

The Impact of Artificial Intelligence Tools on English Language Acquisition Among University Students: A Survey-Based Study

Widad omar Ali

Technical Engineering college, Surman, Libya
wedo8425@gmail.com

Abstract

Language learning has changed in the digital era, AI techniques have been incorporated in teaching and are helping to pave the way toward more personalized, autonomous learning. This research examines the influence of AI tools on the learning of English as well as the use habit, the perceived effectiveness and the aspects of language skills enhanced by AI among university students. A quantitative approach was adopted using survey-guided questionnaires with 21 undergraduate students from diverse academic backgrounds. The descriptive statistics and chi-square tests were used to analyze the data. The results show that a large majority of students (81 %) use AI tools actively, and more than 50 % of these students think AI-based tools help them learn English. Statistically, AI being used and perceived effectiveness were above chance level ($p > 0.05$); perceived contributions for the four core skills—reading, writing, vocabulary, and listening—did not differ statistically. This finding is consistent with the assumption that AI tools are commonly valued and utilized, although the use may not be as task specific. The study suggests the need for careful consideration of the role AI should play within pedagogical settings to support equitable language development and to encourage critical literacy of technology.

- **Keywords:** *Artificial Intelligence (AI), English Language Acquisition, Educational Technology, University Students, Language Skills (Reading, Writing, Listening, Vocabulary), AI Tools in Language Learning*

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1. Introduction

In the era of digital civilization, higher education institutions in the world are being shaped with the focus on AI in education, where AI will be able to be used to address long-established pedagogical issues in the field of education. Loosely described as the ability of machines to carry out activities that would require humans to use their intelligence, AI technologies include such tools as machine learning, natural language processing, intelligent tutoring systems, and generative tools such as ChatGPT, all increasingly used in many disciplines to help to teach and to learn (Crompton et al., 2024; Jose & Jose, 2024). In language learning and teaching (e.g., English as a Second Language -ESL- and English as Foreign Language -EFL), we have witnessed how AI resources have helped purposefully engage students, scale access to resources and provide personalized and timely feedback. From grammar checkers and vocabulary boosters to speech synthesis vending machines and adaptive learning systems, these tools are reconfiguring the landscape of English learning (Tran, 2024; Schmidt & Strasser, 2022).

English, being the most widely taught and used global language, is critical for academic advancement, international mobility, and professional success. Accordingly, universities around the world are under increasing pressure to equip their students with strong English language skills. AI has introduced new possibilities for addressing common barriers in language learning, such as lack of individualized instruction, anxiety in speaking, and limited access to native language input (Sun et al., 2020). For example, AI-based platforms like Grammarly, Elsa Speak, and Duolingo utilize real-time data to analyze learners' input and provide context-specific recommendations, helping students practice at their own pace and receive tailored support (Moybeka et al., 2023).

However, the widespread implementation of AI in language learning also presents challenges. Despite its capabilities, AI tools cannot fully replicate the complex social, emotional, and cultural dimensions of language learning. There are concerns about students' overreliance on AI systems, reduced opportunities for authentic communication, issues of academic integrity, and unequal access to technology across different socio-economic groups (Omidvar & Meihami, 2025; Jose & Jose, 2024). Additionally, there is limited empirical evidence evaluating how university students use these tools, how effective they perceive them to be, and whether these tools support all four core language skills—reading, writing, speaking, and listening—with equal success.

- ❖ How much are AI instruments disseminated in English learning among university students?
- ❖ How effective are such tools in helping learners to acquire English?
- ❖ To what extent does the impact of the AI vary across the core skill areas of reading, writing, speaking, and listening?

