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Digital Literacy and Its Impact on English Learning Comprehension: Evidence from Private Higher Education Institutions in Jakarta

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Abstract

Digital literacy has become a critical competency for students in higher education, particularly in English language learning, where technology increasingly shapes access to resources and modes of comprehension. This study investigates the impact of digital literacy on students' English learning comprehension in private higher education institutions in Jakarta. Using a quantitative research design, data were collected from 195 respondents enrolled in an English Language Education program through questionnaires distributed online. The instrument assessed students' self-reported digital literacy competence, frequency of digital tool usage, and perceived impact on English comprehension. Data were analyzed using descriptive statistics and simple linear regression. The results demonstrate that digital literacy significantly influences students' comprehension in digital-based English learning. Regression analysis revealed that the frequency of using digital technology explained 20.7% of the variance in comprehension (Model 1, $R^2 = 0.207$, $p < 0.01$), while inclusion of demographic variables increased the explanatory power to 32.8% (Model 2, $R^2 = 0.328$, $p < 0.01$). However, factors such as gender, age, semester level, and prior English learning experience did not significantly predict comprehension outcomes. Students with higher digital literacy reported greater confidence, motivation, and ability to evaluate and apply online resources effectively. These findings confirm that digital literacy is a key determinant of English learning success, extending beyond technical skills to include attitudes and critical engagement with digital content. The study suggests that integrating digital literacy training into English curricula can enhance learning outcomes, foster autonomy, and align education with contemporary digital practices.

Keywords Digital literacy; English comprehension; English learning; Digital technology

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INTRODUCTION

Digital literacy is an essential skill in the academic world, vital for both educators and students to navigate and comprehend a wide range of information sources. According to Pangrazio et al. (2020), "digital literacy" is a key concept that helps teachers, researchers, students, and the education sector at large understand the evolving demands placed on schools and learners in a digital society. Defined as the ability to effectively use digital tools and resources for communication and knowledge acquisition, digital literacy has transformed how students learn and engage with languages—particularly English (Burgos & Anthony, 2024).

The integration of digital literacy into learning is increasingly essential to equip students with skills that align with technological advancements and global demands. English language instruction offers a strategic opportunity to incorporate digital literacy through curriculum objectives and competencies. For instance, when teaching news texts,

educators can concurrently develop students' ability to identify fake news. Among the various subjects, English is particularly suitable for this integration, as it is the dominant language across multiple fields, including technology (Murtafi'ah & Putro, 2019). English is also highly relevant in school-based technology use, as a significant number of educational applications, websites, programs, and content are primarily available in English (Kure et al., 2023). With the rising significance of digital literacy in both formal and informal education, it is important to emphasize not only digital knowledge and technical skills but also the attitudes necessary for effective use of digital technology for communication, collaboration, and learning support (Anthonysamy et al., 2020). Despite growing recognition of its impact on learning outcomes and comprehension, many students still lack comprehensive digital literacy skills. Kim Thao et al. (2024) found that while students with limited reading ability may be able to access basic online information, they often struggle to identify key data, explain concepts, describe processes, and construct arguments based on digital resources—ultimately hindering their comprehension.

Therefore, this study examines how students' digital literacy influences their ability to develop skills in using digital tools for communication and learning. In general, digital skills impact the intensity of ICT use, and vice versa. The effect of ICT on student performance in digital literacy is influenced by the level of technology use, students' comprehension, and its role in English learning (Ben Youssef et al., 2022). While previous studies have explored digital literacy in educational contexts, several limitations remain. For instance, Dashtestani and Hojatpanah (2022) conducted a study involving middle school students; however, the participants were too young to engage with macro-level strategies and complex issues related to digital literacy. In some parts of the study, participants were unable to respond to interview questions or complete the questionnaires. Similarly, Nguyen and Habók (2022) investigated the digital literacy of EFL university students, but their study did not focus on students from specific academic programs. Instead, it included a broad range of students from various language-related majors.

To address these gaps, the present study aims to examine whether digital literacy skills influence students' comprehension in English language learning and to explore how these skills impact their learning outcomes. This study focuses on students from specific academic programs in private higher education institutions. The following research questions guide this study:

1. Does digital literacy affect students' understanding in English language learning?
2. What is the impact of digital literacy on students' comprehension in English language learning?

