessed anytime and anywhere, offering flexibility and efficiency for students. Practicality is another significant benefit, as digital reading allows for better organization of materials. Students can bookmark, highlight, and store multiple sources in one place, making it easier to manage academic content. This aligns with Lin (2014), who argued that reading on digital devices is more practical than printed materials. Another advantage is versatility, as digital platforms provide built-in features like search functions, note-taking, and highlighting, which improve comprehension. Yeom (2020) also pointed out that students prefer digital tools for marking important text and unfamiliar vocabulary. Additionally, digital reading is portable, as digital devices can store thousands of books, eliminating the need to carry heavy textbooks. Other benefits include built-in lighting, allowing reading in dim environments, and the ability to keep readers engaged, reducing sleepiness during study sessions. This aligns with Liman-Kaban (2021), who found that online reading provides an engaging and dynamic learning experience.

Despite its advantages, digital academic reading has some disadvantages. One of the main drawbacks is its dependency on internet connection and battery life. A weak or unstable internet connection can limit access to materials, which is a challenge in areas with limited connectivity. This concern is supported by Liman-Kaban and Karadeniz (2021), who emphasized that stable internet access is crucial for digital learning. Additionally, battery dependency can disrupt study sessions if devices run out of power. Another disadvantage is notification distractions, as alerts from social media or other applications can shift students' focus away from reading. Ishtaiwa (2014) identified distraction as one of the most significant drawbacks of mobile learning. However, students can mitigate this issue by enabling "do not disturb" mode or using focus-enhancing applications. Lastly, eye strain is a common issue associated with prolonged screen exposure. Blue light emissions from digital screens can cause discomfort, dryness, and fatigue, making it difficult to maintain focus. Students are encouraged to take breaks, adjust screen brightness, or use alternative formats such as audiobooks or text-to-speech tools to minimize eye strain.

6. Conclusion

It was found that all pre-service teachers have positive perceptions towards digital academic reading. This conclusion was drawn because the average result of the questionnaire was 80.6, with 3 respondents getting perfect scores and the lowest score being 60, which

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showed that the respondents perceived digital academic reading positively. In the follow-up interviews, most prefer digital academic reading to printed academic reading because digital reading offers many features, reduces sleepiness, allows access anywhere, and other factors. Moreover, the implementation of digital academic reading in the EFL context is generally very effective and beneficial in cost, practicality, reading comprehension, reading skills, technological skills, and pedagogical skills, especially at higher education levels such as senior high school and college. The research also emphasized the advantages of digital academic reading, including accessible, practical, versatile, portable, lighting-free, and sleepiness-free. At the same time, the research also found disadvantages of digital academic reading, such as connection and battery dependency, notification distractions, and eye strain.

Based on the findings and the conclusion, the researcher would like to offer some suggestions below:

1. Both students and teachers can incorporate training on how to use digital academic reading platforms and their tools.
2. Access to digital devices and internet connections, particularly for younger students or in under-resourced areas, may be provided.
3. Digital readers can adjust their device settings to avoid health issues.
4. Future research is suggested to focus on exploring the implementation of digital academic reading at lower education levels.

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