Exploring Rural EFL Lecturers' Perspectives on the Integration of Artificial Intelligence (AI) in Foreign Language Pedagogy

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ABSTRACT

Artificial Intelligence has significantly reshaped foreign language pedagogy, encouraging rural EFL lecturers to move beyond traditional methods. This study aims to investigate the perspectives of rural EFL lecturers in Indonesia on integrating AI into their teaching practices. Using a qualitative design and case study approach, the study explores how rural lecturers perceive the role of AI in language teaching and integrate foreign language pedagogy for classroom dynamics and learning outcomes. The participants included four EFL lecturers from different institutions selected through a purposive sampling technique to ensure a variety of teaching contexts and exposure to AI tools. The data collection method included semi-structured interviews and observation focusing on AI integration and challenges. This study analyzed the data using thematic analysis to identify the key themes of rural EFL lecturers' perspectives. The study revealed that AI offers significant benefits, including streamlining lesson preparation, facilitating interactive and personalized learning experiences, and fostering independent learning among students. However, infrastructural limitations such as unreliable internet connectivity and gaps in digital literacy hinder AI's optimal implementation. The result shows that integrating AI into rural foreign language pedagogy has a significant role in enhancing teaching.

Keywords: artificial intelligence (AI), foreign language pedagogy, lecturers' perspectives, qualitative research, case study

Introduction

The rapid development of Artificial Intelligence (AI) has transformed new possibilities for fostering English as a Foreign Language (EFL) teaching. As a result, the existence of these tools has offered individuals or the majority, particularly those who are learning foreign languages, a chance to learn more comfortably. In addition, teachers of foreign languages utilize these tools to support their teaching practices. AI-driven tools are software applications that employ AI methods to understand, generate, or alter human language (Batista et al., 2024; Kundu & Bej, 2025). Meanwhile, these techniques encompass deep learning, natural language processing, language generation, and data analysis. These technologies aim to improve human capabilities, offer personalized learning experiences to students, and improve the overall

efficacy of educational settings in their daily activities (Strielkowski et al., 2024). Therefore, AI provides unique opportunities to enhance teaching practices and students' learning (De la Vall and Araya, 2023). Hence, numerous lecturers have explored the use of AI to acquire knowledge and information. In fact, they must recognize the transformative power of AI to enhance learning experiences that are both effective and adaptable. Traditional teaching methods alone are no longer sufficient to meet the growing demands of modern education (Pratolo et al., 2022; Priantini et al., 2024).

Current studies highlight the multifaceted applications of AI in EFL contexts. Studies demonstrate that AI-driven tools provide several benefits for lecturers, thus integrating AI shows that it concerns academic integrity, effectiveness, excessive reliance, the authenticity of information, and privacy leakage (Gao et al., 2024; Zou et al., 2023). For instance, research by Lo (2023) showed that AI could promote personalized learning, enhance understanding of complex topics, and potentially reduce teacher workload. This aligns with Topal (2024), who suggests AI helps expand the teaching resources available to EFL teachers and students. Despite this, understanding these merits becomes crucial for leveraging technology effectively. Similarly, the utilization of AI is often tempered by concerns regarding efficacy, accessibility, and the potential depersonalization of the teaching and learning experience (Castro et al., 2025; Wei, 2023). In addition, recent studies have shown that AI can assist students in retrieving information and in acquiring knowledge more easily, enhance their language skills, and improve their subjective learning (Hwang et al., 2023). However, a gap remains, numerous studies provide comprehensive analyses of AI's practical applications and potential benefits of AI tools in language instruction (Eden et al., 2024), but few offer detailed, evidence-based insights into how AI is integrated in rural or limited-resource settings to ensure pedagogical effectiveness. There is limited exploration of the practical opportunities and constraints faced by lecturers working outside of urban environments where access to technology, infrastructure, and training may be limited. Despite the growing research on AI in language education, rural contexts remain critically underrepresented. Rural lecturers often face unique barriers not experienced by their urban counterparts, including limited digital infrastructure, geographic isolation, and fewer opportunities for professional development. These conditions create a pressing need to investigate how AI can be meaningfully adapted to serve rural educational environments and promote more inclusive access to technological tools in language teaching.

In Indonesia, English is a compulsory foreign language taught across primary, secondary, and tertiary education. However, its implementation in rural areas continues to face substantial challenges. These include unequal

access to qualified English teachers, poor digital infrastructure, and limited opportunities for students to engage with English in authentic communicative settings (Siregar et al., 2024; Stroupe, 2024). Although national education reforms increasingly promote digital and AI-enhanced learning, rural schools often lack the technological readiness and institutional support needed to implement such innovations effectively (Kamarullah et al., 2024; Kormos & Wisdom, 2021). These contextual barriers influence how EFL lecturers in under-resourced Indonesian settings perceive and integrate AI into their teaching practice.