2. Literature Review

Kumar (2023) echoed these trends, reporting that in Quest University, students found the AI chatbots and learning apps more engaging and motivating, although experiences were mixed with chatbot interactivity. Hidayatullah (2024) investigated AI among first-year Indonesian university students for teaching English language and discovered its effectiveness regarding basic speaking and writing skills, but perceived constraints due to accessibility and digital literacy. Waly and Zakiyyah (2024) carried out a study to explore the perceptions of communication students under ESP courses about AI tools to enhance their professional and public speaking skills, and they expressed concerns about AI tools, considering data privacy and cognitive dependence. Fahira et al. (2024) found that the students of English literature in Indonesia often relied on AI for correcting grammar and generating essays which not only increased their confidence in writing but also created a sense of dependence. Stavyska et al. (2024), emphasized that tools such as ChatGPT, Grammarly and Duolingo have regenerative learning capabilities and recommended that ethical guidelines and institutional frameworks be introduced to regulate responsible AI use.

the results in this study and the work of Lalira et al. agreed well with this. (2024) didn't focus on language) received an average of a 15% increase in scores on treatments that included Grammarly and ChatGPT. Yener ve Selçuk (2024) çalışmalarında yapay zeka destekli

chatbotların Present Perfect Tense öğrenimine etkili destek sağladığı ve benlik düzenleyici öğrenme etkinliği sağladığına dair bulgular elde etmişlerdir. Abusahyon et al. (2023) found that reading and writing are the focus for Saudi undergraduates who favour AI chatbots, but are skeptical about emotional engagement and technical dependability. Khan et al. (2024) reports about the attitudes of Bangladeshi EFL learners who held favorable preemptive belief in favour of AI for writing but at the same time were pre-occupied same concerned for plagiarism as well as critical thinking. As an example, Cahyono and Rosita (2023) found that students who learned English with the use of AI-augmented platforms were able to improve their speaking skill much better than students with taught in traditional classroom. In a conceptual review, Borhade (2024) critically examined tools such as TalkPal and Grammarly, and he advocated these as effective, yet in the context that 'only surface-level engagement with instruction may occur' if local instantiation is not enacted.

Ou et al. (2024) via a survey work, found that students employed the AI tools to generate linguistic scaffolding as they improved academic writing and communication, as they dealt with ethical uncertainties and an absence of institutional support. Controlled interventions on developing translational skills have been conducted (Emara, 2024), an intervention in which Google Translate, ChatGpt, combined Google Translate and ChatGpt was compared, suggested that a combination of the two interventions led to superior learning gains. Consistently, the findings from these studies demonstrate that AI-assisted tools, in general, contribute to learning personalization, grammatical accuracy, vocabulary, speaking, and translating. Nevertheless, access, ethics, overdependence, pedagogical balance will all need to be resolved, and institutional commitment, teacher education, and thoughtful integration in the curriculum will be required.

The integration of AI technologies into English as a foreign language (EFL) teaching has been the subject of considerable scholarly discussion, especially in university education, where digital competency is key to teaching and learning. Empirical research has looked at the affordances and challenges of AI-enhanced language learning in terms of vocabulary enhancement, grammar mastery, writing progression, speaking fluency, and translation capabilities.

Guan (2024) focused on Chinese higher education and revealed a deep cultural insight on students' and teachers' experience of AI tools pre-, peri- and post-pandemic. The results indicated that AI technologies, especially the speech recognition software and machine translation, were effective in learning efficiency improvement and adaptive learning content. However, there remained concerns among students and teaching staff about issues of academic integrity or about overreliance on automation. Similar words of caution was expressed by Kumar (2023), who explored the use of AI chatbots and learning apps by students. Students expressed increased motivation and self-perceived proficiencies, although satisfaction with the chatbot interaction differed, suggesting the importance of user experience design.

Skills specific outcomes have been focused on in other studies. Hidayatullah (2024) reported that AI-supported instruction had significant impact on developing LSRW skills among the first-year university students in Indonesia; however, challenges of digital access and preparedness hindered the process. Waly and Zakiyyah (2024) explored ESP students in communication programs, and found that AI tools promoted public speaking and professional discourse benefits and yet students raised worries of data security and reduced creative

engagement. Analogous research conducted by Fahira et al. (2024) found that IL students mainly used AI tools for grammar correction and essay writing, which helped them produce academic essays, but also led to learning to rely on AI to perform tasks. Stavytska et al. (2024) examined institutional approaches, highlighting the importance of regulatory and ethical frameworks regarding use of AI in education.

