# Exploring Saudi EFL Students' Perceptions and Awareness of AI in Enhancing Speaking Skills

Thamer A. Binmahboob

6805, Riyadh 14713, Saudi Arabbia
th22th@yahoo.com

**الملخص**

تسعى هذه الدراسة إلى استكشاف تصورات الطلاب السعوديين الذين يدرسون اللغة الإنجليزية كلغة أجنبية (EFL) حول استخدام الذكاء الاصطناعي (AI) في تحسين مهارات التحدث باللغة الإنجليزية. كما تتعمق في قياس مستوى وعي هؤلاء الطلاب بالأدوات التي تعمل بالذكاء الاصطناعي والمصممة لتعزيز مهارات التحدث، وتحديداً تستقصي الأنظمة المعتمدة على الذكاء الاصطناعي التي يستخدمها الطلاب السعوديون لتحسين مهاراتهم اللغوية. اعتمدت منهجية البحث على استبيان رقمي منظم يركز على استخدام الطلاب، تصوراتهم، وتجاربهم مع تطبيقات الذكاء الاصطناعي في ممارسة اللغة الإنجليزية كلغة أجنبية. شمل الاستبيان بنوداً حول تواتر الاستخدام، أنواع الأدوات المستخدمة، والفعالية المتصورة لهذه الأدوات في تحسين مهارات التحدث. تم توزيع الاستبيان الرقمي على 75 طالباً في السنة الرابعة من قسم اللغويات بجامعة الملك سعود في الرياض، المملكة العربية السعودية. تم السعي للحصول على تعليقات حول المنصات التي تركز على الذكاء الاصطناعي التي يستخدمونها لتعزيز كفاءتهم في التحدث بالإنجليزية. من المجموعة الأولية، قدم 64 طالباً استجاباتهم. تم استخدام الطرق الإحصائية الوصفية، بما في ذلك تحليل الترددات والنسب المئوية، لتفسير البيانات المجمعة. كشف التحليل أن نسبة كبيرة من الطلاب لم يكونوا مألوفين فقط بأدوات الذكاء الاصطناعي المحددة، ولكنهم كانوا أيضاً متشككين في فعاليتها في تعلم اللغات. على سبيل المثال، أبلغ أكثر من 50٪ من المستطلعين عن استخدام ضئيل أو معدوم لهذه الأدوات، مشيرين إلى عدم اليقين حول فوائدها. تشير النتائج إلى نقص واضح في الوعي بين المتعلمين السعوديين حول الآثار المحتملة لأدوات الذكاء الاصطناعي على كفاءتهم اللغوية. كان معظم المشاركين غير متأكدين من الفوائد الملموسة التي قد تقدمها هذه الأدوات. وهذا يبرز نتيجة أوسع تؤكد أن الوعي بأدوات الذكاء الاصطناعي في تعلم اللغة الأجنبية لا يزال في مراحله الأولية، مما يؤكد الحاجة إلى مزيد من البحث وزيادة تقديم هذه المنصات للمتعلمين. تشير هذه النتائج إلى الحاجة الماسة لدمج الوعي بتقنيات الذكاء الاصطناعي والتدريب ضمن المناهج الدراسية للغة الإنجليزية كلغة أجنبية، مما يوحي بأن توجيهاً أكثر تحديداً حول الاستخدام الفعال لأدوات الذكاء الاصطناعي قد يعزز من التفاعل والنتائج الإنجازية بشكل أفضل.

## Abstract

This research seeks to explore the perceptions of Saudi students studying English as a Foreign Language (EFL) regarding the utilization of Artificial Intelligence (AI) in enhancing EFL speaking abilities. It also delves into gauging the awareness level of these students about the AI-driven tools designed for speaking skill augmentation, and specifically investigates which AI-based systems are used by Saudi EFL students to improve their speaking skills. The research methodology, a quantitative survey, utilized a structured digital questionnaire focusing on students' usage, perceptions, and experiences with AI applications in EFL speaking practice. This questionnaire included items on the frequency of use, types of AI tools employed, and perceived effectiveness of these tools in enhancing speaking skills. A digital questionnaire was administered to 75 fourth-year students from the Department of Linguistics at King Saudi University (KSU) located in Riyadh, Saudi Arabia. Feedback was sought on the AI-centric platforms they employ to bolster their English-speaking proficiency. Of the initial group, 64 students provided their responses. Descriptive statistical methods, including frequency and percentage analysis, were used to interpret the collected data. Analysis revealed that a significant proportion of students were not only unfamiliar with specific AI tools but also skeptical about their efficacy in language learning. For instance, over 50% of respondents reported minimal to no use of these tools, citing uncertainty over their benefits. The results indicate a predominant lack of awareness among the Saudi EFL learners about the potential impacts of AI tools on their speaking proficiency. Most participants were uncertain of the tangible benefits these AI tools might offer. This underscores a broader finding that awareness of AI-driven tools in foreign language learning remains in its infancy, emphasizing the need for further research and increased introduction of these platforms to learners. These findings point to a critical need for integrating AI technology awareness and training within EFL curricula, suggesting that more explicit guidance on the effective use of AI tools could foster better engagement and proficiency outcomes.

