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Implementation of E-Module in Indonesia EFL Higher Education: A Literature Review

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ABSTRACT

Objectives: This study aims to identify trends, patterns, and challenges in the research regarding using e-modules in teaching English at the higher education level in Indonesia. **Method:** This qualitative study employs a literature review method based on articles from Google Scholar about implementing e-modules in Indonesian EFL higher education from 2021 to 2023. The author uses inductive reasoning to analyze the research data, integrating findings from previous studies on using e-modules in Indonesian EFL higher education. **Result:** The general trend is a strong emphasis on developing and validating e-modules and other digital tools to enhance various language skills, especially critical thinking, writing, and listening. The tools are being integrated with technology and used in diverse educational contexts, with university students being the primary beneficiaries. Research methods predominantly involve R&D, reflecting a focus on the creation and assessment of new educational interventions. Future research should deepen our understanding of the long-term impact, effectiveness, and scalability of e-modules in diverse educational contexts. **Novelty:** Although there is substantial literature on the use of e-modules in English language learning, there is a notable scarcity of research specifically addressing the trends in e-module implementation within Indonesian higher education institutions

INTRODUCTION

Integrating technology into educational practices has significantly transformed teaching and learning methodologies globally. Incorporating information and communication technology (ICT) in education is seen as crucial for improving educational quality (Hasin & M Nasir, 2021; Lim et al., 2020b, 2020a; Shoraevna et al., 2021; Zhang et al., 2022), prompting educators to transition from traditional teaching methods to employing technology-based tools and resources (Bozkurt & Yiğit Koyunkaya, 2022; Courtney et al., 2022; Francom et al., 2021; Galway et al., 2020; Mahmud et al., 2022; Quezada et al., 2020). This transition requires educators to develop digital competencies and either integrate new digital content into their teaching practices or modify their instructional goals to align with technological progress (Akram et al., 2021; Basilotta-Gómez-Pablos et al., 2022; DeCoito & Estaiteyeh, 2022; González et al., 2023; Markauskaite et al., 2023; D. T. K. Ng et al., 2023). Furthermore, the effective use of e-modules has emerged as a critical factor in enhancing student engagement and providing personalized learning experiences.

Technological integration in education is not merely about adopting new tools but represents a transformative approach that reshapes traditional teaching paradigms, enabling personalized and interactive learning experiences. This transformation is further emphasized by the importance of integrating technology in teacher education to promote constructivist teaching methods and enhance educational practices (Abedi, 2023; Charania et al., 2021; Lai & Jin, 2021; Saphira, 2022; Saphira et al., 2023). Moreover, the widespread adoption of e-modules exemplifies how digital resources can be

leveraged to create dynamic and engaging learning environments that cater to diverse student needs.

One learning technology that has been widely used in teaching learning is e-module. E-modules have become a prevalent tool in education, offering a wide range of benefits to both students and educators. These digital modules are designed to enhance learning outcomes by providing interactive and engaging content that can be accessed anytime and anywhere (Bakar et al., 2022; Dewi et al., 2022; Saphira et al., 2022; Seruni et al., 2020; Yassi et al., 2022). By utilizing mobile learning, e-modules have been developed to cater to various subjects such as biology, economics, management accounting, mathematics, physics, and even specific fields like cosmetology and beauty. Integrating multimedia elements such as video tutorials, animations, and audio into e-modules enhances the learning experience and fosters student engagement.

In English as a Foreign Language (EFL) education, integrating e-modules has emerged as a significant advancement. English is indeed taught as a foreign language in Indonesian schools and is a fundamental curriculum component. The Indonesia government has officially recognized English as the primary foreign language, mandating its inclusion in the educational systems of both schools and universities (Lee et al., 2023; Mazlum, 2022; Sulistiyo et al., 2020; Umar, 2022; Yassi et al., 2022; Yuniar et al., 2021; Zein et al., 2020). This policy shift underscores the need for practical digital tools like e-modules to support innovative and interactive language learning experiences.