In response to these challenges, this study underscores the need to explore the lived experiences of rural EFL lecturers as they integrate AI into foreign language pedagogy. This study aims to generate contextually relevant insights that can inform inclusive educational policies, targeted professional development, and the design of AI tools that are responsive to under-resourced settings. This study also seeks to identify commonly used AI tools in EFL classrooms, assess their effectiveness in improving teaching strategies and learning outcomes, and explore the practical challenges rural lecturers encounter in their adoption. The findings of this study are expected to benefit rural English language lecturers across Indonesian educational contexts and offer valuable insights for similar under-resourced environments globally. In attempting to address this gap, the present study sought to answer the following questions:

1. How do rural EFL lecturers integrate AI tools into their Foreign Language Pedagogy?
2. What challenges do rural EFL lecturers face in integrating AI into teaching?

Literature Review

AI in Foreign Language Pedagogy

The integration of AI into foreign language pedagogy has increasingly become a significant point in educational research, particularly as AI offers transformative possibilities for enhancing language learning experiences. The field of foreign language pedagogy is known for its dynamic nature, focusing on teaching languages that are not native to students. It encompasses a range of theoretical frameworks, instructional methods, and pedagogical strategies designed to aid language acquisition (Gao et al., 2024). As Topal (2024) highlighted, this multidisciplinary area integrates principles from linguistics, psychology, education, and cultural studies, aiming to develop effective teaching techniques and curricula. Recent transformations in this field, noted

by De la Vall and Araya (2023), have largely been driven by technological advancements, particularly AI integration. Incorporating digital technologies and online resources has revolutionized language instruction, offering learners access to online courses, language learning apps, and multimedia tools (Grassini, 2024). These innovations support personalized learning and help overcome geographical barriers. AI in foreign language pedagogy facilitates innovative learning experiences, enriching engagement, and inclusivity for students. Furthermore, Strielkowski et al. (2024) argue that AI technologies equip educators with essential resources to enhance both content delivery and the emotional aspects of the learning process. Additionally, Jiang (2022) asserts that these technologies can also foster valuable skills and knowledge sought after by employers, making language learning more relevant in today's job market. These challenges are echoed in Indonesian studies, where rural English teachers report facing isolation, outdated devices, and a lack of institutional support to experiment with digital tools (Pratolo et al., 2022).

Challenges in AI Integration for Rural Lecturers

Rural EFL lecturers encounter significant challenges in integrating AI into their teaching, primarily due to inadequate technological infrastructure in remote areas (Mustafa et al., 2024). Limited internet access, insufficient hardware, and a lack of digital tools hinder the effective implementation of AI-driven solutions. UNESCO (2022) highlights the persistent digital divide between urban and rural regions, especially in low-income areas where resources for technology investment are scarce. Additionally, many rural educators lack the digital literacy and pedagogical knowledge needed to incorporate AI successfully, as indicated by Rintaningrum (2023), who found that insufficient professional development opportunities impede their ability to integrate technology into classrooms. Moreover, the gap in suitable pedagogical frameworks poses further issues, as rural teachers often rely on traditional, teacher-centered approaches, which conflict with the interactive nature of AI tools. In addition, research by Kundu and Bej (2025) emphasizes the need for aligning AI technologies with constructivist pedagogies to enhance student engagement, an alignment that rural educators often struggle to achieve. These challenges are echoed in Indonesian studies, where rural English teachers report facing isolation, outdated devices, and a lack of institutional support to experiment with digital tools (Siregar et al., 2024).

Preparing Rural Lecturers for AI Integration

To address the challenges of integrating AI into foreign language pedagogy for rural lecturers, several strategies are proposed. Primarily, targeted professional development programs are essential, providing educators with the necessary technical skills and pedagogical knowledge to effectively utilize AI tools. Huang et al. (2023) emphasize building digital literacy and familiarizing educators with AI applications, ensuring these programs are sensitive to the specific needs of rural contexts, including limited technology access and support. Ongoing support and mentorship are also vital for educators transitioning to AI integration. Feng (2024) highlights the benefit of collaborative learning environments, allowing lecturers to share experiences and address challenges together, thereby combating isolation in rural areas. Thus, providing user-friendly AI tools that can function offline or with minimal internet connectivity is crucial. Furthermore, Kormos and Wisdom (2021) suggest using preloaded or downloadable AI software to overcome infrastructure limitations, ensuring that rural lecturers can effectively leverage AI-enhanced learning solutions without dependence on real-time connectivity. In Indonesia, programmes aimed at equipping rural teachers with digital competencies remain limited in scope and reach (Priantini et al., 2024), underscoring the need for context-responsive and scalable training initiatives tailored for remote areas.

Methodology

Research Method

This study employed a qualitative research design with a case study approach to investigate the lived experiences of lecturers integrating AI in rural EFL contexts. This approach was deemed appropriate because it allows for an in-depth exploration of contemporary phenomena within their real-life settings, particularly where the boundaries between the phenomenon and the context are not clearly defined (Yin, 2018). In this case, integrating AI tools cannot be meaningfully separated from the geographical, institutional, and infrastructural constraints that shape teaching in rural areas. This design captures the nuanced interplay between technology adoption and the educational environment by focusing on a specific group of rural lecturers. It enables the study to uncover how factors such as limited internet connectivity, lack of digital resources, and minimal professional development opportunities influence the ways lecturers interact with AI tools. Further, case study research is especially valuable when exploring issues that are both context-dependent and under-researched, such as AI use in under-resourced rural EFL classrooms.