**Keywords**: *Artificial Intelligence, EFL, speaking skills*

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**Introduction**

In recent times, the integration of Artificial Intelligence (AI) in education (AIEd) has experienced a rapid surge, reflecting AI's deepening influence in various human endeavors (Hwang et al., 2020). This escalation in AIEd adoption has concurrently spurred an influx of scholarly output (Hinojo-Lucena et al., 2019). In parallel, a multitude of AI applications, harnessing analytical mechanisms such as Machine Learning (ML), Natural Language Processing (NLP), Artificial Neural Networks (ANNs), and Affective Computing (AC), have been effectively deployed in the English as a Foreign Language (EFL) domain, yielding substantial outcomes. Amidst the pedagogical shifts prompted by the COVID-19 pandemic, EFL educators and learners have shown a marked preference for video conferencing tools, like Zoom, and learning management platforms, such as Blackboard, that are enhanced by AI capabilities (Layali & Al-Shlowiy, 2020). Current literature increasingly substantiates the assertion that AI can elevate language pedagogy (Gao, 2021; Klimova et al. 2022; Pikhart 2021), with specific emphasis on its transformative impact on online EFL modalities during the pandemic era (Zitouni 2022).

Artificial Intelligence (AI) speaking apps have been more popular in the last several years, thanks to the fast development of AI technology. The use of AI applications has been cited as an effective method for educating future speakers (Zou et al., 2023). Artificial intelligence (AI) applications may be used to assist students in improving their listening comprehension, boost their confidence in public speaking, and conquer their fear of public speaking (Yang et al., 2022).

Systems capable of learning, self-adjusting, and tackling intricate issues akin to human abilities are identified as possessing artificial intelligence (AI) capabilities (Haristiani, 2019). Such systems have found a significant place in educational settings, notably in the realm of language pedagogy (Hong et al., 2016). Within the framework of English as a Foreign Language (EFL) oral practice, several educators and learners are increasingly relying on AI-infused speaking tools equipped with voice evaluation mechanisms (Zhang & Zou, 2022; Zou et al., 2023). Empirical evidence suggests that leveraging these AI-enabled speaking tools can potentially enhance oral proficiency (refer to studies by Dizon, 2020; Tai & Chen, 2023; Yang et al., 2022). However, the pivotal role of online engagement in oral practice, especially when situated within AI-supported language learning, remains an area warranting deeper exploration.

Since the 1920s, English has been taught as a foreign language in Saudi Arabia (Alshumaimeri, 2019). However, a range of studies (e.g., Alrasheed et al., 2017; Alseghayer, 2015; Alshumaimeri 2019; Alswilem 2019) indicate that students often graduate from secondary school with subpar English language competencies. Introduced in 2016, the Saudi Vision 2030 aspires to reform and advance the nation's educational framework (Saudi Vision, 2016, 36). In line with this initiative, the Saudi government has emphasized the pivotal role of technology in enriching the educational landscape (Rajab, 2018). Scholars such as Alrasheed et al. (2017), Alshumaimeri and Alhassan (2016), and Alshumaimeri (2008) concur that integrating technology within classrooms can catalyze to elevate English language education in Saudi schools.

Historically, speaking skills have posed a challenge for Saudi students learning English as a Foreign Language (EFL) (Aljumah, 2011). Conventional teaching methodologies employed by English educators in Saudi secondary schools often result in students with limited speaking abilities, hindering their capacity to sustain prolonged conversations (Alhamami, 2013). Moreover, these students frequently grapple with a lack of confidence when expressing themselves or interacting with peers and instructors in conversational settings.

Yet, research explicitly addressing the role of AI within the EFL context remains relatively scarce. Consequently, this study seeks to explore how AI can bolster the English language proficiency of Saudi EFL learners at the university level, particularly focusing on which AI-based systems are used by these learners to enhance their speaking skills.

## Statement of the Problem

While the adoption of AI applications is reported to assist in developing speaking skills among EFL learners, there is still a lack of dependence on such systems in EFL classes (Dizon, 2020; Zou et al., 2023). In different contexts, EFL students are found to have limited awareness of the value of AI systems in EFL contexts and they rarely use AI applications to develop their speaking skills (Tai & Chen, 2023; Yang et al., 2022). On the other hand, EFL educators are reported to still need more professional development in using AI systems in EFL classes (Haristiani, 2019).

As El Shazly (2021) points out EFL learners often express emotions of worry, tension, or uneasiness while learning a foreign language. Despite the widespread usage of technology, as described by Arafat (2020), there has been little study of how virtual classrooms affect the growth of speaking abilities in EFL contexts. Similarly, Hussein (2016) worries that Saudi EFL students are wasting their time with ineffective methods for improving their English pronunciation. As a result, there are limited chances for students to interact with people in the community and hone their public speaking abilities. As AI applications emerged as a possible solution to improve EFL speaking skills, this research focuses on how Saudi EFL students perceive AI applications and their attitudes toward such systems which could develop their speaking skills.