Ou et al. (2024) conducted a large-scale qualitative analysis of over 1,700 student responses, revealing that AI tools serve not only as linguistic scaffolds but also as cognitive partners in academic writing. The study highlighted evolving learner identities and divergent ethical perspectives, underscoring the need for institutional policy development. Emara (2024), in a controlled experimental study, compared three modes of AI-assisted translation instruction—machine translation, large language models, and a combined approach—and found that students who engaged with both tool types achieved the highest proficiency gains.

In addition to the discussed findings earlier, other studies have also contributed to the scholarly literature on AI integration in EFL teaching. A meta-analysis conducted by

Pan (2024) investigated the impact of AI powered language training platform on providence of academic writing in higher education. Although writing fluency and grammar showed improvement, the study expressed concerns for plagiarism and academic honesty despite A.I tools such as Grammarly and feedback engine. The study pointed to a need for institutions of HE to develop well-articulated policies that take into account both the benefits of AI integration and the requirements of academic integrity and pedagogical transparency.

On the learner level, Selim (2024) investigated the use of EFL learners at Al-Baha University in the Kingdom of Saudi Arabia of AI tools such as ChatGPT and Grammarly to enhance academic writing. The mixed-methods research found taht most students liked the tools, in particular for usability and level of access. Yet students were equivocal about their capacity to apply AI-induced improvements to unsupported writing situations, highlighting the necessity for scaffolded applications of AI in academic writing instruction.

Last but certainly not the least, Cheng (2024) examined the use of AI-generative tools in a Hong Kong post-secondary context, as well as the potential they might have in teaching English writing. Although students perceive AI writing tools to be convinced and helpful in drafting, editing, and idea development, the instructors are hesitant about the general and ambiguous nature of AI-generated feedback. The recommendations for a balanced pedagogy on the role of AI's affordances in existing teacher feedback to foster criticality and originality in student writing were provided.

Recent literature highlights the complex role of AI technologies in English language teaching in higher education, reporting on both the pedagogical affordances and challenges. Ulfa (2023) in an article about the revolutionizing role of AI in English language education elaborated on the means by which intelligent tutoring systems, gamified learning apps and adaptive assessment have led to personalized learning pathways. The analysis shed light on AI for promoting immediate responses, gamification to engage learners, personalized instruction, and thereby resetting language pedagogy paradigm (Ulfa, 2023).

Eragamreddy (2024) concentrated on the role of AI in the writing skills development of the undergraduate students in the University of Sebha in Libya. In a 16-week quasi-experiment, the AI-facilitated group showed better writing quality, grammatical complexity and lexical diversity when compared to control students. It was found that AI intervention was effective as

writing anxiety significantly decreased and students' confidence was strengthened, which confirms that AI might serve as a treatment and instructional scaffold (Eragamreddy, 2024). Askari and Rahim (2024) used a mixed-method design to analyze the impact of GPT-based AI chatbots on improving ESL presentation skills. Their study, which used students from two Turkish universities, showed a statistically significant increase in the quality of presentations and the confidence of students. Although a certain degree of skepticism among students was initially observed, attitude changed positively after their success in successfully interacting with AI systems, thus supporting the positive role of AI in facilitating acquisition of both technical skills and soft skills within communicative English contexts (Askari & Rahim, 2024).

3. Methodology

3.1 Research Design

This survey-based quantitative research explored perceptions of university students' Involvement with artificial intelligence (AI) tools in English language (L2) learning. This method was considered for its potential to collect quantifiable information from a large group, which would enable statistical analysis of patterns and trends.

3.2 Participants

They were all university students whose degrees are undergraduate levels, with some pursuing English general programs or English-medium courses across various majors. Twenty-one students (aged: 18–25 years) were recruited by stratified sampling to cover variation in university discipline, level of English proficiency, and familiarity with AI tools. Students came mainly from the faculties of English Language, Education, and Information Technology

3.3 Instrument

- Information was obtained from a pre-structured questionnaire that was developed for that study.
- Items measured on a Likert-scale, 5-point.

3.4 Data Collection

The survey was delivered on paper form to fill out. Participation was anonymous, voluntary, and confidential. The questionnaire was estimated to take between 10 and 15 minutes to complete.

