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STUDENTS' PERCEPTIONS OF AN AI-BASED ENGLISH E-MODULE FOR DIGITAL CONTENT CREATION: AN EXPLANATORY SEQUENTIAL MIXED-METHODS STUDY

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Abstract

The integration of AI in EFL is increasingly vital to meet the demands of digital content creation, where English serves as a global medium for audience engagement. This study aims to investigate how students view the usefulness of an AI-based English e-module in improving their abilities and involvement in the production of digital content. An explanatory sequential mixed-method was used in this study. The data were gathered from 44 students of communication science study program at Universitas Ahmad Dahlan. Quantitative data were collected via a structured questionnaire grounded in the Technology Acceptance Model (TAM) and qualitative data were gathered through structured interviews with six purposively chosen participants. The quantitative data were analyzed using descriptive statistics, while qualitative data were analyzed using thematic analyses. Results revealed strong positive perceptions: the AI feature usefulness item recorded M = 3.98, the comparative effectiveness over conventional methods item yielded M = 3.89, and overall satisfaction achieved M = 3.91. Thematic analysis confirmed the value of real-time chatbot feedback and automated corrections in enhancing scriptwriting and confidence, though device incompatibilities and navigation issues emerged as barriers. These results suggest that in order to acquire real digital communication abilities, educators should incorporate AI-driven e-modules into task-based EFL curricula. Additionally, system design should give priority to multilingual support and cross-device optimization in order to guarantee equitable access.

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INTRODUCTION

The rapid advancement of digital technology has revolutionized various aspects of contemporary life, particularly within education and the digital creative industry. One important phenomenon that is becoming increasingly prominent is the growing demand for digital content creation skills as part of 21st-century digital literacy. The integration of digital learning with traditional teaching methods has initiated a new phase of educational revolution (Wei, 2024). To effectively navigate this increasingly digital landscape, individuals must not only possess the necessary knowledge, skills, and competencies but also leverage the tools available to them. Young individuals frequently engage with various social media platforms, which can serve as

a convenient channel for conveying information (Villanti et al., 2017). The rise of social media platforms such as *YouTube*, *Instagram*, and *TikTok* which inspired individuals to create original content in a variety of formats, including podcasts, infographics, films, and articles. With the increasing use of social media and content-sharing platforms, individuals are expected not only to be consumers of information, but also creative and innovative content producers. Social media has been used extensively to enhance students' knowledge and skills in teaching English as a foreign language (Noori et al., 2022). In order to gain worldwide audiences, content creators require proficiency in English. In the digital economy, digital content producers have a crucial role as they market and promote products and services to worldwide audiences (Hollebeek et al., 2024).

The role of English as a global lingua franca is increasingly relevant in digital content creation. English is used not just for communication but also for the dissemination of information to the general public through digital literacy, with a global audience. A study conducted by Mahapatra & Pradhan (2022) revealed that English is the international language that is utilized even for website creation and internet browsing, as evidenced by the fact that 56% of websites are created and used in the English language. This dominance not only reflects the global reach of English but also highlights its essential role in digital content creation, where creators aim to reach wider and more diverse audiences across the globe. *Facebook, Instagram, X, WhatsApp,* and *YouTube* were used for learning English which offered a variety of targeted skills (Anggraini et al., 2022; Ariantini et al., 2021; Krismanto et al., 2022; Nuraini et al., 2020). However, many people, especially college students, still struggle with utilizing English, particularly in professional settings such as content scripting, narrative delivery, or interaction with audiences from around the globe.

On the other hand, the integration of Artificial Intelligence (AI) in education, including English language learning, offers innovative solutions to overcome these challenges. Due in great part to technological advancements like artificial intelligence, the educational environment has swiftly changed in the modern era (Liu et al., 2021). As the need for digital skills increases, the integration of AI in English language learning is becoming increasingly relevant. AI offers a range of tools and platforms that can assist educators in producing learning processes, such as interactive e-modules. In a study by Ly et al. (2024), they stated that an e-module is a digitally formatted resource that presents independent learning materials organized systematically to achieve specific learning objectives, incorporating multimedia and navigation features to enhance user interactivity with the content. In today's digital age, e-module is widely known to educators as a tool for learning materials. AI in education can improve learning efficiency through analyzing real-time student data, providing instant feedback, and customizing materials according to individual needs (Zawacki-Richter et al., 2019). However, despite the huge potential offered by AI-based learning tools, there are still challenges in student understanding and acceptance of these technologies. Many students may not fully understand how they perceive AI-based learning tools, and how they can utilize the technology to improve their skills and creativity, especially in creating digital content.