## Research Questions

This research tries to answer the following questions:

1. To what extent are Saudi EFL students aware of the AI-based systems used in improving speaking?
2. Which AI-based systems are used by Saudi EFL systems to improve their speaking skills?

## Research Significance

This research holds significant implications both practically and theoretically. For those in the Second Language Acquisition (SLA) field, AI systems offer a harmonized approach to language learning, striking a balance between fluency and precision. These AI tools not only

elevate learners' active engagement in the learning journey but also align with well-established language learning theories which emphasize the essentiality of learner interaction and communication in the target language. Additionally, the introduction of AI underscores the transformative power of technology in education, spotlighting its myriad advantages in EFL contexts such as heightened student motivation, enhanced fluency, and superior linguistic outcomes. Crucially, this study promotes a shift away from an overreliance on traditional learning methods and native language use, as AI tools champion learner autonomy and learning tailored to individual styles.

From a practical standpoint, this research is grounded in classroom dynamics. It seeks to steer educators towards the potential of AI applications, underscoring their utility in enhancing speaking instruction and learning. Notably, this approach serves as a training ground for budding EFL instructors, acquainting them with AI tools as pedagogical assets. Additionally, the research endeavors to heighten the awareness of practicing teachers about the effectiveness of such technological interventions in fostering their students' speaking capabilities.

Finally, the present research stands out as one of the limited investigations delving into the employment of AI applications for enhancing speaking skills within Arabic settings. The exploration of AI tools, particularly to Arab learners and more specifically, Saudi students, remains a scarcely treaded avenue.

## Literature Review

AI-equipped computer programs have demonstrated the ability to emulate critical human cognitive functions, including learning, problem-solving, and decision-making, with significant implications for educational applications (Kim et al., 2019). The burgeoning discourse on the transformative potential of AI in language education highlights its capacity to revolutionize teaching and learning processes (Pikhart, 2021). Specifically, in the context of English as a Foreign Language (EFL) speaking practice, a variety of tools harnessing AI and Automated Speech Recognition (ASR) technologies have been developed. These tools, exemplified by platforms like Duolingo, Liulishuo, and EAP Talk, utilize speech assessment technologies and natural language processing to facilitate speaking tasks such as 'reading aloud' and 'presentations' (Tai & Chen, 2023; Yang et al., 2022). The utility of AI-speaking software extends beyond educational effectiveness, aiding educators in reducing administrative burdens and enhancing instructional efficiency. This is particularly evident in AI's ability to provide personalized feedback on students' public speaking skills, assessing areas such as pronunciation, grammar, vocabulary, and fluency (Dizon, 2020; Hwang et al., 2020; Kim, 2016). Moreover, the feedback provided by AI applications can range from performance scores and visual highlights for correct responses to detailed written suggestions for improvement, underscoring the diverse benefits of AI in language learning (Kim et al., 2019; Zhang & Zou, 2022).

Computer systems and virtual assistant tools are classified under artificial intelligence (AI), as they are designed to simulate human behavior and interactive capabilities (Russell & Norvig, 2016). The adoption of AI technologies, especially those featuring speech assessment

programs equipped with automated speech recognition, has shown to offer substantial benefits for English as a Foreign Language (EFL) students in their pursuit of language proficiency (Kannan & Munday, 2018; Natale & Cooke, 2021). AI-driven programs that evaluate speech contribute significantly to learners' ability to achieve fluency, making these tools pivotal in language education (Dai & Wu, 2023; Dizon, 2020). A noteworthy number of learners have reported finding these AI tools both engaging and user-friendly, attributing improvements in fluency, pronunciation, and intonation to their use (Kan & Ito, 2020; Tai & Chen, 2022). Additionally, research highlights that AI-based speech assessment tools can lessen the anxiety students often feel towards public speaking, thereby enhancing their confidence and speaking skills (Tai & Chen, 2023).

Collaboration in online or mobile learning environments, facilitated by AI speech evaluation systems, has been observed to foster significant improvements in language learning outcomes. This is particularly true when learners engage in collective learning activities through social media platforms, leveraging the synergistic potential of AI tools (Zou et al., 2023). The utility of AI applications in fostering presentation skills among EFL students has been the subject of numerous studies. For example, Zou et al. (2023) explored how varied automated feedback from AI speech evaluation tools could benefit EFL learners, finding that such platforms offer detailed textual feedback and actionable recommendations, thereby supporting more effective language learning strategies. Similarly, Othman (2023) investigated the potential of AI chatbots in aiding Saudi students to learn and master English, noting that while students recognize the benefits of chatbots, a gap in effective utilization exists due to a lack of foundational knowledge in AI.