4. Data Analysis

- The responses were coded with the help of SPSS. The analysis involved:
- Data were summarized in general counts (frequency),
- Results were organized and displayed using visual summaries
- **Results of the study: -**

1. Statical analysis

A descriptive and inferential statistical analysis were performed to consider the influence of Artificial Intelligence (AI) tools on English language learning of university students. Responses

to the survey were grouped and compared between language skills to explore usage trends, perceived efficacy of use as well as the patterns of AIs contribution. The descriptive statistics (number of responses, percentages) were calculated for each response and chi-square goodness-of-fit tests were performed to determine whether distributions from observed values differed significantly from uniform ones. These analyses offered us a roughly idea of the level of AI use and users' opinion on its educational value, and whether the perceived utility difference of AI use with respect to specific language skills. Detailed statistical results are included in the next section.

2. Distribution of the answers

3. Table (1): Do use AI

Answer	Count of Do you use AI tools?	Percentage
No	4	19.05%
yes	17	80.95%
Grand Total	21	100.00%

Table (2): Does AI improve language learning?

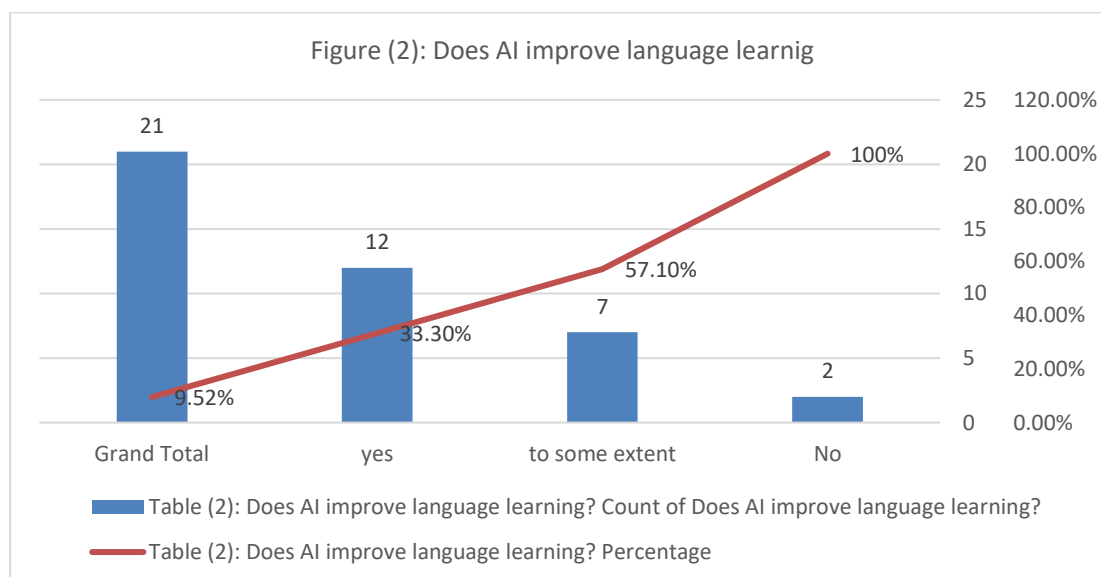
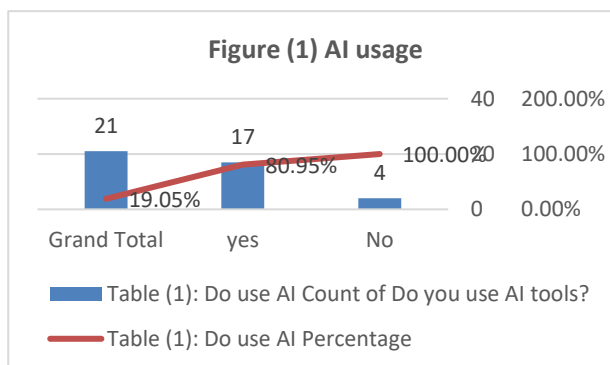
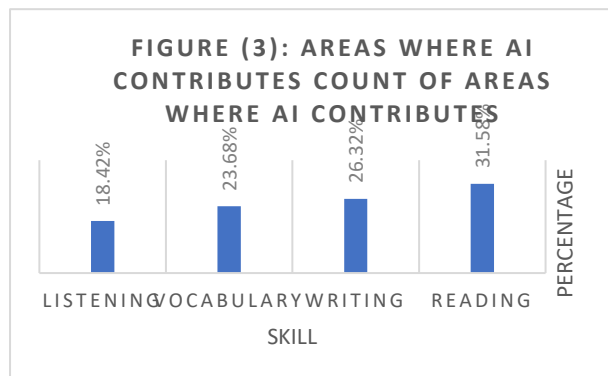
Answer	Count of Does AI improve language learning?	Percentage
No	2	9.52%
to some extent	7	33.3%
yes	12	57.1%
Grand Total	21	100%