The integration of AI into English language learning has garnered significant attention in recent educational research. AI-driven resources like adaptive platforms, chatbots, and automated feedback tools offer tailored and scalable assistance for students (Ganeesh & Rani, 2025; Liu et al., 2024). A study by Keumalasari et al. (2024), AI's real-time feedback and interactive features, such as grammar quizzes and pronunciation drills, have improved confidence in speaking for eighth-grade students in a junior high school in North Aceh. Correspondingly, Arifatin & Setyaningrum (2024) revealed AI has enhanced students' learning through personalized pathways and instant feedback, particularly in practicing pronunciation and grammar. The Unified Theory of Acceptance and Use of Technology (UTAUT) has been extensively utilized to clarify how students and teachers embrace these tools, highlighting the

importance of performance and effort expectancy, social influence, and facilitating conditions (Venkatesh et al., 2003; Zaim et al., 2024). These studies emphasized how most students believe AI-based resources may improve their English language proficiency, especially when it comes to tailored feedback and adaptable practice options. Despite the advantages on using AI, incorporating AI into English instruction still presents constraints. Over-reliance on AI, plagiarism concerns, a lack of critical involvement, and differences in digital literacy are among the constraints (Nazaretsky et al., 2022).

On the other hand, e-modules have emerged as effective tools for delivering structured and accessible educational content, particularly in the context of English Language Teaching. A Research and Development (R&D) study conducted by Rika et al. (2024) revealed a high demand for digital learning materials in content writing with 95% validation of the experts. Similarly, Subari (2022) developed an e-module for English Language Teaching (ELT) that focused on event advertisement specifically in short, simple texts, multimedia elements, and mobile accessibility. Both studies underscore the importance of e-modules as flexible, technology-driven tools that enhance student engagement and learning outcomes in ELT. The significance of e-module as adaptable, technologically advanced resources that improve student engagement and learning results in ELT is highlighted by both studies. Especially in the context of modern curricula, they emphasized the necessity of resources that are adapted to students' requirements and include interactive and multimedia components to encourage independent learning. The Technology Acceptance Model (TAM), a common utilized frameworks, describe how perceived usefulness, ease of use, social influence, and facilitating conditions influence technology adoption.

However, a critical gap exists in the lack of AI-based e-module specifically designed for digital content creation in English language learning. While the previous studies discussed the advantages of AI for general language skills and the efficacy of e-modules in delivering structured content, none of the studies specifically examined AI embedded within e-modules explicitly designed for digital content creation. This distinction is important because while general EFL AI tools concentrate on discrete language practice, this research focuses on an AI-based e-module with key features specifically designed for content production: (1) an integrated chatbot for real-time script drafting and idea brainstorming; (2) automated feedback on audience alignment, rhetorical structure, and multimedia integration; and (3) mobile accessibility to support on-the-go content creation for platforms like social media, podcasts, and short-form video. Furthermore, AI and English E–modules are currently trending studies from 2019 with over 5.000 studies until 2024 with over 14.000 studies as shown in the overview chart of Dimensions AI.

This study holds a significant value of contributions to educators, curriculum developers, and the broader field of future digital learning innovation. The study offers insights into how technology-enhanced learning tools could cope with evolving needs of students in journalism and media-related areas by investigating students' impressions of an AI-based English e-module designed for digital content creation. AI can provide a personalized learning assistant to educators and students, which may even serve as supplementary material (Pratama et al., 2023). The study contributes to the growing body of knowledge on integrating artificial intelligence in education, especially in designing English e-modules for digital content creation. Therefore, the following research question is considered with the aim to address the problems:

1. How do students perceive the use of an AI-based English e-module in digital content creation?
2. How do students perceive the benefits and obstacles of using AI-based English e-module features in digital content creation?

