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USE OF ARTIFICIAL INTELLIGENCE AS AN ONLINE PLATFORM FOR ENGLISH LANGUAGE TEACHING AT TERTIARY LEVEL

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Abstract

The use of artificial intelligence in the classroom widely known as artificial intelligence education (AIEd) based on many AI-driven applications are now in use in educational institutions. By integrating an AI module with knowledge suggestion into the system, this study builds an online English teaching system use as a platform for self learning English language. The integration of Artificial Intelligence (AI) in language education has transformed traditional pedagogical approaches, offering innovative, adaptive, and interactive learning experiences. This quantitative study investigates the effectiveness of AI-based online platforms for English language teaching at the tertiary level. A structured survey was administered to 200 undergraduate students enrolled in a BS English program at University of Larkano to assess their perceptions of AI-driven learning tools. The collected data were analyzed using SPSS, employing descriptive statistics and hypothesis testing to evaluate engagement, effectiveness, and perceptions. The findings reveal that AI-based platforms significantly enhance English language learning by providing personalized learning experiences, real-time feedback, and increased student engagement. Students with prior experience in AI-assisted learning reported higher satisfaction and perceived effectiveness compared to those without prior exposure. The study also found that AI tools improve various language skills, particularly vocabulary acquisition, pronunciation, and reading comprehension, while their effectiveness in grammar learning remained inconclusive. Furthermore, statistical tests confirmed significant differences in engagement levels across academic years, highlighting the progressive adaptation to AI-based learning over time. The study underscores the potential of AI as a transformative tool in tertiary-level English language education, enhancing both teaching methodologies and student learning outcomes. However, the findings suggest that AI should complement, rather than replace, traditional instructional methods, particularly in areas requiring in-depth linguistic explanations. Future research should explore hybrid AI-human instructional models to optimize learning effectiveness and address existing challenges in AI-driven language education.

INTRODUCTION

The field of English Language Teaching is continually evolving, especially due to rapid technology progress (Udoh, 2023). Historically, English Language Teaching techniques were predominantly based in conventional classroom environments, characterized by direct instruction, structured curricula, and in-person interactions as the pedagogical foundation (Alkhudiry, 2022; Hsu et al., 2023). The emergence of the digital age initiated a paradigm shift in English Language Teaching methodologies (Anggeraini, 2020; Tomlinson, 2014). In the late 20th century, the proliferation of computers and the internet enabled ELT to use their potential (Jeong, 2023). The integration of multimedia resources, including video assistance, transformed the sensory experience of language acquisition. Computer-Assisted Language Learning emerged as a fundamental resource by offering learners interactive platforms that extend beyond traditional textbooks and classroom environments (Mrah & Tizaoui, 2018). In the late 20th century, the expansion of computers and the internet facilitated the utilization of their potential in English Language Teaching (Jeong, 2023). The incorporation of multimedia tools, such as video support, revolutionized the sensory experience of language learning. Computer-Assisted Language Learning has become an essential resource by providing learners with interactive platforms that surpass conventional textbooks and classroom settings (Mrah & Tizaoui, 2018). At this pivotal moment, the advent and sophistication of advanced AI tools in education is undeniable (Yang, 2023). Kamalov et al. (2023) assert that AI has the potential to revolutionize education. Paradigms by revolutionizing conventional approaches and individualizing educational experiences. English Language Teaching has consistently embraced technological innovation (Rusmiyanto et al., 2023). AI tools equipped with deep learning capabilities possess the potential to transform English Language Teaching (ELT) by offering advantages that exceed those of conventional pedagogical instruments, including personalization, scalability, and interactivity (Hsu et al., 2023).

Artificial intelligence (AI) is the amalgamation of intellect, specifically computers that may exhibit

human-like cognitive abilities and make judgments utilizing human competencies. The primary purpose is to construct very sophisticated machines capable of making intelligent decisions. AI enhances Information Science by creating efficient programs that enable virtual machines to gain reasoning, problem-solving, and learning capabilities (Baskara, 2023).

Three Language, numerical, practical, interpersonal, and intrapersonal intelligences are computationally modeled in artificial intelligence. Artificial intelligence (AI) is facilitated by natural language processing (NLP), expert systems, fuzzy logic, neural networks, and robots. Five to seven It offers an integration of NLP with AI for various applications, such as aircraft monitoring systems and emergency care programs (Rahman & Watanobe, 2023). NLP facilitates an environmentally sustainable framework for language translation and development via virtual agents.