Efforts to enhance communication skills within Saudi Arabia's EFL educational system have included the integration of AI tools, as seen in the work by AbdAlgane and Othman (2023). Their analysis and subsequent recommendations underscore the necessity of incorporating AI into the classroom to keep pace with educational innovation. Alhalangy and AbdAlgane (2023) further examined the integration of AI in ESOL settings within Saudi Arabia, concluding that AI positively impacts English Language Teaching (ELT) and learning processes. However, they emphasize the need for a deeper and more systematic application of AI in educational contexts to fully leverage its potential.

This exploration of AI's role in EFL and ESOL education underscores a crucial point: while AI technologies have begun to make their mark, there remains a considerable need for strategic integration and awareness among educators and learners alike. As the landscape of AI continues to expand, embracing these advancements becomes imperative for the evolution of language education. Alhalangy and AbdAlgane's (2023) investigation into AI's application within Saudi Arabian universities' EFL programs highlighted the critical role of educators and students in adopting AI tools ethically and effectively. Their study affirmed AI's substantial impact on enhancing ELT and advocated for its strategic incorporation into teaching methodologies. This emphasis on ethical and systematic integration is pivotal, especially as the AI landscape continues to evolve with new tools and innovations, making it essential for educational stakeholders to remain informed and adaptable.

Almaleki (2020) provided insight into Saudi EFL learners' attitudes toward AI's role in improving English proficiency, particularly among those studying in the United States. This research pointed out the varied engagement with AI-powered personal assistants for language learning, indicating that learners' expectations and the influence of their social environments significantly affect their interaction with these technologies. Building on this theme, Yang et al. (2022) presented a case study on a task-oriented voice chatbot designed to serve as an interactive language practice tool for Korean EFL learners. Their findings, showing an 88.3% task completion rate, demonstrate the chatbot's effectiveness in facilitating meaningful language practice. This success underscores the potential benefits of integrating such AI technologies into EFL learning environments, offering promising avenues for enhancing language acquisition through interactive and targeted tasks.

El Shazly (2021) conducted a study examining the use of AI-driven speech-training tools to address Foreign Language Anxiety (FLA) among Egyptian undergraduates enrolled in an EFL program. The findings confirmed the effectiveness of AI chatbots in enhancing foreign language learning, demonstrating their potential in EFL environments to foster better student engagement and oral communication skills. Similarly, Makhlouf (2021) investigated how AI technologies could aid first-year students at Albaha University, who were not English majors, in improving their communicative skills. Employing a pre-and post-test methodology that focused on oral communication, along with a speaking assessment rubric for structured feedback, this research noted a significant improvement in the post-test scores of the participants. Such progress underscores AI's role in advancing students' communication abilities in English.

Furthermore, a broad spectrum of empirical studies has highlighted the significant contributions of AI chatbots to EFL learning contexts. These tools have been credited with enhancing a variety of skills, including oral communication, listening, reading, and even argumentative writing abilities (Guo et al., 2022; Hong et al., 2016; Kim et al., 2019). They have also been found to improve understanding of grammatical structures and vocabulary (Wang & Petrina, 2013). Kim et al. (2019) noted that the integration of AI chatbots into the learning process significantly boosted students' motivation, confidence, and interest. Despite this, the debate regarding the universal effectiveness of AI chatbots across different English proficiency levels persists, with some arguing that these tools may not be as beneficial for absolute beginners (Kim, 2016). It is also worth mentioning that AI chatbots sometimes struggle with recognizing and correcting nuanced pronunciation errors and grammatical mistakes. Lotze (2018) contends that for AI-based assessment tools to truly replicate the capabilities of human tutors, they must fulfill several key criteria, including spontaneity, creativity, and an extensive base of shared knowledge.

## Methodology

### Research Design

This research utilizes a quantitative survey methodology aimed at gathering insights from Saudi students studying English as a Foreign Language (EFL) about their experiences

with AI-enhanced EFL applications. This methodology is appropriate for examining how AI applications impact the EFL learning process as perceived by the students. Descriptive analytical methods, including frequency and percentage distributions, are employed to detail the response patterns of the survey participants and to highlight data trends and patterns across the collected responses.

Surveys enable researchers to delve into the demographics, beliefs, attitudes, and behaviors of a population, thereby making informed decisions to meet the population's needs effectively. In this study, an online questionnaire, crafted to ascertain the views of EFL learners on AI-integrated applications used in their English language learning, was employed. Ethical clearance for this research was granted by the Ethics Board of King Saud University, under the reference 2023/3256.

### Participants and Setting

Participants were fourth-grade Saudi EFL students from the College of Arts at King Saud University in Riyadh. These students, who were selected based on their enrollment in the Linguistics Department, ranged from upper intermediate to advanced proficiency levels, as determined by their third-grade proficiency test scores. The research was conducted on an online educational platform designed for EFL learners, which has been operational since 2018.

