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Digital Literacy and Reading Comprehension Achievement: A Correlation Study

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Abstract This study examined the correlation between digital literacy and reading comprehension among 99 fifth-semester pre-service teachers in the English Education Program at Universitas Islam Negeri Raden Fatah Palembang. Digital literacy involves using digital technologies to access and evaluate information, while reading comprehension focuses on understanding texts. Data were collected through a questionnaire and a test, then analyzed using descriptive statistics, Pearson correlation, and regression analysis. Results showed participants had good digital literacy but fair reading comprehension, with a very low, non-significant correlation between the two.

Keywords: Digital Literacy; Pre-service Teacher; Reading Comprehension Achievement;

Abstrak Penelitian ini mengkaji korelasi antara literasi digital dan pemahaman membaca pada 99 mahasiswa calon guru semester lima Pendidikan Bahasa Inggris di UIN Raden Fatah Palembang. Data dikumpulkan melalui kuesioner dan tes, lalu dianalisis menggunakan statistik deskriptif, korelasi Pearson, dan regresi. Hasil menunjukkan literasi digital peserta baik, namun pemahaman membaca cukup, dengan korelasi sangat rendah dan tidak signifikan.

Kata Kunci: Literasi Digital; Mahasiswa Calon Guru; Pencapaian Pemahaman Membaca;

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INTRODUCTION

Technology plays a crucial role in modern education by providing access to diverse learning materials and enabling efficient information retrieval (Helingo, 2021). The integration of digital tools has made English learning resources more accessible, allowing pre-service teachers—undergraduate students training to become educators—to engage in learning anytime and anywhere (Hidayat et al., 2022; Sumiati et al., 2022). These digital platforms offer cost-effective solutions, including e-books and online articles, fostering digital literacy and enhancing academic skills (Yang, 2023; Khumaeroh & Mayuni, 2023).

Digital literacy involves the ethical, safe, and effective use of digital tools while critically engaging with information (Hamidah, 2021). It equips pre-service teachers with the ability to access, evaluate, and utilize information efficiently, which is essential for navigating modern educational demands (Tohara et al., 2021). Furthermore, digital platforms have the potential to improve reading comprehension by providing interactive features and diverse reading materials, allowing learners to study at their own pace (Subaveerapandiyan & Sinha, 2022).

However, the relationship between digital literacy and reading comprehension remains unclear. While some studies report a positive correlation (Agustiani, 2022), others find weak or insignificant results (Alfarisyi, 2020; Safitri, 2023). Preliminary observations of pre-service teachers at Universitas Islam Negeri Raden Fatah Palembang revealed active use of digital platforms for reading courses but persistent challenges in evaluating source credibility and understanding complex information.

To address these gaps, this study investigates the correlation between digital literacy and reading comprehension achievement among fifth-semester pre-service teachers in the English Education Study Program. The findings aim to provide empirical evidence, inform curriculum improvements, and support pre-service teachers' academic and professional development in the digital era.

METHOD

This study employed a quantitative correlational design to investigate the relationship between digital literacy and reading comprehension. Correlational

research identifies patterns or associations between variables without implying causation, making it ideal for understanding their connection in an educational context (Cresswell, 2012; Fraenkel et al., 2012).

The study involved all fifth-semester pre-service teachers in the English Education Program at Universitas Islam Negeri Raden Fatah Palembang for the 2023–2024 academic year. A total sampling technique was applied, including all eligible participants to ensure comprehensive representation. Two instruments were used: a digital literacy questionnaire and a reading comprehension test. The digital literacy questionnaire, based on Sidauruk et al.'s (2021) Digital Literacy Assessment Scale (DLAS), included 52 items rated on a 4-point Likert scale. The reading comprehension test, adapted from Mahnke and Duffy (1996), comprised 40 multiple-choice questions with a total score of 100.

Digital literacy scores were analyzed using the DLAS scoring system, ranging from 1 (Never) to 4 (Always), with scores categorized into three levels: Emerged, Developed, and Established (Febliza et al., 2023). Reading comprehension scores were classified into five levels—Excellent, Good, Fair, Poor, and Failed—following Harris and Graham's (2004) criteria. Data analysis involved calculating and interpreting scores to identify patterns and relationships between the variables.

RESULT AND DISCUSSION

The digital literacy levels of pre-service teachers were assessed using a Digital Literacy Assessment Scale (DLAS) developed by Sidauruk et al. (2021). This questionnaire consisted of 52 statements, scored on a 4-point Likert scale, and aimed to measure various aspects of digital literacy, including the ability to access, process, and utilize digital resources. The data collected were analyzed using descriptive statistics, and the results provide a clear picture of the participants' digital literacy.

The results showed that the mean score for digital literacy was 3.09, with a standard deviation of 0.431, indicating that the participants, on average, exhibited a high level of digital literacy. The scores ranged from 2.0 to 4.0, suggesting that the majority of the participants demonstrated strong digital literacy skills. Notably,

there were no participants who scored in the "Emerged" category (1.0-1.9), and the lowest score was 2.0, which falls within the "Developed" category.