A substantial amount of research has been devoted to the implementation of e-modules in EFL classrooms. The advantages of implementing interactive learning through E-learning modules in the context of the current generation 4.0 (Saphira & Andari, 2024). It highlights pedagogical benefits such as collaborative, blended, and problem-based learning. The result underscores interactive learning as an effective method to motivate students and enhance learning outcomes. It also focuses on how interactive multimedia modules like audio and video can improve teaching by engaging students and boosting their knowledge and skills. The current trends and gaps in the use of e-modules for EFL/ESL learning in Asian contexts. It focuses on critical themes such as learner autonomy and English for Specific Purposes (ESP) and highlights the predominance of research involving undergraduate students. The paper also addresses the concentration of e-module research in Southeast Asian countries, revealing a lack of understanding in other cultural and economic contexts. Although numerous literature reviews address the use of e-modules in English language learning, there remains a paucity of research explicitly examining trends in e-module implementation within Indonesian higher education institutions. Therefore, there is an urgent need for research to explore the implementation of e-modules in EFL Higher Education. This study aims to provide insights to enhance e-module implementation in EFL, especially in higher education.

Based on this description, a literature review was conducted to offer an overview of the implementation of e-modules in Indonesian EFL higher education. This study aims to identify trends, patterns, and challenges in the research regarding using e-modules in teaching English at the higher education level in Indonesia.

RESEARCH METHOD

This study is a literature review that examines the implementation of e-modules in Indonesian EFL higher education. It draws on a review of 10 articles published between 2021 and 2023, sourced from Google Scholar. The author employs inductive reasoning to

analyze the research data, synthesizing information from previous studies on implementing e-modules in Indonesian EFL higher education to develop novel insights. These steps are illustrated in Figure 1, outlining the methodology used in this review.

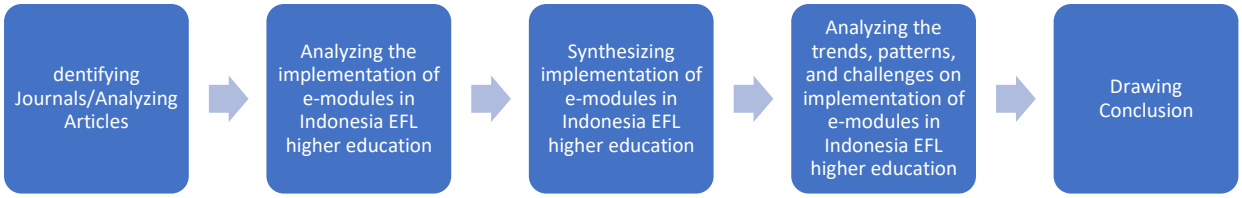

Figure 1. Flowchart research on the implementation of e-modules in Indonesian EFL higher education.

RESULTS AND DISCUSSION

Result

Table 1. Literature review.

Author (Year)	Population/ Sample	Research Design	Result
Etfita & Wahyuni (2021)	ESP course consisted of 4th-semester Mechanical Engineering students at Universitas Islam Riau, with a total of 40 students	Quantitative	Collaborative discussion using Padlet-based materials in writing for ESP courses showed a significant improvement in students' writing ability at the Mechanical Engineering and Learning Outcomes enhancement
Hariadi et al. (2023)	Students from the English language Programme at Universitas Negeri Malang	Research and Development (R &D)	Implementing gamification in English listening classes improves students' mastery of tenses and high-order thinking skills
Efendi et al. (2022)	Ten students who participated in the trial of the e-Module for English Education	Research and Development (R &D)	The research on English translation e-modules based on the Communicative Translation Approach resulted in the development of a valid, practical, and effective e-module for Reading at UNU Smart Daring, which achieved a good category rating. The e-module with CTA for Reading was found to be beneficial for students and lecturers during online learning, especially in the context of the COVID-19 pandemic. Additionally, the manual module using CTA was rated in the very good category, showcasing the success of the research in creating impactful teaching materials.