RESEARCH METHOD

Research Design

A mixed-method was implemented for this study to leverage the strengths of both qualitative and quantitative approaches, providing a more thorough comprehension of the research problem (Creswell & Clark, 2017). Specifically, an explanatory sequential design is utilized, where authors collected and analyzed quantitative data first followed by qualitative data analysis and collection to help interpret the quantitative data more deeply (Creswell & Inoue, 2025). Firstly, the authors shared a structured survey through Google Form to the respondents and analyzed the quantitative data based from the data. Secondly, the authors selected six participants to do interviews to explain and contextualize the quantitative findings. Six participants were chosen based from the three highest and lowest final project score. The project was producing a digital content. Lastly, the authors merged both datasets of quantitative trends and qualitative findings to answer the research question.

Research Participants

The study's respondents were second-semester undergraduate students of the Communication Science Study Program at Universitas Ahmad Dahlan. They were chosen because the students enrolled in an English language course in the study program and experienced the AI-based English e-module for the whole semester or 14 meetings. A total of 44 students were involved in the survey, 24 females and 20 males, ensuring a sufficient sample size for quantitative analysis. The students were experienced in producing digital contents such as podcasts, short videos, and digital posters. It is very important for communication science students to delve deeper into conveying information through digital communication. Form the total sample, six participants were purposively chosen to be interviewed allowing for in-depth qualitative insights of the data, involving structured-interviews. These participants selected based from the three highest and lowest final project score and willingly interviewed in this study.

Table 1
Demographic of the Participants

Parameter	Specification	Count	Percentage
Gender	Female	24	54.5%
	Male	20	45.5%
Producing digital content experience	Yes	37	84.1%
	No	7	15.9%

Instruments

This study employed two instruments, namely a questionnaire and interview. The instruments were achieved meaningful precision and reliability and validated by three e-module and content creator experts. The questionnaire served in the quantitative phase to investigate students' perceptions and usage of the AI-based English e-module for digital content creation, while the interview guidelines assisted the qualitative phase by drawing out deeper understanding of their experiences and viewpoints. The questionnaire assessed on perceived usefulness, ease of use, attitude toward technology, and behavioral intention of the e-module. To ensure familiarity with the AI-based e-module for digital content creation, the questionnaire was shared to the students during class activity at the end of the semester before their final exam and after they experienced the AI-based e-module during the semester teaching. The questionnaires provided questions on how they perceive AI-based e-module for digital content creation in producing digital contents to share information. The questionnaire was shared to the students through Google Forms to determine how they perceived AI-based e-module's usability and how it affected their ability to create digital content. There were 10 likert-scaled questionnaire items (1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly

Agree) which mainly derived from the Technology Acceptance Model (TAM) (Davis, 1989), which is a commonly utilized framework for analyzing technology adoption and usage. In addition, interviews were conducted as well which enabled researchers to investigate how individuals generate meaning in their lives and comprehend their surroundings (Gerson & Damaske, 2021). The authors conducted structured interviews with six participants, selected through purposive sampling to represent diverse digital creation performance levels (high and low) based on the lecturer's data of the final project.

Data Collecting Techniques

This study employed a survey and structured interviews. At first, the students experienced on using the AI-based English e-module for digital content creation for 14 meetings or the whole semester. Quantitavely, the survey was taken in early July 2025, a week before the students' final exam. Google Form was used to disseminate the questionnaire digitally. Qualitatively, a structured-interview was conducted at the end of July 2025, after the students completed their final projects on producing digital content. Before the interview began, In order to have a better understanding and clarify the findings, the qualitative phase was conducted after the quantitative data analysis. The interview was audio-recorded with participants' consent, and transcribed verbatim for analysis. The quantitative findings and interviews data were kept safely in a specific computer folder.

Data Analysis

To examine the data, explanatory sequential mixed-method was used which included both quantitative and qualitative techniques (Cresswell & Clark, 2017). Descriptive statistics was used to analyze the quantitative data by using the mode and mean as a measurement. After that, structured-interview data was analyzed using thematic analysis (Braun & Clarke, 2022). The authors transcribed the qualitative data and familiarized with the data, which involves authors immersing themselves in the information to fully comprehend it. Additionally, authors proceed to create themes that encompass broad trends and connections to the study topic. Moreover, integration accomplished during the interpretation step, when quantitative patterns (e.g., high scores supported by specific users of how useful the-e-module to learn English for digital content creation) were explained and contextualized using qualitative themes.