The distribution of participants into digital literacy levels, as shown in Table 2, revealed that 94 out of 99 participants (95%) were categorized as having "Established" digital literacy skills, while 5 participants (5%) had "Developed" skills. This finding indicates that most pre-service teachers possess the necessary digital skills to navigate and utilize digital tools for academic purposes effectively.

Table 1. Distribution of Pre-service Teachers' Digital Literacy

Classification	Score	Frequency	Percentage (%)
Emerged	1.0 – 1.9	0	0
Developed	2.0 – 2.9	5	5
Established	3.0 – 4.0	94	95
Total		99	100

The second part of the study involved a reading comprehension test to evaluate the pre-service teachers' ability to understand and interpret written texts. The test consisted of 40 multiple-choice questions and covered various reading comprehension aspects, including vocabulary, inference, and text structure. The results were analyzed to determine the reading comprehension levels of the participants.

The mean score for reading comprehension achievement was 49.03, with a standard deviation of 15.959, indicating significant variation in performance among the participants. The scores ranged from 13 to 90, with a substantial number of participants scoring in the lower ranges, suggesting that many pre-service teachers struggled with reading comprehension tasks.

Table 2 shows the classification of reading comprehension scores. It was found that 39.39% of participants scored in the "Fair" category, which was the largest group, while 22.22% achieved "Good" scores. Only 1.01% of participants reached the "Excellent" level, and 35.35% were classified as "Poor." This highlights a disparity in reading comprehension abilities among the participants, with a large proportion performing below average.

Table 2. Distribution of Pre-service Teachers' Reading Comprehension Test

Classification	Score	Frequency	Percentage (%)
Failed	Under 20	2	2.02%
Poor	21 – 40	35	35.35%
Fair	41 – 60	39	39.39%

Classification	Score	Frequency	Percentage (%)
Good	61 – 80	22	22.22%
Excellent	81 – 100	1	1.01%
Total		99	100%

To assess the correlation between digital literacy and reading comprehension achievement, a Pearson Product Moment Correlation was performed. The results showed a very low correlation of 0.041, with a p-value of 0.686, which was higher than the significance threshold of 0.05. This suggests that there is no statistically significant correlation between digital literacy and reading comprehension achievement among the pre-service teachers.

Table 3. Result of Pearson Product Moment Correlation Research

Correlations

		Digital Literacy	Reading Comprehension Achievement
Digital Literacy	Pearson Correlation	1	.041
	Sig. (2-tailed)		.686
	N	99	99
Reading Comprehension Achievement	Pearson Correlation	.041	1
	Sig. (2-tailed)	.686	
	N	99	99

Table 4. Interpretation of Correlation

Coefficient of Correlation	Interpretation
0.00 – 0.10	Very low correlation
0.10 – 0.39	Low correlation
0.40 – 0.59	Moderate correlation
0.60 – 0.79	Strong correlation
0.80 – 1.00	Very strong correlation

From this table, the result showed very low correlation, so the null hypothesis (Ho) is accepted, and the alternative hypothesis (Ha) is rejected, confirming that digital literacy does not have a significant impact on reading comprehension achievement in this study.

Further analysis was conducted using regression analysis to determine if digital literacy influences reading comprehension achievement. The regression results indicated that digital literacy explained only 0.2% of the variation in

reading comprehension scores ($R^2 = 0.002$). This finding further reinforces the lack of substantial impact of digital literacy on reading comprehension achievement.

The t-value for the digital literacy variable was 0.406, and the significance level was 0.686, which is much higher than the critical value of 0.05. This suggests that digital literacy does not significantly influence reading comprehension achievement among pre-service teachers.

The findings of this study suggest that, despite the high levels of digital literacy among pre-service teachers, there is no significant correlation with their reading comprehension achievement. The lack of a statistically significant relationship implies that digital literacy, while important for various aspects of academic and professional life, does not directly enhance reading comprehension in the context of this study.

The study found that digital literacy accounted for only 0.2% of the variance in reading comprehension, which is a minimal influence. Other factors, such as reading habits, the types of materials engaged with, and cognitive skills, likely play a more prominent role in shaping reading comprehension abilities. This suggests that while digital platforms may provide convenient access to information, their impact on academic skills such as reading comprehension may be limited unless used in ways that foster deeper engagement with academic texts.

The findings also highlight that, while digital literacy may improve skills like information access and processing, it does not necessarily translate into better comprehension of academic materials, which often require a different set of reading strategies and cognitive engagement.

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CONCLUSION

In conclusion, this study revealed a very low correlation between digital literacy and reading comprehension achievement among pre-service teachers in the English Education Study Program at Universitas Islam Negeri Raden Fatah Palembang. Despite high levels of digital literacy, the majority of participants scored at an average to poor level in reading comprehension, with a significant proportion falling below expectations.

The study suggests that digital literacy, while essential, may not be sufficient on its own to improve reading comprehension outcomes. It is likely that other factors, such as reading habits, the nature of the texts being engaged with, and the cognitive strategies used by readers, have a more significant influence on academic reading success.

This chapter's findings serve as a foundation for further research into the relationship between digital literacy and academic skills, highlighting the need to explore other variables that may influence reading comprehension achievement in modern educational contexts.

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