It is undeniable that digital technologies have become an essential component of our daily lives and have transformed the manner in which we search for information, communicate with one another, and conduct. Recent developments in the educational field involve innovative techniques for the professional progress of educators, while online platforms offer optimal courses across several subjects to engage students effectively (Alkhresheh, 2024). AI promotes and fosters a non-judgmental global educational atmosphere. The objective is to enhance technology throughout life by acquiring knowledge beyond the classroom. The worldwide implementation of schools' results in enhanced global interconnectedness and accessibility. According to Ribeiro (2020), the most practical approach for English language instructors to employ Artificial Intelligence in English Language Teaching (ELT). English is a prevalent world language that has a systematic grammatical structure. Consequently, the acquisition of English ESL/EFL (English as a Second/Foreign Language) pupils have consistently encountered significant challenges (Orak & Alkhresheh, 2021).

AI is instrumental in the development of intelligent instructor programs by monitoring the mental actions of learners, including self-regulation, control,

and description. This determines the information that is most suitable for the learner. The practice of comprehension and training is transformed into deep thinking and learning methods with the assistance of AI. Technological creativity and social intelligence are both enhanced by the advancement of artificial educational intelligence. The introduction of intelligent educational systems, such as Siri on the iPhone, feedback from Facebook friends, and Google vehicles, are significant illustrations of the potential for AI to revolutionize life (Holmes et al. 2023).

Research Questions

Q: 01. How effective do undergraduate students perceive AI-based platforms in enhancing their English language learning experience?

Q: 2. To what extent do AI-based learning platforms contribute to student engagement in English language learning at the tertiary level?

Literature Review

The integration of artificial intelligence (AI) in English language teaching (ELT) at the tertiary level has gained significant attention in recent years. AI-driven platforms offer innovative solutions for enhancing language learning through adaptive learning systems, automated assessment tools, and personalized feedback mechanisms. These advancements address key challenges in traditional language instruction, such as large class sizes, varying proficiency levels, and the need for continuous student engagement (Orak & Alkhresheh, 2021). Several studies highlight the potential of AI-powered language learning applications, such as chatbots, virtual tutors, and intelligent tutoring systems (ITS). According to Kukulska-Hulme and Viberg (2018), AI-enhanced learning environments facilitate interactive and immersive experiences that promote learner autonomy. Furthermore, AI-driven platforms like Duolingo, Grammarly, and ELSA Speak provide learners with real-time corrective feedback, enabling them to refine their language skills independently (Zawacki-Richter et al., 2019; Grassini, 2023; de Baker & Inventado, 2014; Ali et al., 2023). Despite these benefits, challenges remain in the implementation of AI in ELT. Issues such as data privacy, ethical concerns, and the potential reduction

of human interaction in language learning raise important pedagogical considerations (Xiao & Zhi (2023). Additionally, the effectiveness of AI tools depends on their integration into well-structured teaching frameworks rather than serving as standalone solutions.

Background of AI in Language Learning

The inception of innovative language-learning programs can be attributed to the initial discussion system, ELIZA. ELIZA was created by Joseph Weizenbaum at the MIT Artificial Intelligence Laboratory from 1964 to 1966 as the inaugural natural language processing program. Eliza was designed to underscore the superficiality of human-machine interaction using pattern matching to simulate conversation (Berry, 2023). The groundbreaking ELIZA set a precedent for subsequent chatbot initiatives, also referred to as text-based dialogue systems (Mastura, 2021). The implementation of AI Markup Language (AIML) has enhanced the development of dialogue systems for English as a Foreign Language (EFL) education. Certain practitioners of computer-assisted language learning (CALL) may utilize established conversation systems by evaluating their language-learning capacity, contingent upon the accessibility of an open-source framework (Mastura, et al., 2021). The extensive developer community enables other CALL practitioners to create supplementary systems for language learners, such computer simulators in educational communication (CSIEC) (Mastura et al., 2021).

Numerous applications employing AI dialogue systems have been developed in the realm of foreign language acquisition to facilitate interactive tasks aimed at improving different facets of a language learner's interactional competence (Timpe-Laughlin, Sydorenko, & Daurio, 2020; Young, 2011).