Digital literacy in English Learning Comprehension

Mastering digital literacy skills has become increasingly important for language learners. Research has shown that digital reading can significantly enhance comprehension skills more effectively than traditional teaching methods (Kaman & Ertem, 2018). For instance, studies indicate a positive correlation between digital literacy and online learning capacity—students with higher levels of digital literacy are better equipped to engage with and benefit from online learning materials. Digital literacy has also been linked to perceived teacher support, which plays a vital role in shaping student learning outcomes (Son et al., 2017; Zheng et al., 2024). The advantages of digital tools include expanded access to learning resources, more intensive language practice, increased engagement through multimedia, and greater autonomy in personalized learning. Through digital technology, students can access a wide range of language learning materials and progress at their own pace, enabling more effective and tailored language acquisition (Burgos & Anthony, 2024). Furthermore, research by Nguyen and Habók

(2022) found that students with strong digital literacy skills and positive attitudes toward the use of technology in language learning recognize the value of digital tools in supporting their studies. This growing student awareness underscores the importance of prioritizing digital literacy in English language education. Developing these skills is essential for students to thrive in a digitally connected learning environment.Digital Skill and Its Impact

Digital skills are a key factor in the success of English language learning. According to Olaniyi (2021), digital skills refer to an individual's ability to search for, evaluate, and communicate information clearly across various online platforms. These skills include selecting and using technological tools effectively to complete tasks, engage in learning, and navigate the digital environment responsibly, including on social media, to avoid potential risks (Anthonysamy et al., 2020). Enhancing students' digital literacy and their ability to use information technology is especially important in preparing them for independent learning. When students possess strong digital skills, they are better equipped to manage their own learning processes. On the other hand, even students with basic digital skills—such as internet navigation and information retrieval—can benefit from improved access to and use of online resources (Sari et al., 2020). Digital skills thus play a facilitative role in the learning process. Pagani et al. (2016) found that students' digital and internet skills are positively associated with academic achievement. Learners who are more proficient in using digital tools and online platforms tend to perform better academically. These skills not only enhance individual student outcomes but also bring about positive transformations in teaching and learning processes. The digitalization of education has made learning more flexible and accessible, especially through remote learning modalities. As a result, there is a growing demand for students to acquire advanced digital skills. Johari et al. (2024) emphasize that students with higher digital proficiency experience more substantial benefits from digital learning environments, as they are better able to use, understand, and manage the impact of their digital engagement.

METHOD

Research Design

This study employs a quantitative research methodology. Data were collected through questionnaires distributed to participants, as this method offers a practical approach to gathering information efficiently while ensuring data validity (Taherdoost & Hamta, 2017). The quantitative approach was chosen to obtain measurable data that could be statistically analyzed to examine the effect of digital literacy on students' comprehension in English language learning.

Participant

The participants in this study were students enrolled in the English Language Education program at a private university in Jakarta, representing a range of academic semesters. A total of 203 students completed the questionnaire. After removing outliers, the final sample consisted of 195 valid responses. Purposive sampling was used, with the inclusion criteria being students from semesters 2 to 10 within the English Language Education program. The distribution of participants was as follows: 22% from semester 2, 23% from semester 4, 24% from semester 6, 31% from semester 8, and 1% from semester 10. This variation in academic levels and backgrounds provides a diverse dataset for analyzing the impact of digital literacy on students' comprehension in English language learning.

