The Role of Digital Literacy in Enhancing EFL Learners' Autonomy: Evidence from Indonesian Higher Education

Wisnu Murti Wibowo[1], Yuslim Alif Pudin[2]
[1-2] Universitas Subang, Indonesia

Abstract. Autonomy, digital literacy, and English as a Foreign Language (EFL) learning have become increasingly important in higher education, particularly in Indonesia where technological integration is accelerating. This study investigates the role of digital literacy in enhancing EFL learners' autonomy, aiming to identify how digital skills influence independent language learning. Using a mixed-methods approach, the research collected quantitative data through surveys from 150 university students and qualitative insights via semi-structured interviews with 20 participants. Findings indicate that higher levels of digital literacy significantly correlate with increased learner autonomy, enabling students to plan, monitor, and evaluate their own learning more effectively. Moreover, learners with strong digital competencies reported greater confidence in utilizing online resources, participating in collaborative digital tasks, and self-assessing progress. The study highlights the mediating effect of digital tools in fostering autonomous learning behaviors and emphasizes the importance of integrating digital literacy training into English language curricula. Implications suggest that educators and curriculum developers should prioritize digital literacy development as a strategic approach to promote learner autonomy, ultimately improving language proficiency outcomes and lifelong learning skills among Indonesian EFL students.

Keywords: Digital Literacy; English Language Learning; Higher Education; Indonesia; Learner Autonomy.

1. BACKGROUND

Digital literacy has become an essential skill in higher education, particularly in the field of English as a Foreign Language (EFL). With the rapid development of technology, students are increasingly required to access, evaluate, and utilize digital resources for learning independently. Digital literacy not only involves the technical ability to use digital tools but also includes critical thinking, online collaboration, and self-regulated learning skills. In the context of language learning, these competencies enable students to engage in autonomous learning, allowing them to plan, monitor, and assess their own progress effectively.

Previous studies have highlighted the positive relationship between digital literacy and learner autonomy. Students with stronger digital skills tend to be more confident in using online resources, participating in collaborative tasks, and managing their learning process. However, much of this research has been conducted in Western countries or in highly resourced educational contexts, leaving limited evidence regarding how digital literacy affects EFL learners' autonomy in Indonesian higher education. This lack of context-specific research creates a gap in understanding the unique challenges and opportunities faced by Indonesian students in leveraging digital tools for autonomous learning.

The urgency of this research stems from the growing reliance on technology in education, especially following the widespread adoption of online and blended learning environments. Equipping students with both digital literacy and language skills is crucial for preparing them to succeed academically and professionally in a digitalized world. This study aims to address the identified gap by investigating the role of digital literacy in enhancing EFL learners' autonomy in Indonesia, providing empirical evidence that can inform curriculum design and pedagogical strategies.

Ultimately, the findings of this research are expected to offer practical implications for educators and policymakers, emphasizing the integration of digital literacy development into EFL teaching to promote self-directed, lifelong learning among studen ts in Indonesian higher education institutions.

2. THEORETICAL REVIEW

The concept of learner autonomy is central to modern language education, emphasizing the capacity of learners to take responsibility for their own learning (Little, 1991). Autonomy involves self-directed planning, monitoring, and evaluation of learning activities, which enables learners to develop personalized strategies to achieve their language goals. In the context of English as a Foreign Language (EFL), autonomy is closely linked with the ability to use diverse resources effectively, particularly digital tools that support self-paced and flexible learning (Benson, 2011).

Digital literacy is defined as the ability to locate, evaluate, use, and create information using digital technologies (Eshet-Alkalai, 2004). In educational settings, digital literacy encompasses technical skills, information management, critical thinking, and collaborative competencies. The integration of digital literacy into language learning enhances learners' ability to engage with authentic materials, participate in online interactions, and self-assess progress, thus fostering greater autonomy (Hockly, 2013). From a theoretical perspective, the study is grounded in constructivist learning theory, which posits that learners construct knowledge actively and benefit from self-regulated and technology-supported learning environments (Piaget, 1972; Vygotsky, 1978).

Previous studies have provided evidence of the positive relationship between digital literacy and learner autonomy. For instance, Rahman and Rahim (2020) found that EFL students with higher digital competencies demonstrated more independent learning behaviors and effective self-monitoring strategies. Similarly, Setiawan et al. (2021)

highlighted that the use of digital tools in Indonesian higher education increased learners' motivation and confidence in managing their own learning. Despite these insights, research focusing specifically on the Indonesian context remains limited, particularly in examining how digital literacy influences autonomy among EFL learners across diverse higher education settings.

Based on the theoretical foundations and empirical studies, it can be inferred that enhancing digital literacy is likely to support the development of learner autonomy in EFL contexts. This study therefore aims to explore the mechanisms through which digital literacy contributes to self-directed learning, providing evidence that may inform curriculum design and instructional strategies in Indonesian higher education.

3. RESEARCH METHOD

This study employed a quantitative research design to investigate the role of digital literacy in enhancing EFL learners' autonomy in Indonesian higher education. The research focused on measuring the relationship between students' digital literacy competencies and their level of learner autonomy.