Author (Year)	Population/ Sample	Research Design	Result
Kristianto et al. (2022)	The population sample size for the study was 66 students from the Civil Engineering Department.	Quantitative Research	The e-module with augmented reality used during dynamic assessment significantly improved students' writing skills in content and language-integrated learning classes
Suharto (2022)	20 students were selected as the research subjects to gather data on their perceptions of e-learning materials and tools for English for MICE	Quantitative Research	E-learning materials and tools, specifically e-modules and videos, were found to be the best solutions for English for MICE courses based on students' perceptions in the research conducted at the State Polytechnic of Malang. The study highlighted that using Learning Management Systems (LMS) was more effective than YouTube as an e-learning tool for English for MICE courses.
Susanti & Rachmajanti (2023)	36 students enrolled in the English Language Teaching Methods course at a public university in Surabaya, Indonesia	Research and Development (R &D)	The research findings indicate that the ELT Methods e-module integrated into blended learning has positive outcomes, significantly enhancing students' critical thinking skills.
Ma'fiyah et al. (2023)	The population sample size in the study consisted of sixty-one university students enrolled in an intermediate listening course, along with two listening lecturers who actively participated in the research.	Research and Development (R &D)	The research findings indicated that using digital materials, particularly the e-module, effectively facilitated critical thinking skills among EFL university students during listening comprehension.
Hanifah & Ninggolan (2023)	The population sample size in the study consisted of 40 students from Universitas Maritim Raja Ali Haji (UMRAH) in the English language study program, comprising 15 male and 25 female students.	Research and Development	The e-module validation results indicated that it was valid and suitable for online classes, providing various activities and components to engage students effectively.

Author (Year)	Population/ Sample	Research Design	Result
Surani et al. (2023)	The population sample size for the study on technology integration in English for Specific Purpose (ESP) E-Module course design for law students consisted of 20 fifth-semester law students selected through purposive sampling.	Qualitative Method	The finding stated that 86% of students believed that the ESP E-Module displayed with integration technology provides substantial learning material that significantly enhances their comprehension of English law, and 83% of students claimed that the e-module facilitates their learning of English law and that they know how to use it without much guidance.
Purwanti et al. (2023)	The study's population sample size was 41 fourth-semester undergraduate students majoring in English education at Universitas Riau.	Research and Development (R &D). ADDIE model	The e-module implementation was effective in improving students' learning outcomes in Semantics courses,

Discussion

Trends and Patterns of E-Module Implementation

Recent research highlights several significant trends in using e-modules and digital tools in English language education. Firstly, there is a marked prevalence of e-modules, with numerous studies concentrating on their development, implementation, and effectiveness across various learning contexts (Anam et al., 2023; Halladay et al., 2023; B. Ng et al., 2021; et al., 2024; Weylin et al., 2023). This includes integrating advanced technological tools such as augmented reality and blended learning platforms, reflecting a broader trend towards enhancing educational outcomes through technology. A notable focus is on skills development, particularly in critical thinking, writing, and listening. E-modules have been shown to effectively foster critical thinking skills within English language learning (Fitriana et al., 2024; Gunawan et al., 2024; Miftakhurrohmah et al., 2023; Rini et al., 2020; Rusni et al., 2023; Sutrio et al., 2023). These digital tools have also proven effective in improving students' writing and listening abilities (Arono et al., 2022; Syakur, 2020; Tabieh et al., 2020; Tan et al., 2020; Yamaç et al., 2020). The effectiveness and validation of e-modules are well-supported by research, which confirms their validity, practicality, and positive impact on learning outcomes. Many studies affirm that these tools are well-received by both students and educators, contributing positively to educational experiences.

The research methods employed are diverse, with a predominant use of Research and Development (R&D) approaches to create and evaluate educational tools and materials. Quantitative methods are also utilized to assess the effectiveness of specific interventions. Target populations in these studies primarily include university students enrolled in English language programs or specialized fields such as engineering, law, or tourism. This focus indicates a tailored approach to meet the needs of students in various academic and professional contexts. Lastly, there is a growing emphasis on collaborative and

engaging learning environments. Using collaborative tools, such as Padlet, enhances student engagement and learning outcomes, particularly in writing for specific purposes. Additionally, the implementation of gamification in listening classes reflects a trend toward creating more interactive and engaging educational experiences through technology.