RESEARCH FINDINGS AND DISCUSSION

Research Findings

The results of this study are presented in two parts: the quantitative findings from the survey and the qualitative findings which presented with excerpts from the participants. Combination of these findings provide a comprehensive illustration of the students' perceptions on the use of AI-based English e-module for digital content creation. Moreover, the qualitative findings is presented with themes to provide a more thorough comprehension of the benefits and constraints faced by the students in using the e-module. The quantitative findings are presented below in Table 2 followed with a descriptive analysis on how students perceived the use of an AI-based English e-module for digital content creation.

Table 2
Students' perceptions towards the use of AI-based English e-module for digital content creation

No.	Statement	SD	DA	N	A	SA	Mode	Mean
1.	AI-Based English e-module helped me understand English in the context of digital content creation.	4.5%	2.3%	22.7%	47.7%	22.7%	4	3.82

No.	Statement	SD	DA	N	A	SA	Mode	Mean
2.	The language used in the AI-Based English e-module is easy to understand.	-	2.3%	25%	50%	22.7%	4	3.93
3.	The AI feature in the English e-module is useful for learning English in the context of digital content creation.	-	4.5%	13.6%	61.4%	20.5%	4	3.98
4.	The AI-Based English e-module has encouraged me to be more confident in using English.	-	4.5%	20.5%	50%	25%	4	3.95
5.	The material presented in the AI-Based English e-module is in line with my needs as a prospective content creator.	-	2.3%	18.2%	61.4%	18.2%	4	3.95
6.	I feel comfortable using AI technology to learn English.	-	2.3%	15.9%	54.5%	27.3%	4	4.07
7.	The AI-Based English e-module presents a combination of interesting and varied materials and exercises.	-	4.5%	15.9%	59.1%	20.5%	4	3.95
8.	The AI-Based English e-module is more effective than conventional English language learning methods.	-	4.5%	22.7%	52.3%	20.5%	4	3.89
9.	I want to use the e-module on an ongoing basis.	2.3%	-	29.5%	50%	18.2%	4	3.82
10.	Overall, I am satisfied with the e-module.	2.3%	-	22.7%	54.5%	20.5%	4	3.91

The findings presented in Table 2 revealed the students' perceptions in using AI-Based English e-module for digital content creation. Items 1,3,5, and 8 are the measurement of perceived usefulness which students perceive of the e-module in creating English-language digital content. Notably, item 3 which focused on the utility of AI features revealed the highest individual mean (M = 3.98) and appeared the most often with 61.4% of students agreeing. This suggests a generally positive sentiment that AI features in the e-module were perceived as a tendency toward English application during content production. Item 5 followed closely with (M = 3.95), indicating curriculum congruence that the materials presented in the e-module may contribute to the needs as a content creator. Similarly, 61.4% of students agreed and viewed that the materials presented in the e-module were relevant and practical to their needs. Even for item 1, which addressed conceptual understandings, scored respectably (M = 3.82). Though the students may perceive varied perceptions on understanding English that applied in the e-module. While the e-module compared to conventional learning, mean agreement was higher for the e-module than implied for conventional methods (item 8: M = 3.89). With only 4.5% disagreeing and no substantial disagreement, indicating that the e-module is clearly preferred by the majority for developing skills in digital environments rather than being purely supplemental.

Responses on perceived ease of use (items 2 and 6) which students found the e-module effortless to interact with, both linguistically and technologically. Item 6, which measured students' comfort on using AI technology in learning English, achieved a score (M = 4.07) with 54.5% of students frequently choosing to agree. With this score, it may be related to technological barriers of users, likely bolstered by prior familiarity with chatbots and mobile apps. Moreover, the language clarity in the e-module also performed well (M = 3.93). Interestingly, the 25% neutral rate may suggest that although the instructions were clear, a fraction of lower-proficiency learners may have preferred more scaffolding or simpler language. Nonetheless, the absence of strong negative sentiment across both items underscores intuitive design and user-friendly implementation.

Moreover, the attitude toward using technology construct reflected consistently favorable responses, highlighting two key emotional outcomes (item 4 and 7). Item 4 highlighted confidence building in using English (M = 3.95). Students of 50% agreed and 20% strongly agreed reported increased self-efficacy in English content creation, likely due to iterative AI feedback enabling risk-free practice. Notably, 20.5% of students chose a neutral option and 4.5% chose to disagree and may perceived that they faced language barriers in constructing English sentences to the content. In similar, item 7 (M = 3.95) which focused on engagement through a variety of materials, showed notably positive. Students with 59.1% agreed and 20.5% strongly agreed found materials and exercises in the e-module interesting and diverse, suggesting success in integrating multimodal tasks. Item 10, which assessed overall satisfaction with the AI-based English e-module, recorded a mean of 3.91, with 75.0% of responses falling in the Agree (54.5%) or Strongly Agree (20.5%) categories, while only 2.3% indicated strong disagreement. This pattern reflects broad holistic approval among participants. With low polarization and little variation in student judgments, the consistent mode of 4 across the item indicates stable and primarily favorable attitude.