Site and Participants

This study was conducted in rural educational settings in East Java, Indonesia, where access to technological infrastructure remains limited. The participants consisted of four EFL lecturers from four universities selected through a purposive sampling technique to triangulate teaching contexts, levels of experience, and exposure to AI tools. Purposive sampling was chosen to focus specifically on those with relevant AI experience in rural EFL contexts, rather than attempting to generalise across all Indonesian EFL lecturers. All four lecturers had a minimum of three years of teaching experience in EFL and had integrated at least one form of AI technology (such as ChatGPT, Quillbot, or Canva) into their teaching. This experience was a key inclusion criterion to ensure participants could offer informed reflections on AI usage regarding its benefits and challenges. Likewise, the participants were willing to share detailed experiences through interviews. Below is the participant profile:

Table 1

Participant profile

Participant	Gender	Teaching Experience	Qualification	AI-Level Proficiency
Participants 1	Male	5 years	Master's in English Education	Intermediate
Participant 2	Female	8 years	Master's in English Education	Intermediate
Participant 3	Female	8 years	Master's in English Education	Intermediate
Participant 4	Male	4 years	Master's in English Education	Intermediate

Research Instruments

The research instruments for collecting data include semi-structured interviews and observation. Semi-structured interviews were conducted to collect the lecturers' experiences, challenges, and perceptions on incorporating AI into their teaching, adapted from Gao et al. (2024). Semi-structured interview permits participants to elaborate on their perspectives while allowing the study to delve deeper into emerging themes. This format

was selected for its ability to balance structure with flexibility, allowing the researcher to maintain focus on core themes while also enabling participants to elaborate on issues most salient to their contexts. These interviews concentrate on significant topics such as the types of AI tools used, their perceived benefits, challenges they faced, and their influence on teaching strategies. Further, observation was conducted to gain contextual insights into how AI tools were being used in practice. The observations focused on lecturers' instructional methods, the presence or absence of AI tool integration, and the influence of technological infrastructure in rural settings.

Data Collection

The data collection in this study involves semi-structured interviews designed to explore how AI is integrated into EFL teaching practices. It enabled open-ended exploration of lecturers' experiences while maintaining consistency across participants. This study seeks to gather in-depth insights into both the lecturers' experiences and the practical application of AI in real teaching practice. The semi-structured interview provides flexibility, allowing participants to express their experiences and perspectives while enabling the researcher to explore emerging themes in depth, such as AI tools used and their functions in teaching, perceived benefits and challenges, institutional support, professional development opportunities, and reflections on the impact of AI on student learning. All interviews were audio-recorded with consent, transcribed verbatim, and anonymised to maintain confidentiality and ethical integrity. The ethical procedures were strictly followed throughout the data collection process. Before participation, all interviewees were informed about the purpose of the study, their rights to anonymity and confidentiality, and their freedom to withdraw at any time without consequence. Written informed consent was obtained from all participants. The study was conducted following ethical research standards and approved by the university's research ethics committee. Furthermore, the observations complement interviews in understanding the application of AI tools in EFL teaching practice. It captures details such as the role of AI integration in rural educational settings, lecturers' experience in utilizing AI in their teaching practices, benefits, and challenges of AI.

Data Analysis

The data were analysed using thematic analysis following Clarke and Braun's (2006) six-phase framework, selected for its methodological flexibility and depth of interpretive insight. This process included: (1) familiarisation with the data, (2) initial coding, (3) theme development, (4) theme review, (5)

theme definition, and (6) final reporting. Interview transcripts were manually coded, and emergent patterns were iteratively reviewed and refined. To enhance transparency and readability, Table 2 outlines the analytic progression across the six phases:

Table 2

Phases of Thematic Analysis

Phase	Analytical Focus
Familiarisation	Reading transcripts and making initial notes to become immersed in the data
Initial coding	Highlighting the significance of the data that addressed the research questions.
Theme development	Grouping codes into categories and potential themes.
Theme review	Comparing across participants to ensure consistency and representativeness
Theme definition	Finalising and naming core themes
Producing the report	Constructing a narrative that linked the themes to the study's research questions and broader literature on AI in EFL teaching

Additionally, this study emphasized trustworthiness, including credibility, transferability, dependability, and confirmability. Participants were invited to review their interview transcripts and the preliminary findings to confirm the accuracy of interpretations. To improve credibility, debriefing was used with the Professor of ELT reviewed data segments for thematic consistency. Member checking also validated themes with participants. Transferability is enhanced by providing a detailed description of the research context, participants, and processes, enabling readers to assess the applicability of findings to similar settings. Then, dependability is maintained through a thorough documentation of the research design, data collection, and analysis procedures. Lastly, confirmability is ensured by maintaining reflexivity throughout the study, where the researcher remained aware of personal bias and grounded interpretations in the data. These phases collectively strengthen the rigor and reliability of the research findings.