### Data Collection

The online questionnaire was structured into four sections, focusing on the methods used by students to enhance their speaking skills, the AI-based applications utilized for this purpose, the frequency of these applications' use, and their perceived impact on speaking skills. Feedback from five distance education experts and four foreign language instructors was solicited to refine the questionnaire. Significant changes were made based on their feedback; for example, the question regarding "weekly usage period of AI-based applications by Saudi EFL students" was modified from an open-ended to a multiple-choice format to standardize the responses and improve the reliability of the data collected. This refined questionnaire was distributed via Google Forms, linked to a brief message outlining the study's objectives, and shared within a WhatsApp group.

### Data Analysis

The sentiments of Saudi EFL students regarding AI-integrated applications were gauged using descriptive statistical methods. Data from the online survey were inputted into IBM SPSS Statistics 24 for analysis. Each response item was analyzed individually to ascertain percentages and frequencies, providing a detailed quantitative assessment of the use and perception of AI tools among the participants.

### Results & Discussion

This section outlines key insights from the survey conducted with Saudi EFL students, focusing on their use and perceptions of AI applications in enhancing their speaking skills. The data collected provides a snapshot of current engagement levels with AI tools and sheds light

on student preferences and reluctances, offering a nuanced understanding of the technological integration in EFL learning environments.

**Table 1**

*Development Methods of Saudi EFL Students' Speaking Skills*

| Responses | Frequency | Percentage (%) |
|---|---|---|
| Doing nothing | 14 | 21.8 |
| Using chatbots (e.g., Siri, Google Assistant) | 13 | 20.3 |
| Speaking with strangers and chatting on the internet | 6 | 9.3 |
| Recording and listening to own speech | 3 | 4.7 |
| Other methods | 28 | 43.75 |
| Total | 64 | 100 |

The data from Table 1 indicates a diversity in the approaches to developing speaking skills. Notably, 21.8% of students do not actively engage in any specific methods to enhance their skills, which might highlight a gap in motivation or resources. In contrast, 20.3% are leveraging modern technologies such as AI chatbots, which could indicate a growing acceptance and reliance on digital aids in language learning. The 'Other methods' category, which represents the majority at 43.75%, includes varied techniques such as group discussions, peer reviews, and multimedia resources, suggesting that students employ a mix of traditional and innovative approaches.

**Table 2**

*AI-Based Applications Used by Saudi EFL Students to Improve Skills*

| Responses | Frequency | Percentage (%) |
|---|---|---|
| I don't use | 32 | 50 |
| Bixby | 2 | 3.1 |
| Duolingo | 7 | 11 |
| Elsa | 2 | 3.1 |
| Google Assistant | 17 | 26.5 |
| Siri | 4 | 6.25 |
| Total | 64 | 100 |

Table 2 shows that a significant 50% of the participants do not use any AI-driven applications to enhance their speaking skills. This high percentage suggests a possible lack of awareness or skepticism about the effectiveness of such technologies in language learning. On the other hand, Google Assistant is the most utilized AI application at 26.5%, which may reflect its accessibility and integration into everyday devices. The usage of other tools like Bixby and

Elsa remains marginal, which could be due to limited awareness or perceived relevance to language learning needs.

**Table 3**

*Weekly Usage Period of AI-Based Applications by Saudi EFL Students*

| Responses | Frequency (F) | Percentage (%) |
|---|---|---|
| Never | 33 | 51.5 |
| 0-1 hour | 18 | 28 |
| 2-4 hours | 10 | 15.6 |
| 5 hours and over | 3 | 4.6 |
| Total | 64 | 100 |

Table 3 demonstrates the weekly engagement of Saudi EFL students with AI-based applications for enhancing speaking skills. It's noteworthy that a significant majority, 51.5%, do not use these tools at all, highlighting a potential gap in the integration of AI technologies into their learning practices. About 28% of the students engage with AI applications for less than one hour per week, suggesting minimal usage among those who do engage. The limited use, with only 15.6% using these tools between two to four hours and a mere 4.6% for more than five hours weekly, may point to a lack of awareness, access, or perceived efficacy of these tools.

**Table 4**

*Attitudes of Saudi EFL Students on the Effect of AI-Based Applications on Improving Speaking Skills*

| Responses | Frequency (F) | Percentage (%) |
|---|---|---|
| No idea | 10 | 15.6 |
| Not effective at all | 1 | 1.5 |
| Not effective | 3 | 4.6 |
| Effective | 31 | 48.4 |
| Very effective | 19 | 29.6 |
| Total | 64 | 100 |

Table 4 assesses the perceived effectiveness of AI tools in improving the speaking skills of Saudi EFL students. A notable 48.4% of students find AI applications effective, and 29.6% rate them as very effective, indicating a strong positive reception among users. However, 15.6% have no clear opinion on their effectiveness, which might suggest uncertainty or lack of experience with these tools. Only a small fraction, 6.1%, view these tools as ineffective, which could signal the need for improved quality or relevance of the AI applications used. This

disparity in perceptions underlines the necessity for targeted educational interventions to enhance understanding and effective utilization of AI in language learning.