Data Collecting Instruments

The instrument used in this study was developed and adapted based on relevant theoretical frameworks and prior research on digital literacy (Dashtestani & Hojatpanah, 2022; Son et al., 2017), the use of ICT tools in education and EFL contexts (Nagy & Habók, 2018), and the relationship between digital literacy and English learning comprehension (Armanda & Yosintha, 2022). The questionnaire items were translated into Indonesian and refined through multiple revisions by both lecturers and researchers to ensure clarity and accuracy. The instrument used in this study was a questionnaire administered via Google Forms, consisting of five sections: (1) background information (6 items), (2) students' perspectives on their level of digital literacy competence (12 items), (3) students' digital literacy skills (7 items), (4) frequency of using digital tools in English learning (4 items), and (5) the perceived impact of digital literacy (7 items). The first section of the questionnaire gathered background information, asking participants about their age, gender, academic year, English learning experience, use of digital technology, and the availability of digital facilities at home and school. The second section explored students' perceptions of their digital literacy competence through 12 multiple-choice items using a 5-point Likert scale, ranging from "No level of competence" (1) to "High level of competence" (5). These items aimed to assess students' self-reported digital knowledge. The third section focused on students' digital literacy skills, consisting of 7 Yes/No items designed to measure their practical abilities in using digital tools. The fourth section examined the frequency of digital tool usage in English learning, using 4 Likert-scale items with responses ranging from "Always" to "Never." Finally, the fifth section assessed the perceived impact of digital literacy on students' English learning comprehension. This section included 7 items rated on a Likert scale from "Strongly Agree" to "Strongly Disagree," aiming to evaluate how students believe their digital literacy skills influence their understanding of English materials.

Data Analysis

This study employed statistical analysis to examine the effect of digital literacy on students' comprehension in English language learning. The questionnaire was distributed online using Google Forms, and the collected data were analyzed using both descriptive and inferential statistical methods. Descriptive statistics were used to summarize and describe the overall patterns in the data, particularly regarding students' digital literacy levels and their English learning comprehension. The data analysis was conducted using Jamovi version 2.2.26. To test the research hypotheses, linear regression analysis was applied to assess the relationship between digital literacy and students' comprehension in English learning. Two regression models were used: Model 1 examined the main effect of the frequency of using technology in digital literacy (FUTD) on individual digital literacy (IDL), while Model 2 assessed the influence of demographic variables. The internal consistency of the instrument was evaluated using Cronbach's alpha, which yielded a value of 0.583. Although relatively modest, this value was deemed acceptable for exploratory research. The results of the regression analysis were used to determine whether digital literacy significantly influences students' comprehension in English language learning.

RESULTS AND DISCUSSION

Students' Digital Literacy Skills

The results indicate that the majority of respondents possess a strong level of digital literacy related to English language learning. Nearly all participants (99%) reported that they could understand English-language content on social media, suggesting frequent exposure to English in digital environments. Only 1% stated that they were unable to

comprehend such content. Regarding their ability to use electronic devices for learning, 95% of respondents stated they could use the search function to independently find English learning materials on their devices. When asked whether they could create and update a webpage to share English learning content, 75% responded affirmatively, while 25% indicated they could not perform this task. In terms of audiovisual content, 96% of students reported that they could understand English-language YouTube videos, while 4% could not. Additionally, 88% of participants stated that they could comprehend English reading materials accessed on their devices, while 12% struggled with understanding these articles. Finally, 92% of respondents expressed comfort in downloading and using applications designed to enhance their English proficiency. The remaining 8% indicated discomfort in doing so.

These results, as summarized in **Table 1**, demonstrate that the majority of students exhibit high levels of digital literacy, particularly in accessing and engaging with English-language content across various digital platforms. This suggests that students are generally well-equipped to use digital tools in support of their English learning process.

Table 1. Students' Digital Literacy Skills

Questions	YES	NO
Can you understand the English content on social media?	194 (99%)	1 (1%)
Can you use the search function to quickly find language learning materials on your device?	185 (95%)	10 (5%)
Can you create and update web pages to share English learning content?	147 (75%)	48 (25%)
Can you understand English YouTube videos?	188 (96%)	7 (4%)
Can you understand reading through the article that you opened on your device?	173 (88%)	22 (12%)
Are you comfortable downloading and using apps that enhance English language skills on digital devices?	181 (92%)	14 (8%)

Technology Used to Learn English and Students' Levels of Digital Knowledge

Table 2 presents the types of digital technology used by students in learning English. More than half of the respondents (54%) reported using cell phones, indicating that mobile devices are the most practical and accessible tools for studying. Meanwhile, 45% of students used other digital devices such as computers, laptops, or tablets. Although this percentage is slightly lower, it suggests that these devices are still commonly used, possibly because they are more suitable for completing assignments or running specific applications. Only 1% of respondents stated that they did not use a cell phone for learning English, confirming that mobile devices remain the most widely used tools for language learning.