Findings

The Role of AI

This study investigates the role of AI in addressing educational inequities within rural foreign language pedagogy in Indonesia. AI offers clear advantages such as streamlining material preparation, providing interactive

resources, and fostering independent learning. However, its practical implementation remains limited due to infrastructural constraints, particularly unreliable internet access. The findings reveal that although AI holds strong potential to enhance English language instruction, especially given the dominance of English in most AI interfaces, its classroom application is minimal. Lecturers used AI for preparing lessons rather than delivering instruction, reflecting both technological limitations and an ongoing reliance on conventional teaching methods.

These interview responses were further validated by classroom observations, which confirmed that although lecturers appreciated the benefits of AI, its actual use in classroom instruction was minimal. This reinforces the finding that infrastructural limitations and a preference for traditional methods continue to limit the practical integration of AI into rural foreign language pedagogy. Here is the demonstration:

> "I see AI as a highly potential tool for improving English teaching in rural areas. AI simplifies the preparation of teaching materials, provides engaging learning resources, and even offers alternatives for independent learning for students." (Participant 1)

> "AI plays a significant role in facilitating access to educational materials, making learning resources more widely available despite infrastructure limitations. Therefore, the role of AI is essential for lecturers and students in rural areas, as it bridges the technological divide in these regions." (Participant 2)

> "In my opinion, the role of AI in improving English teaching in rural areas is still not optimal, as teachers in classroom settings tend to rely on conventional methods for teaching English." (Participant 4)

Rural Lecturer Experienced in AI in Foreign Language Pedagogy

The integration of AI into teaching practices has shown promising results in enhancing the quality of foreign language pedagogy. Educators have successfully utilized AI tools like ChatGPT to prepare teaching materials efficiently, generating relevant ideas and examples for exercises. However, the direct application of AI in classroom settings remains limited in certain areas due to infrastructure challenges, such as restricted internet connectivity. Despite these limitations, AI has proven to be a transformative tool for creating dynamic and engaging learning environments. For instance, AI has been effectively used for gamification in teaching English for Specific Purposes, enabling students to learn through interactive and enjoyable experiences. Tools such as Canva and Canvas assist in designing visually

appealing presentations, and Quizzes facilitate interactive assessments. Despite these positive developments, direct in-classroom use of AI tools remained minimal, with many lecturers citing restricted internet access and a lack of digital resources as ongoing barriers. As the observation found, AI-generated materials were prepared and used (slides and handouts), but still, real-time engagement with AI tools during lessons was not maximal. The observation supports participants' claims that poor internet connectivity and limited access to digital infrastructure continue to hinder the direct application of AI in classroom settings. Below is the demonstration:

> "I have used ChatGPT to help prepare teaching materials. The results were very satisfying as I could quickly generate relevant ideas and examples for exercises. However, I have not extensively used AI directly in class due to limited internet connectivity in my area." (Participant 1)

> "AI greatly enhances the learning environment, making the teaching and learning process more dynamic and engaging. For example, I have used AI for gamification in teaching English for Specific Purposes (ESP). By incorporating games into lessons, students can learn English while enjoying the process, which helps them understand the material more quickly. Tools like Canva or Canvas are useful for designing presentations, Quizzes for conducting interactive assessments, and ChatGPT for evaluating students' progress." (Participant 2)

> "Yes, I have used AI. The results were beneficial, as I could more easily find teaching materials or references and obtain detailed information related to the subject matter." (Participant 4)

The Benefits of AI

The use of AI has provided numerous essential benefits, by providing high-quality learning materials, interactive applications, and AI-based training programs, AI enhances both teaching and learning experiences. These benefits are especially pronounced in English language education, where AI can serve as a substitute or supplement to traditional teaching methods, offering creative and personalized learning solutions for students in underserved regions. In rural settings, AI facilitates access to diverse language models, pronunciation tools, writing guides, and customized exercises, empowering students to take an active role in their language acquisition. Through exposure to AI, students become more creative and independent, exploring innovative strategies for learning at their own pace. This was evident in the observations, where students engaged more actively, despite

still facing infrastructural limitations. Moreover, for teachers, AI presents opportunities to enhance pedagogical effectiveness by tailoring materials to students' abilities. The demonstrations are:

> "AI can bring significant benefits, such as access to high-quality learning materials, support for independent learning through interactive applications, and improved teacher skills via AI-based training. For students, AI can provide solutions to overcome the lack of teachers or resources in rural areas." (Participant 1)

> "In rural areas, AI offers extensive benefits for learning English. It provides access to models for speaking and pronunciation, guides on English writing techniques, and exercises." (Participant 2)

> In regions with limited facilities or uneven teacher competency, the responsible use of AI can empower students to be more independent in finding learning resources that suit their needs, applying appropriate learning strategies, and setting their own pace based on their exposure to AI. (Participant 3)

AI Makes Foreign Language Pedagogy Easier

The utilization of AI in foreign language pedagogy has revolutionized traditional educational practices by offering efficient and creative approaches to material preparation and instructional delivery. AI empowers educators with tools to streamline lesson plans, while also enriching the learning experience through diverse and interactive resources. From personalized learning designs to innovative applications like interactive quizzes and games, AI not only enhances the accessibility of educational materials but also fosters greater student engagement and motivation.