This research gathered insights from Saudi EFL students about their engagement with AI-driven tools for enhancing English speaking proficiency. It highlighted the extent of students' awareness and utilization of these AI platforms in their language learning journey. The voluntarily provided responses indicated a limited familiarity among students with AI-enhanced tools for speaking skill development. This underscores the need to introduce and familiarize students with these advanced systems more extensively.

Within the scope of this research, the primary research question sought to discern, "How well-acquainted are Saudi EFL students with AI-driven tools utilized for enhancing speaking proficiency?" In light of the burgeoning advancements in artificial intelligence and the proliferation of voice-interaction curricula in the educational arena, numerous studies have corroborated the pivotal role of AI in fostering language acquisition, particularly in the realm of speaking skills. Similar findings by Zou et al. (2023) and Zhang and Zou (2022) suggest that familiarity with AI tools correlates positively with improved speaking skills, although the degree of familiarity in our study population was relatively lower, which may reflect regional or access-related disparities. This suggests a need for increased access to and integration of such technologies in the Saudi EFL context to mirror the successes seen in other regions.

The urge to become proficient in the target language while studying it has increased in recent years, making artificial intelligence (AI) a viable option for foreign language learning and instruction. Makhlouf's (2021) research found that while many users are aware of digital personal assistants like Google Assistant and Siri, their actual application in language learning is not as widespread. This aligns with our findings, where only a minor proportion of students actively used these tools for learning, indicating a gap between awareness and practical application. This gap might be attributed to a lack of training or understanding of how to effectively integrate these tools into regular study habits.

In the context of English as a Foreign Language, it is evident that teaching speaking is becoming increasingly challenging, particularly for teachers. Consistent, real-time feedback with AI-powered software in virtual classrooms is one approach to addressing the difficulties of EFL engagement. Studies such as Aljumah (2011) have demonstrated the benefits of continuous online interaction through AI, which supports our observations that AI can facilitate the development of L2 speaking and listening skills. However, the effective integration of such technologies is still limited by factors such as accessibility and teacher readiness, which may explain the reluctance or inability to adopt AI tools extensively.

The study's secondary research question sought to identify, "Which AI-driven tools do Saudi EFL students utilize to enhance their speaking proficiency?" Existing research suggests that the utilization and preference for specific digital assistants can vary based on individual inclinations. For instance, AI-enabled platforms like Apple's Siri, Google Assistant/Now, Amazon Alexa, and Amazon Echo offer a wide array of functionalities that can assist non-native English speakers. These functionalities encompass tasks ranging from setting timers and alarms, retrieving weather updates and entertainment news, acquiring general information, to

facilitating text dictation and managing phone calls. Studies by Yang et al. (2022) and Tai and Chen (2023) have highlighted how incorporating technologies like Amazon's Echo in instructional settings can potentially augment both the volume and quality of linguistic input EFL students receive.

However, further research is imperative to ascertain whether these benefits extend to distance learners, especially those who may be geographically distant from their instructors. This is particularly relevant as our findings indicate that while some students are using these tools, a significant majority are not fully leveraging the potential of AI to enhance their language skills, which may be due to a lack of exposure or familiarity with the full range of capabilities these tools offer.

Though AI-driven tools prove beneficial for rudimentary personal task management, meeting the diverse needs of users remains a broader challenge. This issue becomes even more pronounced and urgent when situated within the framework of language education. Some artificial intelligence-based systems have been shown to easily accommodate language learners' accents, according to research. In this sense, human-machine interactions provide not just input/listening but also output/speaking chances for students using AI-based systems. This survey found that among applications available, EFL students favored Google Assistant, Siri, Duolingo, Bixby, and Elsa for language study. More than half of all EFL students don't utilize any artificial intelligence (AI) based apps to better their English. This disproportionately high number suggests that many pupils are unaware of the options available to them, or they may lack the necessary skills to effectively integrate these tools into their learning practices.

Integrating AI into EFL classrooms can greatly enhance learning results. Through the employment of AI-supported tools, a robust educational framework can be established, characterized by increased adaptability and comprehensiveness in instruction. AI-enhanced technologies equip students with the knowledge and competencies highly sought after in the contemporary job landscape. This study ascertained that the perspectives of EFL experts regarding AI technologies and their application in facilitating language acquisition and instruction align closely, suggesting a positive outlook for the future integration of AI in educational settings.

## Conclusion & Recommendations

This study underscores the potential of AI in enhancing the EFL learning environment, especially in bolstering students' speaking competencies. AI has a positive impact on the pedagogical processes within English as a Foreign Language instruction. However, to optimize the benefits of AI in language courses, it is imperative to provide targeted training and awareness programs for both EFL educators and learners. Specific steps could include professional development workshops focused on the integration of AI tools in language teaching, and informational sessions for students that demonstrate practical uses and benefits of AI in language learning.