Table 2. Technology Used To Learn English

Used phones to learn English	105 (54%)
Learn English on the computer or other device (Laptop, Tablet, etc.)	88 (45%)
Do not use phones to learn English	2 (1%)

In addition to the use of digital technology for learning English, as shown in Table 2, the questionnaire also assessed respondents' digital knowledge, as presented in Table 3. This section examined students' self-reported levels of competence in various digital tools and platforms. Regarding the use of social networking sites or social media platforms such as Instagram, Twitter, TikTok, and Facebook, 97 respondents (50%) reported a high level

of competence, 67 (34%) reported a moderately high level, 29 (15%) reported an average level, and 2 (1%) indicated no competence. In terms of Microsoft Office Word usage, 73 respondents (37%) reported a high level of competence, 80 (41%) reported a moderately high level, 38 (19%) indicated an average level, and 4 (2%) selected low competence. For Microsoft Office PowerPoint, 67 respondents (34%) reported high competence, 71 (36%) moderately high competence, 47 (24%) average competence, and 10 respondents (5%) indicated a low level of competence.

Students' digital knowledge was also assessed based on their ability to use various online tools and platforms. Regarding online dictionaries such as DeepL, Google Translate, U-Dictionary, Merriam-Webster, and Collins Dictionary, 85 respondents (44%) reported a high level of competence, 71 (36%) a moderately high level, 37 (19%) an average level, and 2 (1%) a low level of competence.

Students' proficiency in using various English learning resources was also assessed. Regarding the use of English learning apps such as Duolingo, Babbel, Busuu, Memrise, HelloTalk, and FluentU, 63 respondents (32%) reported a high level of competence, 71 (36%) a moderately high level, 48 (25%) an average level, 11 (6%) a low level, and 2 (1%) reported no competence. In terms of using English-language podcasts such as TED Talks, 6-Minute English, and podcasts available on Spotify, 53 respondents (27%) reported a high level of competence, 74 (38%) a moderately high level, 51 (26%) an average level, 12 (6%) a low level, and 5 (3%) reported no competence. For English-language websites—including BBC Learning English, British Council, BBC News, CNN International, Reuters, Al Jazeera English, and The New York Times—51 respondents (26%) reported a high level of competence, 71 (36%) a moderately high level, 59 (30%) an average level, 13 (7%) a low level, and 1 (1%) reported no competence.

Table 3. Student Level of Digital Knowledge

	5 (High level of competence)	4 (Moderately high level of competence)	3 (Average level of competence)	2 (Low competency level)	1 (No competency level)
Can use social networking sites or social media such as Instagram, Twitter, TikTok, Facebook etc.	97 (50%)	67 (34%)	29 (15%)	-	2 (1%)
Can use Microsoft Office Word	73 (37%)	80 (41%)	38 (19%)	4 (2%)	-
Can use Microsoft Office PowerPoint	67 (34%)	71 (36%)	47 (24%)	10 (5%)	-
Can use online dictionaries (Deepl, Google Translate, U-Dictionary, Merriam-Webster, Collins Dictionary, etc.)	85 (44%)	71 (36%)	37 (19%)	2 (1%)	-
Can use Google Scholar, Scopus, Research Gate,	62 (32%)	63 (32,1%)	53 (27%)	14 (7%)	3 (2%)

	5 (High level of competence)	4 (Moderately high level of competence)	3 (Average level of competence)	2 (Low competency level)	1 (No competency level)
ScienceDirect, DOAJ, etc.					
Can use search engines Chrome, Bing, Yahoo!, Yandex, etc.	80 (41%)	70 (36%)	39 (20%)	5 (3%)	1 (1%)
Can use English learning apps (Duo lingo, Babbel, Busuu, Memrise, HelloTalk, FluentU, etc.)	63 (32%)	71 (36%)	48 (25%)	11 (6%)	2 (1%)
Can use English Podcasts such as TedTalk, 6 Minutes English Podcast, Spotify podcast, ETC.	53 (27%)	74 (38%)	51 (26%)	12 (6%)	5 (13%)
Can use English websites (BBC Learning English, British Council, BBC News, CNN International, Reuters, Al Jazeera English, The New York Times, etc.)	51 (26%)	71 (36%)	59 (30%)	13 (7%)	1 (1%)

Students' Frequency of Using Digital Technology in English Learning and Its Impact of Students' English Comprehension