AI supports independent learning by providing tailored resources that cater to individual needs. Its capabilities ranging from assisting with writing and improving speaking skills to sourcing references, enable students to simultaneously develop multiple competencies. By simplifying the process of obtaining teaching and learning materials, AI offers educators and students a powerful mechanism to overcome traditional barriers to education. However, the effectiveness of AI remains contingent on the availability of technological infrastructure, including internet access and digital devices, particularly in rural areas where such resources may be limited. Moreover, the effectiveness of these innovations largely depends on the availability of supporting infrastructure. These are the demonstrations:

> "Teaching becomes easier because AI helps speed up material preparation and provides creative and varied learning resources, but it depends on access to devices and the internet." (Participant 1)

"The use of AI in English learning makes the process easier and more interactive, such as personalized and innovative design features. These tools enhance student motivation and provide easier access to materials, such as interactive quizzes and games, which can also serve as effective icebreakers." (Participant 2)

"With the abundance of AI applications available today, each with various functions such as assisting with writing, finding references, or improving speaking skills, it has become much easier for individuals to decide what they want to learn independently. AI enables us to practice different skills simultaneously." (Participant 3)

The Challenges in Integrating AI

While AI holds immense potential for transforming English language education, its adoption in rural areas remains constrained by multiple challenges. Limited access to reliable internet and technological devices stands out as a primary obstacle, impeding the effective integration of AI tools that meet students' needs. Participants also highlighted gaps in technological literacy among both lecturers and students, which further restricts the optimal use of AI. The successful application of AI in language education depends not only on adequate infrastructure but also on the willingness and ability of educators to engage with AI tools that suit their instructional goals.

Classroom observations supported these findings, revealing that although lecturers were aware of AI's benefits, its actual use in classroom activities was minimal. Lecturers continued to rely on traditional teaching methods due to limited access to digital resources and a lack of confidence in using AI. This study underscores the urgent need for targeted professional development and infrastructure support to empower educators and students to make full use of AI's potential in rural educational settings. Below are the demonstrations:

"The biggest challenges are limited internet access and technological devices. Additionally, there is still a gap in technological literacy among teachers and students." (Participant 1)

"In rural areas, the optimal use of AI is hindered by school facilities and uneven teacher competency. Digital literacy gaps and internet issues are the main barriers to using AI effectively." (Participant 3)

"Challenges include a lack of knowledge about the types of AI that can be used for language teaching, understanding how to maximize AI as a teaching tool, and the need for an environment that supports the use of AI in language education." (Participant 4)

AI Integration Improves Students' Language Proficiency

AI has emerged as a powerful tool in advancing English language proficiency, particularly in core areas such as speaking, listening, reading, writing, grammar, and vocabulary acquisition. Through features like interactive simulations, real-time feedback, and repetitive practice, AI facilitates skill development by creating immersive and personalized learning experiences. For instance, AI-enabled tools offer students opportunities to improve their pronunciation, refine their writing skills, and expand their vocabulary, thereby fostering a more comprehensive approach to language acquisition.

When strategically implemented, AI can empower students to take ownership of their studies and achieve significant improvements in English proficiency. However, the observations showed that AI was occasionally used for writing correction, pronunciation modelling, and vocabulary building. Its implementation was often limited to individual or homework tasks, particularly in classrooms with unstable internet or insufficient devices. In better-equipped settings, students interacted more directly with AI tools, confirming that successful integration depends not only on the availability of infrastructure but also on how confidently and purposefully educators incorporate AI into learning. There are the demonstrations:

> "Yes, integrating AI helps with simulations and practice, improving student engagement and performance." (Participant 1)

> "AI tools help improve students' English proficiency by offering real-time feedback, such as supporting speaking skills, writing skills, and enhancing overall language learning." (Participant 2)

> "There is a possibility that AI can enhance language learning, depending on how students utilize it as a tool for their language studies." (Participant 4)

AI Integration in the Traditional Language Teaching Method

The leveraging of AI into English language education presents a valuable opportunity to complement traditional teaching methods by enhancing both instructional diversity and student engagement. AI's ability to provide relevant contextual examples, conversation simulations, and personalized exercises strengthens practice-based learning and supports students' independent study beyond the classroom. When effectively aligned with learning objectives, AI tools offer lecturers a means to refine and enrich their teaching strategies, ultimately addressing diverse student needs.

Despite the rise of AI in the education context, traditional methods continue to play a foundational role in language instruction, particularly through direct practice and educator-student interactions. Rather than replacing conventional approaches, AI serves as a dynamic adjunct, enabling lecturers to modify, augment, and personalize pre-existing lesson plans. Meanwhile, traditional methods still dominated the observed teaching styles, confirming that AI functions more as an enhancer than a replacement in rural contexts. Thus, this integration not only enhances pedagogical flexibility but also counters perceptions of traditional methods as monotonous, making the learning process more engaging and interactive. Here are the demonstrations:

> "AI can be an excellent complement to traditional methods by providing diverse teaching approaches and supporting students' independent learning outside the classroom. Thus, AI integration complements traditional methods, particularly by providing relevant contextual examples and supporting practice-based learning, such as conversation simulations." (Participant 1)

> "When AI provides relevant materials and exercises for English, its integration complements traditional teaching methods effectively. AI complements traditional approaches by offering simulations and examples that enrich lessons." (Participant 2)