Challenges of Implementation E-Modules in Indonesia EFL Higher Education

One of the primary challenges in modern education is the need for effective instructional media that supports self-directed learning, particularly evident during the pandemic when online learning became crucial. E-modules featuring augmented reality (AR) have shown promise in enhancing students' writing skills within content and language-integrated learning (CLIL) classes. However, their effectiveness hinges on meticulous design and implementation to meet educational objectives. For instance, while AR can offer interactive and engaging experiences, the development of these e-modules requires careful planning to ensure that the technology aligns with pedagogical goals and effectively addresses students' learning needs (Lee & Kim, 2020; Prahanı et al., 2022; Saphira & Prahani, 2022). Additionally, challenges persist in listening comprehension, where students often struggle with understanding audio materials. E-modules designed to foster critical thinking and reflective abilities can aid in overcoming these difficulties (Adhelacahya et al., 2023; Hamidi et al., 2024; Mahdian et al., 2024; Pertiwi et al., 2019; Pitorini et al., 2024). To be effective, such e-modules must incorporate clear learning outcomes, authentic materials, and engaging multimedia components to support and enhance students' listening skills.

Another significant challenge is transitioning from traditional teacher-centered methods to more student-centered learning approaches, which e-modules can facilitate by promoting independent learning and allowing students to progress at their own pace. This shift necessitates that educators adapt their teaching strategies and materials, which notably improve critical thinking skills in a blended learning context (Islam et al., 2021; Kumar et al., 2021; Megahed & Hassan, 2022; Ngoasong, 2021; Yustina et al., 2020). Moreover, a notable issue is the need for more digital resources tailored to specific courses. Developing a gamification-based e-module to bolster intercultural communication skills in speaking classes highlights the need for more relevant digital materials for online learning (Rizki et al., 2023, 2024; Yustina et al., 2020). Additionally, integrating technology into e-modules demands thoughtful content delivery considerations, as demonstrated by the ESP e-module for law students, which effectively utilizes multimedia elements to enhance comprehension and engagement.

CONCLUSION

Fundamental Finding: Based on the literature review on implementing e-modules in Indonesian EFL higher education, it is revealed that e-modules are increasingly prevalent in English language education, focusing on development, implementation, and effectiveness. Notably, integrating advanced technologies, such as augmented reality (AR) and blended learning platforms, enhances educational outcomes. E-modules have been particularly effective in fostering critical thinking, writing, and listening skills. The effectiveness of these tools is well-documented, showing positive impacts on learning outcomes and high acceptance among students and educators. Diverse research methods, including Research and Development (R&D) and quantitative approaches, underscore the tailored use of e-modules for various academic and professional contexts, with a

growing emphasis on collaborative and engaging learning environments. **Implication:** The findings suggest that e-modules offer significant potential for improving educational experiences by integrating advanced technologies and fostering critical thinking skills. The effective use of e-modules in diverse educational settings highlights their role in enhancing student engagement and learning outcomes. Educators and institutions should leverage these tools to create interactive and engaging learning experiences, promoting skills development across different contexts. The positive reception of e-modules among students and educators underscores their value in modern education and suggests that their continued development and implementation could further enrich learning environments. **Limitation**: Despite their advantages, the implementation of e-modules faces several challenges. The effectiveness of augmented reality and other advanced features depends on meticulous design and alignment with pedagogical goals. Inadequate design can undermine their potential benefits, particularly in developing listening comprehension and critical thinking skills. Additionally, transitioning from traditional to student-centered learning approaches can be challenging for educators, requiring significant adjustments to teaching strategies and materials. The scarcity of digital resources tailored to specific courses also poses a challenge, highlighting a gap that must be addressed to realize the full benefits of e-modules. **Future Research**: Future research should focus on refining the design and implementation of e-modules to better align with educational objectives and address existing challenges. Investigating the effectiveness of specific technologies, such as AR, in enhancing various skills could provide valuable insights. Additionally, exploring strategies for facilitating the transition to student-centered learning approaches and developing digital resources tailored to specific courses can help address current limitations. Research on integrating gamification and other interactive elements in e-modules could further enhance their effectiveness and engagement in diverse educational contexts.

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