The frequency of digital technology use was measured through a questionnaire to determine how often respondents utilize such tools in learning English, as shown in Table 4. A total of 196 respondents answered questions regarding their use of digital technology for English learning. For digital dictionaries (e.g., DeepL, Google Translate, U-Dictionary, Merriam-Webster, Collins Dictionary), 71 respondents (36.1%) reported using them *always*, 87 (45%) *very often*, 31 (16%) *sometimes*, 2 (1.1%) *rarely*, and 1 (1%) *never*. In terms of using online learning platforms (OLU or campus-provided e-learning systems), 70 respondents (36%) stated they used them *always*, 61 (31%) *very often*, 50 (26%) *sometimes*, 6 (3%) *rarely*, 7 (4%) *very rarely*, and 1 (1%) *never*. For social media platforms such as Instagram, Twitter, TikTok, and Facebook, 122 respondents (63%) indicated they used them *always*, 59 (29%) *very often*, 9 (5%) *sometimes*, 5 (3%) *rarely*, 2 (1.1%) *very rarely*, and 1 (1%) *never*. When it came to watching videos via YouTube or social media, 110 respondents (56%) reported doing so *always*, 64 (33%) *very often*, 17 (9%) *sometimes*, 2 (1%) *rarely*, and 2 (1%) *very rarely*.

Table 4. Students' Frequency of Using Digital Technology In English Learning

	Always	Very often	Sometimes	Rare	Very Rare	Never
Digital dictionaries (DeepL, Google Translate, U-Dictionary, Merriam-Webster, Collins Dictionary, etc.)	71 (36,1%)	87 (45%)	31 (16%)	2 (1,1%)	3 (2%)	1 (1%)
Online learning (OLU or E-Learning that has been provided by the Campus)	70 (36%)	61 (31%)	50 (26%)	6 (3%)	7 (4%)	1 (1%)
Social media (Instagram, Twitter, TikTok, Facebook, etc.)	122 (63%)	59 (29%)	9 (5%)	5 (3%)	2 (1,1%)	1 (1%)
Video (YouTube, social media, etc.)	110 (56%)	64 (33%)	17 (9%)	2 (1%)	2 (1%)	-

The regression table below addresses Research Question 1 by illustrating the relationship between the frequency of digital technology use and respondents' comprehension of English language learning.

Table 5. Regression Model Analysis

	Model 1 F=50.32, p<.001; R2=0.207			Model 2 F=4.78, p<.001; R2=0.328			
	The difference between Model 1 and 2 = F=1.87, p<0.023; ΔR2=0.122						
Predictor	β	SE	t	B (stand. Estimate)	SE	t	p
Intercept*		2.13	7.03		2.34	5.55	<.001
FUTD	.455	.101	7.09	.429	.104	6.51	<.001
Gender:							
Woman - Man				.298	.797	1.60	.110
Age:							
19 - 20 years - < 19 years				1.20	.197	.700	.484
21 - 22 years - < 19 years				1.39	-0.16	-0.52	.603
> 22 years - < 19 years				.536	1.61	1.42	.157
Semester:							
4 - 2				-0.28	.906	-1.32	.186
6 - 2				-0.08	.980	.364	.716
8 - 2				.157	.607	.607	.544
10 - 2				1.20	1.32	1.32	.188

	Model 1 F=50.32, p<.001; R2=0.207	Model 2 F=4.78, p<.001; R2=0.328		
	The difference between Model 1 and 2 = F=1.87, p<0.023; ΔR2=0.122			
English learning experience:				
3 - 5 years - Few days - 2 years	-0.03	.953	- 0.01	.987
6 - 8 years - Few days - 2 years	.343	.995	1.47	.141
9 - 11 years - Few days - 2 years	.551	1.17	2.00	.046
> 12 years - Few days - 2 years	.385	.797	2.07	.040
Digital technology use:				
Desktop computer - Smartphone	.935	2.00	1.99	.047
Tablet - Smartphone	-0.23	3.80	-.268	.789
Laptop - Smartphone	.097	.787	.531	. 596
Learning English with technology:				
Do not use phones to learn English - Learn English on the computer or other device	-0.68	2.705	-1.08	.280
Use phones to learn English - Learn English on the computer or other device	.194	.590	1.40	.161