> "It is possible, though traditional language teaching methods still primarily rely on conventional approaches and direct practice. Integrating AI into traditional language teaching could help eliminate the stigma that traditional language learning is boring." (Participant 4)

Discussions

This study has highlighted the transformative potential of AI in foreign language pedagogy, particularly in underserved rural areas. AI offers a multifaceted approach to fostering language education by simplifying teaching material preparation, providing interactive resources, and supporting independent learning. These merits are especially valuable in addressing crucial challenges such as limited access to quality teaching materials and disparities in educator competency, which are prevalent in rural contexts (Kamarullah et al., 2024; Siregar et al., 2024). For instance, AI-driven tools such as ChatGPT, Duolingo, and Grammarly provide students with dynamic and personalized learning experiences, which align with constructivist approaches to language learning that emphasize individualized and active engagement with content. Thus, the findings also showed that infrastructural and pedagogical barriers, including limited internet access and gaps in digital literacy, hinder the full realization of AI's potential in these areas.

Furthermore, AI's role as a complement to traditional teaching methods underscores its potential to bridge these gaps. Participants in this study highlighted the ability of AI to enrich learning experiences through contextual examples, conversation simulations, and tailored exercises, thus diversifying instructional strategies. These findings are consistent with prior studies demonstrating that blended approaches where traditional methods are supplemented with technology are particularly effective in language education (Batista et al., 2024; De la Val & Araya, 2023). However, the reliance on conventional methods observed in the study reflects a broader trend in a rural education context, where technological innovations are often underutilized due to a lack of alignment between AI tools and pedagogical frameworks (Eden et al., 2024; Huang et al., 2023). Besides, effective integration requires lecturers to view AI not as a replacement for educator-led instruction but as a tool to promote and personalize learning, as suggested by Kundu and Bej (2025).

Moreover, this study also underscores AI's role in fostering independent learning, a critical need in rural areas with limited access to qualified lecturers. Through features such as personalised feedback, self-paced modules, language simulations, and on-demand access to explanations or examples, AI tools enable students to take control of their learning progress, set individual goals, and reinforce their skills outside the constraints of classroom instruction (Wei, 2023). AI applications enable students to practice multiple skills such as speaking, writing, grammar, and vocabulary through personalized and interactive tools, promoting active and autonomous learning. This aligns with Feng (2024), who found that AI-powered platforms significantly enhance student engagement and language acquisition by enabling real-time feedback and adaptive learning, however, the responsible use of AI is crucial. Over-reliance on AI-generated solutions risks undermining essential critical thinking and problem-solving skills, a concern echoed in the work of. To mitigate this, lecturers must emphasize AI as a supplementary tool that enhances active learning rather than replacing traditional cognitive processes. For instance, the lecturer should guide students to use AI tools to refine their ideas, practice skills, and analyze language structures rather than merely generating answers.

Despite its potential, the leveraging of AI in rural areas faces critical challenges. Limited internet access and insufficient technological infrastructure remain primary obstacles, a finding consistent with studies by UNESCO (2022) that highlight the global digital divide in education. The participants also identified uneven competency in using AI tools effectively as a critical challenge. These issues are compounded by the lack of professional development opportunities for lecturers in rural areas, as explored by Rintaningrum (2023). Addressing these challenges requires

targeted investments in digital infrastructure and teacher training programs. Offline AI solutions, such as preloaded language learning apps and downloadable content, can serve as interim assessments to bridge these gaps, aligning with suggestions by Mustafa et al. (2024) for developing inclusive technological solutions.

Moreover, equity and accessibility remain critical concerns in the integration of AI-driven education. The study emphasizes AI's capacity to democratize access to educational resources, particularly in underserved regions with limited teaching resources. This aligns with Grassini (2024), which underscores the role of AI in reducing disparities in education by providing students with access to diverse and high-quality learning materials. Meanwhile, ensuring equitable implementation requires tailoring AI-driven content to local cultural and linguistic contexts. Current studies, such as that by Samuel et al. (2023), demonstrate the importance of culturally adaptive AI tools in enhancing learning outcomes. Additionally, ensuring the accessibility of AI applications across various devices and platforms is essential for fostering inclusivity, particularly in low-resource settings (Hwang et al., 2023; Jiang, 2022). These measures can empower students and teachers to use AI effectively, enabling them to overcome geographical and infrastructural challenges.

In conclusion, this study provides compelling evidence of AI's transformative potential in foreign language pedagogy, particularly in rural contexts. By enhancing both educator-led instruction and independent learning, AI can enhance English language proficiency and foster greater engagement and creativity among students. However, its effective integration requires addressing crucial challenges related to infrastructure, digital literacy, and teacher competency. Future research should investigate the long-term impact of AI on students' cognitive and linguistic development and explore the feasibility of offline and culturally adaptive AI solutions to enhance inclusivity. By addressing these gaps, AI has the potential to create more equitable and effective learning environments, transforming the educational landscape in underserved regions (Castro et al., 2025; Zou et al., 2023).