These findings highlight the potential of AI-based educational tools to enhance English language acquisition, particularly in the context of digital content creation, where dynamic and interactive learning environments are increasingly appreciated. However, the data suggests further investigation among several factors in responding to the usability of an AI-Based English e-module, the effectiveness of using AI-Based English e-module in digital content creation, and challenges faced in using AI-based English e-module in English language learning. Therefore, the authors conducted interview with six respondents from communication science study program to complete the information of this study.

The Usability of an AI-based English E-Module

The e-module's usability includes its features, accessibility, and interface intuitiveness, which are essential for engaging students in creating digital content. The respondents found the e-module accessible and user-friendly, particularly through digital devices such as mobile phones and laptop.

(1) "Now that we live in a fully digital world, we can access this e-module through our phones, making it easy to open anytime." (Student 1)

(2) "We can use the AI-based e-module independently and anytime, so it's more intensive for delving deeper into learning English with the e-module specifically for digital content." (Student 2)

(3) "I like using this e-module because it's efficient and easily accessible via phone and laptop compared to traditional methods that use books and take quite a bit of time when you need to look something up." (Student 3)

Furthermore, some respondents also reported that the e-module also provided them to create digital contents particularly through features like chatbot and automated feedback, which facilitated quick interactions. The features in the e-module enables them to create content materials. The contents are mostly videos and posters.

(4) "There is a feature such as a chatbot or automatic feedback that I usually use because sometimes I am still unsure whether the words or sentences I compose are correct or not. So, I like to create narratives for my digital posters in this e-module to ensure their accuracy because I enjoy making digital posters, and sometimes I even insert them into competitions so that the information can be read by public in general." (Student 1)

(5) "The features provided in this e-module are very helpful for creating my content scripts because sometimes I feel confused about how to create a hook at the beginning of my content to attract the audiences." (Student 4)

According to the findings of the theme, the usability of the AI-based English e-module for digital content creation is an accessible and intuitive design. Its compatibility with mobile devices and laptops supports flexible, independent learning, with users appreciating its efficiency over conventional approaches. In order to meet the expectations of contemporary education, features like chatbots and automated feedback make it easier to create content such as poster narratives and video hooks.

The Effectiveness of Using AI-based English E-Module for Digital Content Creation

This theme highlights how the e-module enhances English proficiency for digital content, such as scriptwriting, narration, pronunciation, and speaking skill for their video content. Respondents reported that using the e-module, their vocabulary for English digital content improved significantly as they are constructing sentences for their script and narration.

(6) "This AI-based e-module really helps me with my English skills, especially in writing scripts for my content, writing a correct narrative for an email, and through it, I have also learned many new vocabularies." (Student 5)

(7) "When I write a narrative in the e-module for my digital poster, I feel more confident about using English in my poster for the public because the vocabulary is appropriate and the sentences are accurate." (Student 1)

(8) "In my opinion, the chatbot in this e-module is more efficient in helping me create a Call to Action (CTA), hashtags, and engaging hooks to attract the audience's attention. Its features make it easier to organize content, for example, how to start it, the main body, and finally the closing." (Student 4)

In addition, high-quality digital content is also characterized by the use of correct sentence structures. Several respondents reported improvements in their grammatical accuracy, attributed to the automatic feedback feature that not only identifies the appropriate use of tenses but also corrects typographical errors in words and sentences.

(9) "Personally, this e-module is particularly helpful in correcting grammar in narratives because when I type a narrative there, it will detect if the grammar is wrong, and from that, I learn from my mistakes, which is quite effective." (Student 5)

(10) "This e-module is useful for me in improving the grammar of the narratives or scripts I write for my video content because, honestly, I prefer to be someone behind the scenes, so I feel confident in creating scripts or narratives in this e-module." (Student 6)

As a result, students' English competence for creating digital content is greatly improved by the AI-based English e-module, which also supports the development of vocabulary and scriptwriting skills that are essential in media contexts and English for Specific Purposes (ESP). The module's AI-based features, such as chatbots and automated feedback, enable precise grammar corrections and structured content organization, fostering confidence in producing high-quality digital outputs like posters and videos.