Note: β=standardized estimate, SE=standard error, Confidence interval=95%, *p<0.001

The results presented in the table above show an F-statistic of 50.32 ($p < 0.001$) and an R^2 value of 0.207 for Model 1, and an F-statistic of 4.78 ($p < 0.001$) with an R^2 of 0.328 for Model 2. Based on the regression analysis, Model 1 demonstrates statistically significant results, indicated by the high F-value and a p-value well below 0.001. Model 2 also yields significant results, with a higher R^2 value of 0.328, suggesting that the variables studied provide a stronger explanation of the variance in digital literacy. These findings indicate that Model 2 offers a more comprehensive view of the factors influencing digital literacy outcomes.

The results presented in the table above indicate that the Frequency of Using Technology for Learning (FUTD) significantly influences digital literacy. Model 1 reports an F-value of 50.3 and a p-value < 0.001, suggesting a strong and statistically significant relationship between FUTD and the Impact of Digital Literacy (IDL). This finding implies that individuals with higher levels of FUTD tend to have a better understanding of digital literacy. In other words, frequent use of digital technology positively contributes to students' comprehension of digital English learning. Model 2 further examines the role of demographic factors—such as gender, age, semester of study, and prior English learning experience (both general and technology-based)—and finds that these variables do not significantly affect the impact of digital literacy on English learning comprehension. Nonetheless, the regression analysis provides empirical evidence that the frequency of digital technology use in learning is closely associated with increased digital literacy. Across both models, FUTD consistently demonstrates a significant influence on the impact of digital literacy.

Digital literacy makes it easier for me to learn English with technology: 100 respondents (51%) 'Strongly Agree', 69 (35%) 'Agree', and 25 (13%) were 'Neutral'. These

findings indicate that the majority of respondents believe their digital literacy skills make it easier to learn English using technology. The majority of respondents gave positive responses, indicating that digital literacy can serve as a motivating factor in learning English through the use of technology. Digital literacy makes me often use internet access as a learning and information source: 92 respondents (47%) 'Strongly Agree', 76 (39%) 'Agree', 25 (13%) 'Neutral', 1 (1%) 'Disagree', and 1 (1%) 'Strongly Disagree'. Most respondents acknowledged that they frequently use the internet as a source of learning and information, although a small number expressed disagreement.

Digital literacy makes me confident in my ability to find and evaluate information from the internet: 73 respondents (37%) 'Strongly Agree', 94 (48%) 'Agree', 2 (1.1%) 'Neutral', 1 (1%) 'Disagree', and 1 (1%) 'Strongly Disagree'. These responses indicate that students' digital literacy enhances their confidence and caution when seeking and evaluating information online. Digital literacy helps me understand issues related to web-based activities (e.g., search issues, plagiarism): 82 respondents (42%) 'Strongly Agree', 86 (44%) 'Agree', 25 (13%) 'Neutral', and 2 (1.1%) 'Disagree'. These findings suggest that students' digital literacy enhances their awareness of common online issues, such as information search challenges and plagiarism. While the majority agreed with the statement, a small number of respondents expressed disagreement.

Table 5. Impact Of Students' English Comprehension

Questions	Strongly Agree	Agree	Nertal	Disagree	Strongly Disagree
Digital literacy makes me like using technology to learn English	77 (39%)	73 (37%)	44 (23%)	1 (1%)	
I find it easier to learn English with technology	100 (51%)	69 (35%)	25 (13%)	1 (1%)	
Technology makes learning English more interesting	107 (55%)	67 (34%)	20 (10%)	1 (1%)	
Digital literacy makes me more motivated to learn English with technology	81 (42%)	85 (44%)	27 (14%)	1 (1%)	1 (1%)
Digital literacy makes me often use internet access as a learning resource and source of information	92 (47%)	76 (39%)	25 (13%)	1 (1%)	1 (1%)
Digital literacy makes me confident in my ability to find and evaluate information from the internet	73 (37%)	94 (48%)	25 (13%)	2 (1.1%)	1 (1%)
Digital literacy makes me understand issues related to web-based activities (e.g. search issues, plagiarism).	82 (42%)	86 (44%)	25 (13%)	2 (1.1%)	-

The results indicate a connection between the frequency of technology use and students' understanding of digital literacy in English learning. Frequent use of digital technology contributes significantly to students' comprehension of digital literacy within the English learning process. This finding is supported by previous studies (Alsulami, 2016; Chen, 2015; Muftah, 2024), which also highlight that digital technology is frequently and effectively used to support students in learning English. The positive impact of using digital tools—such as listening to music, watching online videos or movies, engaging with social media, and utilizing digital platforms—is consistently emphasized.