Intelligent Computer Assisted Language Learning

The transition from Computer Assisted Language Learning (CALL) to Intelligent Computer Assisted Language Learning (ICALL) has proven unavoidable. Similar to how Computer-Assisted Language Learning (CALL) gave rise to Mobile Assisted Language Learning (MALL) due to improvements in mobile technology and its uses in language education,

the proliferation of artificial intelligence has naturally progressed to a scholarly domain known as Intelligent Computer-Assisted Language Learning (ICALL) (Koraishi, 2023).

The linguistic processing abilities of Natural Language Processing technologies have numerous applications in computer-assisted language learning (CALL), and the research domain that investigates and applies these applications is known as intelligent CALL, or ICALL (Lu, 2018).

The transition from Computer-Assisted Language Learning (CALL) to Intelligent Computer-Assisted Language Learning (ICALL) marks a significant evolution in digital language education. CALL, which emerged in the latter half of the 20th century, primarily focused on computer-based drills, multimedia resources, and interactive exercises designed to support language learning. While CALL provided learners with structured practice and access to digital resources, its limitations included a lack of personalization and adaptability (Moqbel & Al-Kadi, 2023). The advent of ICALL introduced artificial intelligence into the equation, enabling language learning systems to incorporate natural language processing (NLP), adaptive learning, and intelligent feedback mechanisms. ICALL systems analyze learner input, detect errors, and offer targeted corrections, fostering a more interactive and responsive learning experience (Kohnke et al., 2023). Similarly, the shift from Mobile-Assisted Language Learning (MALL) to AI-driven language learning reflects the growing influence of intelligent technologies in education. MALL emerged with the proliferation of smartphones and mobile applications, allowing learners to engage with language content anytime and anywhere. The flexibility and accessibility of MALL significantly enhanced self-directed learning, providing opportunities for immersive experiences through gamified apps and social learning networks (Barrot, 2023). However, MALL often lacked deep personalization and contextual awareness, which AI-driven platforms now address. By integrating AI, modern language learning apps can assess learners' proficiency in real-time, tailor exercises based on their strengths and weaknesses, and even simulate real-life conversations using AI-powered chatbots and speech recognition technologies (Chaka, 2023).

The role of AI in language learning extends beyond personalization to encompass predictive analytics and automated assessment. AI-based systems can predict a learner's trajectory, recommend specific learning pathways, and provide instructors with valuable insights for curriculum design (Kasneji et al., 2023). Additionally, automated assessment tools powered by AI offer instant grading, grammar correction, and pronunciation evaluation, reducing the dependency on human instructors while maintaining accuracy (Koraishi, 2023). The transition from MALL to AI-driven learning solutions signifies a move towards more sophisticated, context-aware, and intelligent educational technologies that cater to individual learners' needs more effectively.

As AI continues to evolve, its integration into language learning presents both opportunities and challenges. While AI-driven platforms enhance learning experiences through automation, personalization, and real-time feedback, they also necessitate ethical considerations related to data privacy and algorithmic bias. The effectiveness of AI in language education depends on its alignment with pedagogical principles and its ability to complement human instruction rather than replace it. Future advancements in AI promise even more refined and immersive learning experiences, positioning intelligent technologies as integral components of language education at the tertiary level.

Method and Procedure

This study employed a quantitative research design to examine the effectiveness of artificial intelligence (AI) techniques as an online platform for English language teaching at the tertiary level. The research focused on assessing students' engagement, learning outcomes, and overall perception of AI-driven platforms. A structured questionnaire was developed to collect data on students' experiences with AI-based English language learning tools. The questionnaire consisted of multiple-choice and Likert-scale questions, covering aspects such as ease of use, effectiveness in skill development, and interaction with AI-driven feedback mechanisms.

The sample for this study comprised 200 undergraduate students from the Department of English Language. A stratified random sampling technique was used to ensure a representative

selection of students across different academic years. The questionnaire was distributed electronically, and respondents were given ample time to complete it. To maintain the reliability and validity of the study, the questionnaire was piloted with a small group of students before full implementation. Ethical considerations, such as informed consent and confidentiality, were strictly followed to protect participants' identities and responses.

The data collected were analyzed using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics, including mean scores and standard deviations, were used to summarize students' responses, while inferential statistical techniques such as t-tests and ANOVA were applied to determine significant differences in perceptions across different groups. Correlation analysis was also conducted to explore relationships between students' engagement with AI tools and their learning

outcomes. The findings from these analyses provided empirical insights into the role of AI-based platforms in English language teaching at the tertiary level.