Challenges Faced in Using AI-Based English E-Module for English Language Learning

The theme encompasses technical and structural of the e-module that impact students' engagement and learning outcomes in creating digital content. Some respondents faced

challenges such as device compatibility issues and navigation difficulties particularly for students with varying levels of English proficiency.

(11) "Sometimes the e-module can be accessed, but it cannot be used for typing, especially on iPhones. For example, one time I was working on a narrative for my content, and suddenly it got stuck and couldn't be typed. In the end, I tried accessing it on a laptop, and it worked." (Student 2)

(12) "Since I do not have a basic knowledge of English and the e-module is in English, sometimes I still feel confused with the language. But if the e-module were in Indonesian, I might already be proficient in creating content." (Student 4)

(13) "From my point of view, the features in this e-module are still somewhat disorganized, so I experienced a bit of difficulty in understanding the material and felt confused as well." (Student 6)

From this finding, several participants encountered difficulties utilizing the AI-based English e-module, including navigational difficulties and device compatibility problems. These issues point to areas that require development in order to improve student engagement and learning outcomes in the creation of digital material. Technical difficulties, like typing issues on specific devices, and structural disorganization, as reported, can impede accessibility, particularly for students with limited English proficiency.

Discussion

The study highlights that participants generally perceive positively in using AI-based English e-module for digital content creation. The use of AI-based English e-module reveals that students appreciate the e-module's accessibility on laptops and mobile devices, which allows for flexible, self-directed learning. The survey data proved 81.8% of respondents felt comfortable using AI for English learning, and qualitative (excerpt 1, 2, and 3) emphasize efficiency over traditional approaches. Such perceptions reflect the e-module user-friendly design which accessible for laptop and mobile phone. Adaptive e-modules enhance both accessibility and engagement, especially for mobile users, supporting students' feedback about availability at any time (Huang et al., 2023; Yuli Rohmiyati, 2025). In addition, learning with the e-module demonstrates how students interact with multimedia to construct material for digital content. As stated by Rika et al. (2024) validated the effectiveness of multimedia interactivity by assessing e-modules for content writing with 95% expert acceptance.

The AI-based e-module has transformed student learning by delivering flexibility and tailored pathways that conventional classrooms often couldn't offer. The AI-based e-module allows students to learn whenever and wherever they choose, but it may also lead to excessive reliance on technology for learners (excerpt 1 and 3). The qualitative findings revealed that the e-module is efficient and saving time compared to traditional approaches. This in line with Moulieswaran & Kumar (2023), which highlights the efficiency gained from using AI-based applications for learning English is appreciated by students, who hold a favorable view of integrating AI-powered tools to enhance language acquisition both in and out of the classroom.

The responsive chatbot feature in the e-module offers immediate feedback and it has been shown to effectively boost students' engagement in learning English through digital content creation. In particular, the e-module's features, such as the integrated chatbot and automated feedback, align with the requirements of content-creation pedagogy, according to qualitative assessments of effective script drafting and feedback (excerpts 6 – 10). These findings suggest that AI-assisted tools can facilitate practical, task-oriented EFL by bridging linguistic skills with media production needs, such as crafting hooks, calls to action (CTAs), and audience-aligned narratives. In content-creation pedagogy, this suggests a shift toward interactive, multimedia-driven approaches that prepare students for real-world digital tasks, where English proficiency extends beyond general communication to include rhetorical and multimodal elements essential for platforms like social media and podcasts. The chatbot's rapid and precise

responses aid students in grasping the material more quickly, minimizing confusion, and removing hurdles in producing contents (excerpt 4 and 5). These trends align with earlier research on AI integration in EFL. For example, Shaikh et al. (2023) highlighted that educational chatbots preserve contextual relevance and logical flow, facilitating coherent content production. This consistency is especially vital in educational environments, where unclear or contradictory feedback might exacerbate student challenges rather than alleviate them, indicating that the quality of chatbot responses holds equal significance to their promptness in influencing educational results.