Discussion

The findings of this study provide clear evidence that digital literacy significantly influences students' comprehension in English language learning within private higher education institutions in Jakarta. Regression results demonstrated that the frequency of using digital technology was a strong predictor of comprehension outcomes, while demographic variables such as gender, age, and prior English learning experience were not significant. This section situates these findings within the existing body of literature, highlighting where they confirm, extend, or diverge from prior studies, and discussing both theoretical and practical implications.

A major finding is the strong relationship between digital literacy and English comprehension. This supports earlier work by Kaman and Ertem (2018), who found that digital texts improve comprehension skills more effectively than traditional texts. The present study confirms these results in a higher education context, showing that students' frequent engagement with online platforms, applications, and digital resources enhances their comprehension of English content. Similarly, Burgos and Anthony (2024) argued that digital tools expand learners' opportunities for language practice and increase motivation, which aligns with the observation that students with higher digital literacy reported greater ease in accessing and understanding English materials. Taken together, these findings suggest that digital literacy acts as a facilitator of comprehension, not merely a supporting skill.

Interestingly, the findings also extend research by Nguyen and Habók (2022), who showed that students with strong digital literacy skills demonstrate more positive attitudes toward language learning. While their study emphasized students' perceptions, the present research adds empirical statistical evidence by quantifying the degree to which digital literacy predicts comprehension outcomes. By showing that the frequency and quality of digital technology use explain up to 32.8% of the variance in comprehension, this study demonstrates that digital literacy is not only an attitudinal factor but also a measurable cognitive contributor to learning outcomes.

Another important aspect is the lack of significant demographic effects in the regression models. Previous studies have been mixed on this issue. Nguyen and Habók (2022) suggested that male students often display higher levels of digital skill compared to female students, but this study found no such difference in comprehension outcomes. This discrepancy could be explained by the widespread normalization of digital technology use across genders in Indonesian private universities, where both male and female students are equally exposed to smartphones, online platforms, and learning applications. Similarly, prior English learning experience did not significantly predict comprehension in this study. This diverges from research by Pagani et al. (2016), who found that prior digital and academic skills strongly influenced performance. A possible explanation is that in the present study, digital literacy itself played a more central role than background experience; regardless of students' years of English learning, their ability to navigate digital environments determined how effectively they could comprehend new material.

The results also confirm the importance of specific digital practices in shaping comprehension. Students who frequently used digital dictionaries, YouTube videos, and social media platforms reported stronger comprehension skills. This is consistent with Alsulami (2016), who highlighted the role of digital tools such as videos and social media in enhancing English acquisition. Similarly, Muftah (2024) emphasized that social media engagement supports language learning, particularly in informal settings. The present findings confirm these observations by demonstrating quantitatively that students who engaged more often with digital platforms performed better in comprehension tasks. This supports the argument that digital literacy must be understood not only as a technical skill

but as an integrated set of practices that shape how learners interact with and internalize English texts.

From a theoretical perspective, these findings contribute to the growing discourse on the role of digital literacy in language education. They confirm Anthonysamy et al.'s (2020) argument that digital literacy fosters self-regulated learning by empowering students to navigate information-rich environments independently. The evidence here suggests that digital literacy does more than enhance autonomy; it actively reshapes comprehension processes. Students who are digitally literate are not only more efficient at finding and evaluating information, but they also become more confident and motivated in their learning. This supports Thapliyal's (2023) view that digital literacy increases learners' motivation to engage with English texts. In this way, digital literacy should be reconceptualized not as an auxiliary skill but as a central component of modern comprehension models, particularly in English as a Foreign Language (EFL) contexts.