Conclusions and Recommendations

Conclusions

This study examined how rural EFL lecturers view and use AI in English teaching, revealing both its transformative potential and practical limitations. AI tools such as ChatGPT, Duolingo, and Grammarly offer significant benefits in preparing instructional materials, supporting student autonomy, and increasing engagement through interactive and personalized

learning (Feng, 2024). Hence, these advantages are particularly valuable in rural settings where access to qualified educators and high-quality resources is often limited (Siregar et al., 2024). However, infrastructural barriers such as unstable internet connectivity, limited access to devices, and gaps in digital literacy remain major obstacles to implementation (UNESCO, 2022; Rintaningrum, 2023). While lecturers recognized AI as a useful complement to traditional teaching, the actual classroom use of AI tools was minimal, reflecting the need for more professional development and context-sensitive support systems (Huang et al., 2023; Zou et al., 2023). Likewise, the study underscores the urgency of developing offline-capable and culturally responsive AI tools that align with local pedagogical needs and linguistic contexts (Jiang, 2022; Samuel et al., 2023).

Recommendations

To fully realize the potential of AI in enhancing English language education, particularly in rural areas, several critical steps must be taken. First, addressing the issue of equitable internet access is paramount. Reliable technological infrastructure, including stable internet connectivity and access to devices, is essential for the effective implementation of AI-driven tools. For regions with limited connectivity, offline AI solutions such as preloaded language learning applications and downloadable materials should be developed and promoted to ensure that students and educators can benefit from AI regardless of their geographical location. Moreover, educators must receive comprehensive training on the use of AI tools to enable them to integrate these technologies effectively into their teaching practices. They should also be encouraged to curate AI tools that address specific pedagogical goals, fostering a more targeted and efficient approach to English language instruction.

Furthermore, there is a pressing need to emphasize the responsible and independent use of AI among students. While AI democratizes access to high-quality educational resources and supports autonomous learning, it must be framed as a complementary tool rather than a substitute for critical thinking and human interaction. Additionally, the integration of AI in education must be accompanied by ongoing efforts to instill digital responsibility. Over-reliance on AI could potentially hinder the development of critical thinking skills in future generations. To mitigate this risk, educators should focus on fostering a balanced approach that combines the benefits of AI with traditional teaching methods, ensuring that students develop the cognitive abilities necessary to navigate complex challenges independently. Ultimately, AI can serve as a powerful tool for bridging educational gaps,

creating equitable learning opportunities, and supporting the development of both teachers and students in rural areas.

Additionally, future research should investigate how sustained exposure to AI-assisted language learning platforms affects students' language acquisition, critical thinking, and academic autonomy over time. Longitudinal studies are particularly needed to determine whether the integration of AI leads to meaningful improvements in English proficiency and cognitive development, especially in rural contexts with limited traditional learning support. Moreover, further studies should examine the development and implementation of culturally sensitive AI tools tailored to local linguistic and educational needs. Exploring how such tools can align with learners' socio-cultural backgrounds will help ensure that AI-enhanced language instruction is effective, inclusive, and contextually relevant.

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References

Batista, J., Mesquita, A., & Carnaz, G. (2024). Generative AI and higher education: trends, challenges, and future directions from a systematic literature review. *Information, 15*(676), 2-27. https://doi.org/10.3390/info15110676

Castro, A., Díaz, B., Aguilera, C., Prat, M., & Chávez-Herting, D. (2025). Identifying rural elementary teachers' perception challenges and opportunities in integrating artificial intelligence in teaching practices. *Sustainability, 17*. https://doi.org/10.3390/su17062748

Clarke, V., & Braun, V. (2017). Thematic analysis. *The Journal of Positive Psychology, 12*(3), 297-298. https://doi.org/10.1080/17439760.2016.1262613

Eden, C. A., Chisom, O. N., & Adeniyi, I. S. (2024). Integrating AI in education: Opportunities, challenges, and ethical considerations. *Magna Scientia Advanced Research and Reviews, 10*(02), 006-013. https://doi.org/10.30574/msarr.2024.10.2.0039

De la Vall, R. R. F., & Araya, F. G. (2023). Exploring the benefits and challenges of AI-language learning. *The International Journal of Social Sciences and Humanities Invention, 10*(01), 7569-7576. https://doi.org/10.18535/ijsshi/v10i01.02

Feng, L. (2024). Investigating the effects of artificial intelligence-assisted language learning strategies on cognitive load and learning outcomes: A comparative study. *Journal of Educational Computing Research, 62*(8). https://doi.org/10.1177/07356331241268349

Gao, Y., Wang, Q., & Wang, W. (2024). Exploring EFL university teachers' beliefs in integrating ChatGPT and other large language models in language education: a study in China. *Asia Pacific Journal of Education, 44*(1), 1-15. https://doi.org/10.1080/02188791.2024.2305173

Grassini, S. (2024). Shaping the future of education: Exploring the potential and consequences of AI and ChatGPT in educational settings. *Education Science, 13*. https://doi.org/10.3390/educsci13070692

Huang, X., Zou, D., Cheng, G., Chen, X., & Xie, H. (2023). Trends, research issues and applications of artificial intelligence in language education. *Educational Technology & Society, 26*(1), 112-131. https://doi.org/10.30191/ETS.202301_26(1).0009

Hwang, W. Y., Nurtantyana, R., Purba, S. W. D., Hariyanti, U., Indrihapsari, Y., & Surjono, H. D. (2023). AI and recognition technologies to facilitate English as a foreign language writing for supporting personalization and contextualization in authentic contexts. *Journal of Educational Computing Research, 61*(5), 1008-1035. https://doi.org/10.1177/07356331221137253.