Similarly, the findings reported of the participants' improvements in vocabulary, grammar, and confidence for scriptwriting (excerpts 6–10) align with Arifatin & Setyaningrum (2024) and Keumalasari et al. (2024), where AI-driven personalized feedback enhanced pronunciation and grammatical accuracy in EFL contexts. In addition to strengthening fundamental language skills such as grammar and vocabulary, the e-module boosts learners' confidence and positions them as useful resources for acquiring the expressive and technical skills needed for digital media scriptwriting and narration (excerpt 7 and 10). Additionally, Moulieswaran & Kumar (2023) who noted positive student perceptions of AI for effective language acquisition, and Delita et al. (2022), who connected e-modules to increased self-efficacy in collaborative digital tasks, are connected to the general positive attitudes toward technology in quantitative data (items 7 and 10) and behavioral intentions (item 9).

In broad terms, these alignments highlight how AI-embedded e-modules expand general EFL tools that concentrate on discrete skills, such as grammar tests (Nazaretsky et al., 2022), to specialized pedagogy for digital content, encouraging creative expression as demonstrated in Noori et al. (2022), where social media improved EFL skills for public consumption. The e-module help the student to share the content confidently to social media and consumed by the public after producing the sentences through the AI-based e-module. Therefore, the progression from vocabulary, grammar, and pronunciation to advanced scriptwriting techniques like creating effective CTA and captivating hooks shows how technology-enhanced learning establishes a scaffolded pathway from linguistic competence to creative expression in digital media.

Indeed, the AI-based e-module has proven to be beneficial, it still needs to be improved when viewed critically by communication science students who have a sophisticated awareness of media production standards. The AI-based e-module still has significant weaknesses and need for development, according to communication science students. The challenges reveals barriers such as device incompatibilities and structural disorganization of the e-module, particularly for low-proficiency of basic English users (excerpts 11, 12, and 13). In accordance to Crompton et al. (2024) who discovered that technical malfunctions are a prevalent concern with all technologies in using AI, including computer functionality and connectivity problems. Similarly, AI-based learning have addressed technical problems and AI integration limitations in higher education (Mahmud et al., 2025; Zhang, 2024). Pratama et al. (2023) discussed AI's supplementary role but warned of over-reliance without multilingual support which is a constraint for the student to understand the context.

This study shows that student views on AI-based English e-modules for digital content creation are essentially influenced by the conflict between technological potential and accessibility issues. Despite the advanced features of AI tools in improving content creation abilities, their effectiveness in education is hindered by limitations in technical infrastructure and linguistic accessibility issues that hinder the best user experience.

The results of this study reveal a balanced perspective among Communication Science Study Program students. They embrace the e-module as an accessible, efficacy, and time-saving tool in producing digital content but be attentive of its drawbacks and possible risks to over-reliance on the AI. In practical terms, educators and curriculum developers need to focus on

multilingual assistance and cross-device testing in AI-driven e-modules to improve accessibility, as advised by Pratama et al. (2023), who promoted AI as additional resources while cautioning against excessive dependence. The key is to understand how technology-enhanced learning tools could cope with evolving needs of students in creating content through AI-based English e-module designed for digital content creation.

CONCLUSION

This study contributed to the evolving discourse on AI-assisted EFL by demonstrating the potential of AI-based e-module to bridge linguistic proficiency with digital content creation skills, thereby advancing technology-enhanced pedagogy in communication and media education such as creating hook, CTA, scriptwriting, and narration. By integrating TAM constructs with mixed-methods insights, it highlighted how AI features can foster practical, context-specific language learning, extending beyond general EFL tools to support creative media tasks in higher education.

The results provided pedagogical support for integrating AI-based e-module into curriculum to encourage task-oriented EFL, such as adding chatbot-driven scriptwriting exercises to journalism courses to improve audience engagement and rhetorical abilities as well as learning English. In order to ensure equal access and lower technical obstacles, future research should give top priority to multilingual interfaces, strong cross-device interoperability (e.g., seamless iOS/Android integration), and structured navigation. Hence, the e-module could support the enhancement of skills that correspond with global communication through digital contents in a straightforward manner.

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INFORMED CONSENT STATEMENT

Participation in this study is entirely voluntary. By agreeing to take part, the participants acknowledge that they have been informed about the purpose, procedures, potential risks, and benefits of the study.

DATA AVAILABILITY STATEMENT

The data utilized in this study cannot be made publicly available due to strict adherence to privacy concerns and ethical obligations that safeguard participant confidentiality. This ensures compliance with ethical research standards and data protection regulations.

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