Table (3): Areas where AI contributes

Answer	Count of Areas where AI contributes
reading	31.58%
writing	26.32%
vocabulary	23.68%
listening	18.42%

Table (4): Findings

Factor	Test	χ^2	p-value	Interpretation
High AI tool usage	Goodness-of-Fit	8.04	0.0046	Significantly more students use AI than expected
AI helps language learning	Goodness-of-Fit	7.14	0.028	Students perceive AI as effective
AI supports all skills evenly	Goodness-of-Fit	4.00	0.26	No significant difference across skill areas



4. Conclusion

The purpose of this study was to investigate the potential contributions of artificial intelligence (AI)-driven tools to student efforts to learn English in a university setting. Survey-based data collection and statistical analysis indicated that the majority of students make use of AI tools in their learning activities; 81% of them have been using them steadily. In addition, the majority of the participants thought AI tools were helpful for language learning, especially for enhancing writing, vocabulary and reading skills.

The statistical tests supported that students used AI tools significantly more than would be due to chance and believed AI has had value to aid language learning significantly. Although readers noted benefits in all four basic language skills (speaking, writing, reading, and listening), there were no statistically significant differences in reported proportion of AI's effects in each of these skills as it seems they are perceived as being fairly equally beneficial.

These results point to the increasing relevance of AI in higher education and language learning. Not only the AI tools are largely accepted by the students, the tool's effectiveness help students to enhance their English. However, the research also calls for pedagogically designed strategies,

digital literacy education, and ethical policies to guide the integration of AI in support of true learning, critical thinking, and academic honesty.

Prospective research should consider including larger and more diverse populations and make use of longitudinal data to investigate language gains over time and how different uses of AI tools relate to specific learner profiles.

Researcher's Commentary

As an English educator with specific expertise in the area, the research outcomes of this study confirm and enhance my own perception about how digital tools are indeed transforming the contemporary language class. It's also exciting to see that over 80% of students are already using AI-based tools, like Grammarly, ChatGPT, and Duolingo. This represents not only technological implementation, but also a change in learner autonomy and motivation.

Perhaps more significant is that there is consensus among most students that these tools are helpful, which implies that AI is not just a novelty but a working aspect of their arsenal. This is consistent with what I see in my classroom: students turn to AI even more for more than just grammar correction, but for brainstorming, vocabulary expansion, and even pronunciation practice.

However, the findings require a cautious interpretation, too. Students perceived a similar level of benefit from AI across all four LS (reading, writing, vocabulary and listening), but the non-significant difference between them, however, implies that students may have adopted AI tools in a way that does not focus on specific areas. That might indicate a hole in digital literacy or pedagogical support — something we as educators should address.

In pedagogical terms, the findings reconfirm the need of the AI to be farming out the nuanced, interactive and critical part of the language learning process. Tools like ChatGPT and Grammarly are fantastic for scaffolding, but they can hardly engender discourse and culture competency, cultural nuance, or original thought alone. So, as a language teacher, I view these tools not as a replacement but as an enhancement — potent tools within thoughtfully designed learning frameworks that still privilege person-to-person interaction, feedback and creativity.

Above all, this research emphasizes one fundamental fact: AI is here to stay in English education. Our job is no longer just to help them use it effectively, but to use it wisely."

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