The findings revealed that a majority of students were uncertain about the impact of AI-driven tools on enhancing their English proficiency. This uncertainty may stem from a lack of direct experience with effective AI tools or from insufficient information about how these

tools can be used to enhance language skills. Addressing this gap requires educators to not only introduce AI tools but also to provide clear examples and success stories that illustrate measurable improvements in language competencies due to AI usage.

The study further indicates that students possess only a rudimentary awareness of the existing AI-driven tools designed to boost their English as a Foreign Language (EFL) speaking competencies. There is a clear need for more in-depth research in this area, coupled with the proactive introduction of these tools to students grappling with remote English learning challenges. Expanding the research scope to encompass Saudi EFL students from institutions beyond King Saud University (KSU) might also yield more comprehensive insights.

Drawing from the study's results, it's recommended that both educators and EFL students be more adequately educated on the advantages of integrating artificial intelligence (AI) technology within the learning environment. Understanding its potential can help in effectively achieving various objectives, notably the improvement of EFL students' communicative skills. Comprehensive training on leveraging AI-driven tools within EFL instruction could be immensely beneficial for both teachers and learners, focusing on practical applications and student engagement to enhance the learning experience.

**Bio**

*Dr. Thamer bin Abdul Mohsen bin Mahboob* is a faculty member in the Department of Languages at King Abdulaziz Military Academy, with nearly 20 years of experience in teaching English. After earning his PhD from Hull University in 2015, he has conducted research on second language acquisition. Outside of his academic work, Dr. Thamer enjoys serving as a tour guide and engaging with individuals interested in learning about the history and customs of Saudi Arabia. Dr. Thamer can be reached via email at th22th@yahoo.com.

## References

AbdAlgane, M., & Othman, K. A. J. (2023). Utilizing artificial intelligence technologies in Saudi EFL tertiary level classrooms. *Journal of Intercultural Communication*, *23*(1), 92-99.

Alhalangy, A. G. I., & AbdAlgane, M. (2023). Exploring the impact of AI on the EFL context: A case study of Saudi universities. *Journal of Intercultural Communication, 23*(2), 41–49.

Alhamami, M. (2013). Observation of YouTube language learning video (YouTube LLVS). *Teaching English with Technology, 13,* (3), 3-17.

Alhassan, R. (2016). Mobile learning as a method of ubiquitous learning: Students' attitudes, readiness, and possible barriers to implementation in higher education. *Journal of Education and Learning, 5*(1), 176-189.

Aljumah, F. (2011). Developing Saudi EFL students' oral skills: An integrative approach. *English Language Teaching, 4,* 3.

Almaleki, W. S. A. (2020). *Saudi international students' perceptions of the utility of artificial intelligence and intelligent personal assistant tools in EFL learning* [Doctoral dissertation], Concordia University Chicago.

Alresheed, S., Raiker, A., & Carmichael, P. (2017). Integrating computer-assisted language in Saudi schools: A change model. *Turkish Online Journal of Educational Technology*, 369-380.

Al-Seghayer, K. (2015). Salient key features of actual English instructional practices in Saudi Arabia. *English Language Teaching, 8*(6), 89-99.

Alshumaimeri, Y. A. (2008). Perceptions and attitudes toward using CALL in English classrooms among Saudi secondary EFL teachers. *The JALT Call Journal, 4*(2), 29-46.

Alshumaimeri, Y., Gashan, A., & Bamanger, E. (2019). Virtual worlds for collaborative learning: Arab EFL learners' attitudes toward Second Life. *World Journal on Educational Technology: Current Issues, 11*(3), 198-204.

Alswilem, D. A. A. M. (2019). Saudi English teachers' use of technology in secondary classrooms: Perceptions, barriers, and suggestions for improvement. *Advances in Language and Literary Studies, 10*(6), 168-178.

Arafat, H. (2020).The effect of virtual classes on Saudi EFL students' speaking skills. *International Journal of Linguistics, (IJLLT), 3*(4), 175-204.

Burston, J. (2015). Twenty years of MALL project implementation: A meta-analysis of learning outcomes. *ReCALL*, *27*(1), 4-20.

Dai, Y., & Wu, Z. (2023). Mobile-assisted pronunciation learning with feedback from peers and/or automatic speech recognition: A mixed-methods study. *Computer Assisted Language Learning*, *36*(5-6), 861-884.

Dizon, G. (2020). Evaluating intelligent personal assistants for L2 listening and speaking development. *Language Learning & Technology*, *24*(1), 16–26.

El Shazly, R. (2021). Effects of artificial intelligence on English speaking anxiety and speaking performance: A case study. *Expert Systems*, *38*(3), e12667.

Gao, J. (2021). Exploring the feedback quality of an automated writing evaluation system pigai. *International Journal of Emerging Technologies in Learning (IJET)*, *16*(11), 322-330.

Guo, K., Wang, J., & Chu, S. K. W. (2022). Using chatbots to scaffold EFL students' argumentative writing. *Assessing Writing*, *54*, 100666.

Haristiani, N. (2019, November). Artificial Intelligence (AI) chatbot as language learning medium: An inquiry. In *Journal of physics: Conference series* (Vol. 1387, No. 1, p. 012020). IOP Publishing.