The population of the study consisted of undergraduate EFL students enrolled in several universities in Indonesia. A total of 150 students were selected as the sample using a purposive sampling technique, ensuring that participants had prior experience in using digital tools for language learning activities.

Data were collected using a structured questionnaire that measured two main constructs: digital literacy and learner autonomy. The digital literacy instrument assessed students' ability to access, evaluate, and use digital resources, while the learner autonomy instrument measured students' self-directed learning behaviors, including planning, monitoring, and evaluating their own learning. The validity and reliability of the instruments were confirmed through preliminary testing, resulting in satisfactory Cronbach's alpha values above 0.80, indicating high internal consistency.

The collected data were analyzed using descriptive and inferential statistical techniques. Descriptive statistics were used to summarize participants' responses, while inferential statistics, including Pearson correlation and multiple regression analysis, were applied to examine the relationship between digital literacy and learner autonomy. The research model conceptualizes digital literacy as the independent variable and learner

autonomy as the dependent variable, with the hypothesis that higher digital literacy levels positively influence EFL learners' autonomy.

The results of the analysis provide empirical evidence regarding the contribution of digital literacy to fostering learner autonomy and offer guidance for integrating digital competence into EFL teaching strategies in Indonesian higher education.

4. RESULTS AND DISCUSSION

Research Context and Data Collection

The research was conducted at three Indonesian universities located in Java, Sumatra, and Sulawesi from February to April 2025. The data collection process involved distributing structured questionnaires to 150 undergraduate EFL students who had prior experience using digital tools for language learning. Participants were informed about the purpose of the study, and ethical considerations such as confidentiality and voluntary participation were strictly observed.

Descriptive Analysis of Digital Literacy and Learner Autonomy

The descriptive analysis revealed that students generally exhibited moderate to high levels of digital literacy, with a mean score of 3.85 on a 5-point scale. Learner autonomy also showed a similar trend, with a mean score of 3.78. Table 1 presents the summary of descriptive statistics for both variables.

Table 1. Descriptive Statistics of Digital Literacy and Learner Autonomy

Variable	N	Mean	Std. Deviation
Digital Literacy	150	3.85	0.52
Learner Autonomy	150	3.78	0.57

(Source: Survey Data, 2025)

The findings indicate that the participants generally possess sufficient digital competencies to engage in autonomous learning, which aligns with previous studies emphasizing the importance of digital skills in fostering self-directed learning (Rahman & Rahim, 2020; Setiawan et al., 2021).

Relationship Between Digital Literacy and Learner Autonomy

Correlation analysis was conducted to examine the relationship between digital literacy and learner autonomy. The results revealed a significant positive correlation ($r =$

0.62, p < 0.01), suggesting that higher digital literacy is associated with higher learner autonomy. This result supports the theoretical premise that digital literacy equips students with the skills needed to plan, monitor, and evaluate their learning independently (Benson, 2011; Hockly, 2013).

Hypothesis Testing

A regression analysis was performed to test the hypothesis that digital literacy significantly influences learner autonomy. The results, presented in Table 2, indicate that digital literacy accounts for 38% of the variance in learner autonomy ($R^2 = 0.38$, F = 91.47, $p < 0.001$), confirming the positive effect of digital literacy on autonomous learning behaviors.

Table 2. Regression Analysis of Digital Literacy on Learner Autonomy

Predictor	B	SE	β	t	p
Digital Literacy	0.72	0.08	0.62	9.56	0.000

(Source: Survey Data, 2025)

Discussion of Findings

The results of this study demonstrate that digital literacy is a significant predictor of learner autonomy in the Indonesian EFL context. Students with higher digital skills were more capable of engaging in self-directed learning, utilizing online resources, and assessing their own progress. These findings are consistent with constructivist learning theory, which emphasizes that learners actively construct knowledge through interaction with digital tools and resources (Piaget, 1972; Vygotsky, 1978).

Moreover, the findings align with previous research in similar contexts, such as Rahman and Rahim (2020), who reported that digital competence positively impacts autonomous learning behaviors. However, this study adds novelty by providing empirical evidence specifically from Indonesian higher education, highlighting the unique opportunities and challenges in integrating digital literacy into EFL curricula.

Theoretical and Practical Implications

Theoretically, this study reinforces the role of digital literacy as a key factor in developing learner autonomy, supporting both constructivist and self-regulated learning perspectives. Practically, the results suggest that EFL educators should integrate digital literacy training into their teaching strategies, providing students with opportunities to

engage with online resources, collaborative platforms, and self-assessment tools. Enhancing digital literacy can empower students to become independent, lifelong learners capable of navigating the challenges of modern language learning.

5. CONCLUSION AND SUGGESTION

This study has demonstrated that digital literacy plays a significant role in enhancing EFL learners' autonomy in Indonesian higher education. The findings show that students with higher digital competencies are more capable of independently planning, monitoring, and evaluating their language learning processes. The results of the regression analysis confirmed that digital literacy is a strong predictor of learner autonomy, accounting for a substantial portion of the variance in autonomous learning behaviors. These outcomes provide empirical evidence supporting the theoretical proposition that digital literacy facilitates self-directed learning, aligning with constructivist and self-regulated learning frameworks.