The strictest ethical standards were maintained during this study. Participants were thoroughly informed of the study's objectives prior to their involvement, so guaranteeing informed permission was obtained. The majority Emphasis was placed on protecting participants' confidentiality, with all obtained data securely maintained and free from personal identification markers. The study's integrity was upheld by assuring participants that their replies would be utilized solely for academic purposes and that they would be permitted to receive feedback on the study's results.

The study continually highlighted the need of honoring and maintaining the dignity and rights of all participants.

Table: Demographic Details of Participants (N = 200)

Demographic Variable	Categories	Frequency (N)	Percentage (%)
Gender	Male	90	45%
	Female	110	55%
Age Group	18-20 years	80	40%
	21-23 years	95	47.5%
	24+ years	25	12.5%
Year of Study	First Year	50	25%
	Second Year	50	25%
	Third Year	50	25%
	Fourth Year	50	25%
Prior Experience with AI Tools	Yes	120	60%
	No	80	40%
English Proficiency Level (Self-Reported)	Beginner	50	25%
	Intermediate	100	50%
	Advanced	50	25%

Table 1 presents the demographic characteristics of the 200 undergraduate students enrolled in the BS English program who participated in the study. The sample consisted of 45% male and 55% female students. Participants were categorized into three age groups, with the majority (47.5%) between 21 and 23 years old, followed by 40% aged 18 to 20 years, and 12.5% aged 24 years or older.

The distribution across academic years was equal, with 25% of participants from each year of study. Regarding prior experience with AI-based learning tools, 60% of students reported having prior exposure, whereas 40% had no experience. In terms of learning preferences, 45% of students preferred AI-based online learning, 35% favored traditional face-to-face learning, and 20% preferred a hybrid

approach. Additionally, participants self-reported

their English proficiency levels as beginner (25%), intermediate (50%), and advanced (25%).

Descriptive Statistics of Questionnaire Items

Item No.	Questionnaire Item	Mean (M)	Standard Deviation (SD)
1	AI-based platforms are easy to use for learning English.	4.12	0.85
2	AI tools provide effective feedback on language learning.	4.05	0.78
3	Learning English through AI platforms is engaging.	4.18	0.82
4	AI-based learning helps improve vocabulary retention.	3.98	0.91
5	AI tools enhance listening skills.	4.08	0.76
6	AI applications support grammar learning effectively.	3.92	0.89
7	AI-based learning is more interactive than traditional methods.	4.20	0.80
8	AI platforms provide personalized learning experiences.	4.25	0.79
9	AI-driven assessments are helpful in tracking progress.	4.15	0.82
10	AI tools facilitate better pronunciation practice.	4.10	0.81
11	AI-based platforms increase student motivation.	4.05	0.83
12	AI learning tools make studying more convenient.	4.30	0.75
13	AI applications offer sufficient speaking practice opportunities.	3.85	0.90
14	AI-based platforms reduce language learning anxiety.	3.95	0.88
15	AI tools provide instant feedback on errors.	4.22	0.77
16	AI-based learning promotes independent learning habits.	4.18	0.79
17	AI platforms offer culturally diverse learning content.	4.00	0.86
18	AI-based learning is more time-efficient than traditional methods.	4.12	0.83
19	AI platforms improve reading comprehension skills.	3.90	0.87
20	I am satisfied with the overall experience of AI-based English learning.	4.28	0.74

The results indicate that participants generally had positive perceptions of AI-based platforms for English language learning. The highest-rated items included the convenience of AI tools ($M = 4.30$, $SD = 0.75$), personalized learning experiences ($M = 4.25$, $SD = 0.79$), and satisfaction with AI-based learning ($M = 4.28$, $SD = 0.74$). The lowest-rated items included opportunities for speaking practice ($M = 3.85$, $SD = 0.90$) and grammar learning effectiveness ($M = 3.92$, $SD = 0.89$), suggesting areas for potential improvement in AI-based language learning applications.

Overall, the findings highlight the effectiveness of AI techniques in facilitating English language learning at the tertiary level, particularly in providing interactive, engaging, and personalized learning

experiences. However, further research is recommended to explore ways to enhance AI-based speaking and grammar learning components.

Hypothesis Testing Results

The hypothesis testing results indicate that students with prior experience using AI tools perceive AI-based learning as significantly more effective ($p = 0.003$). Additionally, engagement levels differed significantly based on the students' year of study ($p = 0.018$), with higher engagement in senior students. The study also found that students preferring AI-based learning reported significantly higher satisfaction levels than those favoring traditional or hybrid methods ($p = 0.011$).