The study also has practical implications for curriculum design and pedagogy. First, the evidence strongly supports integrating digital literacy training into English language programs. Teachers should not assume that students' familiarity with technology automatically translates into effective learning practices. Although most participants reported high competence in using devices and applications, a significant minority still struggled with tasks such as creating web pages or navigating academic search engines. This suggests the need for targeted instruction in advanced digital skills that go beyond everyday social media use. Moreover, the study highlights that mobile devices are the most widely used tools for English learning. Given that more than half of the respondents relied on smartphones, curriculum designers should prioritize mobile-friendly platforms and applications to ensure accessibility and engagement.

At the same time, the findings challenge some assumptions in the literature. For instance, while Kim Thao et al. (2024) reported that students with limited reading abilities struggled to identify and analyze key information online, the majority of participants in this study indicated confidence in evaluating digital information. This could reflect contextual differences: Indonesian private university students may have greater exposure to English content online compared to the populations studied in other contexts. Alternatively, it may suggest that comprehension is increasingly tied to multimodal engagement (e.g., combining video, audio, and text) rather than purely textual reading skills. This possibility extends existing theories of comprehension, emphasizing the multimodal nature of digital literacy.

Another unexpected result is the relatively modest internal consistency of the measurement instrument (Cronbach's alpha = 0.583). While this falls below the conventional threshold for reliability, the significant regression results suggest that the instrument still captured meaningful patterns. This discrepancy highlights the need for further refinement of digital literacy measurement tools. As Vorobel et al. (2021) noted, digital literacy encompasses multiple dimensions, including information literacy, critical literacy, and online reading practices. Future instruments should aim to capture these dimensions more comprehensively to improve reliability and deepen understanding.

The findings also resonate with research showing that digital literacy benefits not only students but also teachers. Ningsih et al. (2022) found that teachers' adoption of mobile technology enhanced classroom practices, while Hidayat et al. (2022) reported that digital technologies supported students' independent learning. By confirming these patterns in the context of comprehension, this study underscores that digital literacy must be treated as a systemic competency, requiring coordinated efforts between students, teachers, and institutions. For universities, investing in digital infrastructure and training programs is essential to maximize the benefits of digital literacy.

Finally, the study's limitations point to avenues for future research. The reliance on quantitative data limits the ability to capture the nuanced ways students experience digital literacy. For example, while regression models identify statistical relationships, they cannot reveal the strategies students use to navigate online resources or the challenges they encounter. Mixed-methods research could address this gap, providing richer insights into how digital literacy shapes comprehension. Furthermore, future studies could explore longitudinal effects, examining whether digital literacy skills continue to influence comprehension over time or whether their impact diminishes as students progress through their academic programs.

This study confirms that digital literacy is a critical determinant of English comprehension in higher education. It aligns with previous research in demonstrating the positive impact of digital tools on learning outcomes, while also challenging assumptions about gender differences and prior experience. Theoretically, it positions digital literacy as an integral component of comprehension models in EFL contexts, and practically, it underscores the need for targeted training and mobile-friendly pedagogy. While limitations remain, the findings highlight the transformative role of digital literacy in shaping not only how students learn English but also how they perceive themselves as autonomous, motivated, and capable learners in a digital age.

CONCLUSION

The findings of this study highlight that digital literacy plays a significant role in shaping students' comprehension in English language learning within private higher education institutions. Frequent and effective use of digital tools such as online dictionaries, videos, and mobile applications was found to positively influence learners' understanding, motivation, and confidence. Unlike previous research that suggested demographic factors or prior English learning experience were strong predictors, this study revealed that these variables did not significantly impact comprehension outcomes. Instead, students' ability to navigate and utilize digital platforms emerged as the central factor influencing their success in digital-based English learning. These results confirm that digital literacy is more than a supplementary skill; it is a core competency for learning in today's technology-driven environments.

Practically, the study emphasizes the need for educators and institutions to integrate digital literacy training into English language programs, ensuring that students are equipped not only with linguistic knowledge but also with the critical and technical skills required for navigating digital resources effectively. By prioritizing mobile-friendly and accessible digital platforms, institutions can better align their curricula with students' learning habits and preferences. Theoretically, this research strengthens the argument that comprehension in EFL contexts must be understood through a multimodal lens, where digital engagement shapes how students access, process, and apply knowledge. Future research is encouraged to employ mixed-methods approaches to explore students' strategies, challenges, and longitudinal outcomes, thereby providing deeper insights into the dynamic relationship between digital literacy and English learning comprehension.

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