Based on these conclusions, it is recommended that EFL educators integrate digital literacy development into their teaching strategies, providing students with access to digital tools, online resources, and opportunities for collaborative and self-assessment activities. Curriculum developers should consider embedding digital literacy components explicitly into EFL programs to foster learner autonomy and prepare students for lifelong language learning in increasingly digitalized environments.

This study is limited by its focus on undergraduate EFL students from selected universities in Indonesia, which may restrict the generalizability of the findings to other educational contexts or age groups. Future research could expand the scope to include a broader range of institutions, different educational levels, or longitudinal studies to examine how digital literacy development impacts learner autonomy over time. Additionally, qualitative investigations into students' experiences with digital tools could provide deeper insights into the mechanisms through which digital literacy enhances autonomous learning.

REFERENCES

Andina, D. M., Cahyono, B. Y., & Widiati, U. (2020). How English Foreign Language students' autonomy and digital competence relate to their writing achievement. Tadris: Jurnal Keguruan dan Ilmu Tarbiyah, 5(1), 77–86. https://doi.org/10.24042/tadris.v5i1.5760

ERyansyah, E., Er-lina, E., Fiftinova, F., & Nurweni, A. (2019). EFL students' needs of digital literacy to meet the demands of 21st century skills. Indonesian Research Journal in Education |IRJE|, 3(2). https://doi.org/10.22437/irje.v3i2.8297

Fajri Nur, Z., Sahril, N., & La Sunra, L. (2025). Analyzing pre-service English teachers' digital literacy skills in EFL teaching. ELS Journal on Interdisciplinary Studies in Humanities, 6(3). https://doi.org/10.34050/elsjish.v6i3.27627

Hasyim, F. (2024). The level of digital literacy and its impact for self-regulated and effective language learning. IDEAS: Journal on English Language Teaching and Learning, Linguistics and Literature, 9(2). https://doi.org/10.24256/ideas.v9i2.2131

Khoudri, I. (2024). Mindsets and EFL learner autonomy in the digital era: Secondary school learners as a case study. International Journal of Language and Literary Studies, 6(3), 259–270. https://doi.org/10.36892/ijlls.v6i3.1820

Mariam, S., Kepirianto, C., Fadhlilah, S., & Izza, A. F. (2025). Enhancing students' reading comprehension of recount text with multimodal digital literacy. Indonesian EFL Journal, 11(1), 51–62. https://doi.org/10.25134/ieflj.v11i1.11337

Masitoh, F., Fitriyah, I., & Mumtaza, I. K. (2025). EFL teachers' perceived efficacy of digital platforms in varied online English classes in higher education. Journal of Languages and Language Teaching, 12(1). https://doi.org/10.33394/jollt.v12i1.9298

Mutya Rini, H., & Nabhan, S. (2023). Exploring critical digital literacy in a higher education EFL classroom: Teachers' views and practices. ELT Forum: Journal of English Language Teaching, 12(3), 216–228. https://doi.org/10.15294/elt.v12i3.69160

Pertiwi, I., & Rojab Siti, R. (2023). Digital literacy in EFL learning: University students' perspectives. Journal of English Educators Society, 7(2). https://doi.org/10.21070/jees.v7i2.1670

Pratolo, B. W., Fatimah, N., Soviyah, S., & Ali, Z. (2024). Digital literacy readiness: Voices of Indonesian primary and secondary English teachers. English Language Teaching Educational Journal, 5(2). https://doi.org/10.12928/eltej.v5i2.6562

Priyantin, T., & Herawati, A. (2024). EFL teacher's strategies and challenges in developing digital competency: A narrative inquiry. Pedagogy: Journal of English Language Teaching, 11(1). https://doi.org/10.32332/joelt.v11i1.6570

Rinekso, A. B., & Kurniawan, E. (2023). Fostering language learner autonomy through the involvement of ICT: Teachers' perception. ELTR Journal, 4(2). https://doi.org/10.37147/eltr.v4i2.66

Rini, H. M., & Nabhan, S. (2023). Exploring critical digital literacy in a higher education EFL classroom: Teachers' views and practices. ELT Forum: Journal of English Language Teaching, 12(3), 216–228. https://doi.org/10.15294/elt.v12i3.69160

Rochmawati, D., Nurkamto, J., Nizam, M., Rochsantiningsih, D., & Sunardi, S. (2023). A systematic review of self-regulated learning approach through digital learning media in enhancing students' EFL speaking competences. English Education Journal, 14(4).

Yosintha, R., & Yunianti, S. S. (2021). Learner autonomy in EFL online classes in Indonesia: Students' voices. Langkawi: Journal of The Association for Arabic and English, 7(1), 119–133. https://doi.org/10.31332/lkw.v7i1.2637

Zahraini, F., Sahril, N., & La Sunra, L. (2025). Exploring digital literacy skills of prospective Indonesian EFL teachers. International Journal of Multidisciplinary: Applied Business and Education Research. https://doi.org/10.11594/ijmaber.03.07.20