Jiang, R. (2022). How does artificial intelligence empower EFL teaching and learning nowadays? A review on artificial intelligence in the EFL context. *Frontiers in Psychology, 13*. https://doi.org/10.3389/fpsyg.2022.1049401.

Kamarullah, Sarinauli, B., & Syahmidi, H. (2024). AI writing tools in the classroom: Investigating usage, challenges, and adaptations by rural English teachers. *Journal of English Education and Applied Linguistics, 13*(3), 1015-1042. https://doi.org/10.24127/pj.v13i3.10914

Kormos, E. & Wisdom, K. (2021). Rural schools and the digital divide: technology in the learning experience and challenges to integration. *Theory & Practice in Rural Education, 11*(1), 25-39. https://doi.org/10.3776/tpre.2021.v11n1p25-39.

Kundu, A. & Bej, T. (2025). Transforming EFL teaching with AI: A systematic review of empirical studies. *International Journal of Artificial Intelligence in Education.* https://doi.org/10.1007/s40593-025-00470-0

Lo, C. K. (2023). What Is the Impact of ChatGPT on Education? A Rapid Review of the Literature. *Educational Science, 13*(4). https://doi.org/10.3390/educsci13040410

Mustafa, F., Nguyen, H. T. M., & Gao, X. A. (2024). The challenges and solutions of technology integration in rural schools: A systematic literature review. *International Journal of Educational Research.* https://doi.org/10.1016/j.ijer.2024.102380.

Nazari, N., Shabbir, M. S., & Setiawan, R. (2021). Application of artificial intelligence powered digital writing assistant in higher education: Randomized controlled trial. *Heliyon, 7*(5). https://doi.org/10.1016/j.heliyon.2021.e07014

Rintaningrum, R. (2023). Technology integration in English language teaching and learning: Benefits and challenges. *Cogent Education, 10*, 1-21. https://doi.org/10.1080/2331186X.2022.2164690

Samuel, Y., Brennan-Tonetta, M., Samuel. J., Kashyap, R., Kumar, V., Kaashyap, S. K., Chidipothu, N., Anand, I., & Jain, P. (2023). Cultivation of human centered artificial intelligence: Culturally adaptive thinking in education (CATE) for AI. *Frontiers in Artificial Intelligence.* https://doi.org/10.3389/frai.2023.1198180

Siregar, R. A., Raja, F. D., Purnawarman, P., & Damayanti, I. L. (2024). The lonely journey of EFL pre-service teachers in remote areas: Readiness and challenges in integrating ICT in teaching. *Teaching English with Technology, 24*(1), 59-78. https://doi.org/10.56297/FSYB3031/WWCS6171.

Strielkowski, W., Grebennikova, V., Lisovskiy, A., Rakhimova, G., & Vasileva, T. (2024). AI-driven adaptive learning for sustainable

educational transformation. *Sustainable Development, 33*(2), 1921-1947. https://doi.org/10.1002/sd.3221

Stroupe, R. (2024). Navigating challenges: English language education in rural Indonesia. *TEFL Praxis Journal, 3*, 3-23. https://doi.org/10.5281/zenodo.14286313

Topal, İ. H. (2024). A critical evaluation of CALL and MALL products for learning and teaching American English. *e-Kafkas Journal of Educational Research, 11*, 543-560. https://doi:10.30900/kafkasegt.1400193

UNESCO. (2022). *The digital divide and the future of education: Implications for rural areas.* UNESCO

Pratolo, B. W., Fatimah, N., Soviyah., & Zuraina, A. (2022). Digital literacy readiness: Voices of Indonesian primary and secondary English teachers. *English Language Teaching Educational Journal, 5*(2), 129-142. https://doi.org/10.12928/eltej.v5i2.6562

Priantini, N. W. A., Dewi, D. A. A. R., Maharani, A. A. P., Budiarta, I. K., Sawitri, N. L. P. D., & Negi, H. K. (2024). Lecturers' readiness and intentions for AI integration in Indonesian and Indian ELL classroom. English Review: *Journal of English Education, 12*(3). https://doi.org/10.25134/erjee.v12i3.10034

Wang, X., & Reynolds, B. L. (2024). Beyond the books: Exploring factors shaping Chinese English learners' engagement with large language models for vocabulary learning. *Education Science, 14*(496). https://doi.org/10.3390/educsci14050496.

Wei, L. (2023). Artificial intelligence in language instruction: Impact on English learning achievement, L2 motivation, and self-regulated learning. *Frontiers in Psychology, 14*. https://doi.org/10.3389/fpsyg.2023.1261955

Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). SAGE Publications.

Zou, D., Huang, Y., & Xie, H. (2023). Transforming language education: A systematic review of AI applications. *Computers and Education: Artificial Intelligence, 5*. https://doi.org/10.1016/j.caeai.2023.100123