Heil, C. R., Wu, J. S., Lee, J. J., & Schmidt, T. (2016). A review of mobile language learning applications: Trends, challenges, and opportunities. *The EuroCALL Review*, *24*(2), 32-50.

Hinojo-Lucena, F. J., Aznar-Díaz, I., Cáceres-Reche, M. P., & Romero-Rodríguez, J. M. (2019). Artificial intelligence in higher education: A bibliometric study on its impact in scientific literature. *Education Sciences*, *9*(1), 51.

Hong, Z. W., Huang, Y. M., Hsu, M., & Shen, W. W. (2016). Authoring robot-assisted instructional materials for improving learning performance and motivation in EFL classrooms. *Journal of Educational Technology & Society*, *19*(1), 337-349.

Hussein, E. T. (2016). The effectiveness of using blackboard in improving the English listening and speaking skills of the female students at the University of Hail. *Advances in Social Sciences Research Journal, 3*(12).

Hwang, G. J., Xie, H., Wah, B. W., & Gašević, D. (2020). Vision, challenges, roles and research issues of Artificial Intelligence in education. *Computers and Education: Artificial Intelligence*, *1*, 100001.

Kan, M. S., & Ito, A. (2020). Language cognition and pronunciation training using applications. *Future Internet*, *12*(3), 42.

Kannan, J., & Munday, P. (2018). New trends in second language learning and teaching through the lens of ICT, networked learning, and artificial intelligence. *Círculo de Lingüística Aplicada a La Comunicación*, 76, 13–30.

Kim, N. Y. (2016). Effects of voice chat on EFL learners' speaking ability according to proficiency levels. *Multimedia-Assisted Language Learning*, *19*(4).

Kim, N.-Y., Cha, Y., and Kim, H.-S. (2019). Future English learning: Chatbots and artificial intelligence. *Multimedia Assist. Lang. Learn*. 22, 32–53.

Klimova, B., Pikhart, M., Benites, A. D., Lehr, C., & Sanchez-Stockhammer, C. (2023). Neural machine translation in foreign language teaching and learning: A systematic review. *Education and Information Technologies*, *28*(1), 663-682.

Layali, K., & Al-Shlowiy, A. (2020). Students' perceptions Of E-Learning for ESL/EFL in Saudi universities at time of Coronavirus: A literature review. *Indonesian EFL Journal*, *6*(2), 97-108.

Loewen, S., Crowther, D., Isbell, D. R., Kim, K. M., Maloney, J., Miller, Z. F., & Rawal, H. (2019). Mobile-assisted language learning: A Duolingo case study. *ReCALL*, *31*(3), 293-311.

Lotze, N. (2018). Goodbye to classroom teaching. *Artificial intelligence in language learning. Translation.* Goethe-Institute.

Makhlouf, M. K. I. (2021). Effect of Artificial Intelligence-Based application on Saudi preparatory-year students' EFL speaking skills at Albaha University. *International Journal of English Language Education*, *9*(2).

Natale, S., & Cooke, H. (2021). Browsing with Alexa: Interrogating the impact of voice assistants as web interfaces. *Media, Culture & Society*, *43*(6), 1000-1016.

Othman, K. (2023). Towards implementing AI mobile application chatbots for EFL learners at primary schools in Saudi Arabia. *Journal of Namibian Studies: History Politics Culture*, *33*, 271-287.

Pikhart, M. (2021). Human-computer interaction in foreign language learning applications: Applied linguistics viewpoint of mobile learning. *Procedia Computer Science*, *184*, 92-98.

Russell, S. J. (2010). *Artificial intelligence: A modern approach*. Pearson Education, Inc.

Shute, V. J. (2008). Focus on formative feedback. *Review of Educational Research*, *78*(1), 153-189.

Tai, T. Y., & Chen, H. H. J. (2023). The impact of Google Assistant on adolescent EFL learners' willingness to communicate. *Interactive Learning Environments*, *31*(3), 1485-1502.

Vision 2030 (2016). *Saudi Vision 2030*. https://vision2030.gov.sa/en

Wang, Y. F., & Petrina, S. (2013). Using learning analytics to understand the design of an intelligent language tutor–Chatbot lucy. *Editorial Preface*, *4*(11), 124-131.

Yang, H., Kim, H., Lee, J. H., & Shin, D. (2022). Implementation of an AI chatbot as an English conversation partner in EFL speaking classes. *ReCALL*, *34*(3), 327-343.

Zhang, R., & Zou, D. (2022). Types, purposes, and effectiveness of state-of-the-art technologies for second and foreign language learning. *Computer Assisted Language Learning*, *35*(4), 696-742.

Zou, B., Du, Y., Wang, Z., Chen, J., & Zhang, W. (2023). An investigation into artificial intelligence speech evaluation programs with automatic feedback for developing EFL learners' speaking skills. *SAGE Open, 13*(3), 21582440231193818.