Moreover, AI-based platforms were perceived to provide higher-quality feedback compared to traditional methods ($p = 0.005$), emphasizing the importance of real-time AI-driven feedback mechanisms. However, no significant difference was found in students' perceptions of grammar improvement across different learning methods ($p = 0.217$), suggesting that grammar learning may require additional instructional support beyond AI-based platforms.

Discussion

The findings of this study provide valuable insights into the effectiveness of artificial intelligence (AI) techniques as an online platform for English language teaching at the tertiary level. The results from the descriptive analysis and hypothesis testing suggest that AI-based learning tools significantly enhance student engagement, satisfaction, and feedback quality, making them a promising alternative or complement to traditional English language instruction.

The descriptive results indicated high mean scores for key aspects of AI-based learning, particularly in terms of convenience ($M = 4.30$, $SD = 0.75$), personalized learning experiences ($M = 4.25$, $SD = 0.79$), and overall satisfaction ($M = 4.28$, $SD = 0.74$). These findings align with previous research highlighting AI's ability to offer flexible, individualized learning experiences that cater to students' unique needs (Hwang et al., 2020). Moreover, the significant difference in engagement levels across academic years ($p = 0.018$) suggests that as students progress through their studies, they become more adept at using AI-based platforms for learning. This may indicate that familiarity with digital learning tools enhances students' ability to maximize their benefits, reinforcing the importance of early AI literacy training in English language programs.

The hypothesis testing results further confirm the positive role of AI in language education. Students with prior experience using AI tools found AI-based learning more effective ($p = 0.003$), supporting the argument that exposure to AI-driven education enhances learning efficacy. Additionally, the significantly higher satisfaction levels among students who preferred AI-based learning ($p = 0.011$) indicate

that AI tools align well with students' expectations for engaging and interactive learning experiences. This finding corresponds with studies emphasizing the motivational benefits of AI-driven platforms in second language acquisition (Zawacki-Richter et al., 2019). The study also revealed that AI-based platforms provide superior feedback compared to traditional methods ($p = 0.005$), likely due to the immediate, data-driven responses AI tools offer, which help students identify and correct errors more effectively.

However, the lack of a significant difference in perceived grammar improvement across different learning methods ($p = 0.217$) suggests that AI-based platforms may not yet be fully optimized for grammar instruction. While AI tools can provide automated grammar corrections, they may lack the depth of explanation and contextualization that human instructors provide, which could be a limiting factor in their effectiveness for grammar learning. Future studies should explore hybrid approaches that integrate AI-driven feedback with instructor-led grammar instruction to enhance learning outcomes.

Overall, the findings of this study underscore the transformative potential of AI in English language education at the tertiary level. AI-based platforms enhance engagement, offer personalized and flexible learning experiences, and provide high-quality feedback, making them a valuable addition to modern language teaching. However, the study also highlights areas for further development, particularly in improving AI-driven grammar instruction. Future research should investigate the long-term impact of AI-based learning on language proficiency and explore strategies to integrate AI with traditional teaching methodologies for a more holistic language learning experience.

Conclusion

This study examined the effectiveness of artificial intelligence (AI) techniques as an online platform for English language teaching at the tertiary level, focusing on student engagement, satisfaction, and learning outcomes. The findings revealed that AI-based learning tools provide significant benefits, particularly in offering personalized learning experiences, improving feedback quality, and

increasing student engagement. The hypothesis testing results confirmed that students with prior AI experience found AI-based learning more effective, and those who preferred AI platforms reported higher satisfaction levels. Additionally, AI tools were found to enhance feedback mechanisms, making language learning more interactive and responsive. However, no significant improvement was observed in grammar learning, suggesting that AI-based instruction may need further refinement in this area. Overall, this study highlights the growing role of AI in modern language education and its potential to transform traditional teaching methods. AI-driven platforms can provide flexible, efficient, and engaging learning experiences, particularly for digital-native students. However, the findings also suggest that AI should not completely replace traditional instruction but rather complement it, especially in areas requiring deeper linguistic explanations, such as grammar. Future research should explore hybrid teaching models that integrate AI with instructor-led approaches to maximize learning outcomes. By leveraging the strengths of both AI and human instruction, educational institutions can create more effective and inclusive English language learning environments at the tertiary level.

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