Attitudes to the Use of Artificial Intelligence in Language Learning: The Case of Chatbots in Saudi Arabia

Ali Alsaawi

https://orcid.org/0000-0002-3868-3316 Majmaah University, Saudi Arabia

Mohammad Almoaily King Saud University, Saudi Arabia

Fahad Almulhim King Faisal University, Saudi Arabia

Nesreen Alahmadi Taibah University, Saudi Arabia

Hamza Alshenqeeti Taibah University, Saudi Arabia

ABSTRACT

Artificial intelligence (AI) is one of the fastest growing technologies today. Its extraordinary scope and capabilities have led people of all ages and abilities to employ it in many of their activities. Language learning is a lifetime experience that could benefit from the use of AI and thus it is worth exploring people's awareness of this technology and its implications. Thus, this study aims to explore attitudes to AI chatbots and its usability in language learning in Saudi Arabia. The results showed favorable attitudes among most participants towards using AI chatbots in language learning. ChatGPT, Google Translate, and Duolingo are the AI chatbots best recognized and viewed as the most usable among the participants. AI is heavily incorporated in language learning technologies (LLTs) and chatbots. It seems that the merits of employing AI chatbots in language learning are greater than the drawbacks. Further research is needed to explore the challenges, potential threats and future expectations related to the application of AI chatbots in language learning.

KEYWORDS

Artificial Intelligence, Language Learning, Attitude, Awareness, Chatbots

INTRODUCTION

Language learning is a lifetime experience engaged in by people of all ages and abilities. It is a complex process influenced by "the degree of acculturation, amount of comprehensible input, attentiveness to L2 features/aspects, and opportunities for meaningful negotiation and production" (Woo & Choi, 2021, p. 2). Thus, it involves various efforts and challenges that benefit from different forms of assistance. In this regard, the capabilities offered by artificial intelligence (AI) offer significant potential. Rapid technological advancements, particularly AI-driven features like chatbots and other tools that simulate human intelligence, have led to their widespread use in daily activities, including

This article published as an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0/) which permits unrestricted use, distribution, and production in any medium, provided the author of the original work and original publication source are properly credited. the field of language learning. The evolution of intelligent computer-assisted language learning (ICALL), which employs AI concepts, techniques, and algorithms, is a natural result of AI's growing on language learning.

AI's role in education has been examined in literature, particularly in areas related to educational systems, writing devices, virtual reality features, chatbots, and smart technologies (Pokrivcakova, 2019). Studies in this field aim to explore the integration of AI into language learning. However, as the technology becomes more embedded in people's daily lives, concerns related to privacy have emerged. Therefore, it is vital to raise public awareness about the use of AI technology to avoid any possible hazards (Woo & Choi, 2021).

Very few studies have explored this phenomenon within the context of Saudi Arabia. Investigating the attitudes of individuals in a young, rapidly evolving nation—one that is witnessing significant social and cultural transformation while adhering to religious and cultural values—may provide insights into the potential challenges faced by AI chatbots in their endeavor to gain acceptance. Consequently, this study seeks to examine the awareness and attitudes of individuals in Saudi Arabia regarding the use of AI chatbots in English language learning, and aims to address the following research questions:

- 1. What are the attitudes of residents in Saudi Arabia toward the use of AI chatbots in language learning?
- 2. What types of AI chatbots are commonly used by residents in Saudi Arabia to support language learning?
- 3. What impact, if any, does the use of AI chatbots have on language learning among residents in Saudi Arabia?

LITERATURE REVIEW

AI is emerging as an important feature in people's daily lives. Its outstanding ability to process cognitive functions has led to its presence in many everyday activities (Marr, 2018). Indeed, language learning has benefited from the development of AI. For example, chatbots have become increasingly sophisticated in dealing with natural language, imitating human cognition, and constructing more effective corpora (Fryer et al., 2019). AI chatbots have the capability to simulate human speech and interact with written communication, including letters and posts, without needing human involvement (Araujo, 2018; Ciechanowski et al., 2019; Io & Lee, 2018). This advancement is truly astonishing for stimulating deep and continuous learning (Vázquez-Cano et al., 2021).

Many studies have explored the phenomenon of including AI chatbots into language learning (e.g., Annamalai et al., 2023; Ayedoun et al., 2019; Cunningham-Nelson et al., 2019; Divekar et al., 2018; Fryer et al., 2019; Smith & Evans, 2018; Wang et al., 2017; Xu et al., 2021; Yin et al., 2021). Most of these studies reveal several benefits of AI chatbots, including enhanced learner motivation, instant feedback, unique opportunities for practice, and the imitation of authentic language settings. However, there appears to be a limited body of research specifically focusing on individuals' awareness and perceptions regarding the use of AI chatbots in language learning within Saudi Arabia. Addressing this gap could provide insights into this emerging trend in this region.

Furthermore, AI chatbots are becoming increasingly a part of people's daily lives, affecting their perceptions, opinions, and cultural values. This interaction between humans and technology has led to what has been referred to as a "humanitarian-technological revolution" (Leshkevich & Motozhanets, 2022). For instance, some research suggests the technology could have a stimulating effect on the human brain (Small et al., 2009). Digital devices are even considered by some scholars as "intelligent partners with transactive memory" (Leshkevich & Motozhanets, 2022, p. 2).

However, concerns have been noted regarding the negative impact of AI chatbots on cultural values. One issue is the visual impact of meaningless content, which may attract users' attention

without offering value. Researchers have suggested that digital devices create a "scenery" for social interactions (Vakhstein, 2022). This aligns with studies indicating that digital media has a negative impact on imagination and creativity (Greenfield, 2009). While AI chatbots have the capability to interact with the human brain, they lack awareness in terms of cultural values. Thus, it is recommended that cultural values be embedded within AI chatbots for the sake of preserving culture and values (La Fors et al., 2019).

Theoretical Lens

The exploration of AI chatbots in language learning has been addressed and developed through the adoption of several theoretical frameworks. These theories pave the way for conceptualizing empirical research within a solid framework (Yang & Kyun, 2022). One theory related to the intersection of technology and language education is activity theory (McAvinia, 2016). This theory is prominent for its ability to integrate the main aspects of computer-assisted language learning, including the subject, object, tool, and context (see Figure 1). It is also effective in analyzing and examining AI chatbots (Lin et al., 2020). According to Liu et al. (2016), activity theory focuses on all elements involved in the learning process, such as the learner, content, device, and context. Therefore, it has been adopted as the main theoretical concept for this study, especially in terms of the elements of subjects (users) and objects (smart devices).





Al in Language Learning

AI is one of the fastest-growing technologies today. As illustrated in the categorization in Figure 2, it encompasses various features and functions.

r

L

| Chatbot Categories | Knowledge domain | Generic |
|-----------------------|-------------------------------|---------------------------|
| | | Open Domain |
| | | Closed Domain |
| | Service provided | Interpersonal |
| | | Intrapersonal |
| | | Inter-agent |
| | Goals | Informative |
| | | Chat based/Conversational |
| | | Task based |
| | Response Generation Method | Rule based |
| | | Retrieval based |
| | | Generative |
| | Human-aid | Human-mediated |
| | | Autonomous |
| | Permissions | Open-source |
| | | Commercial |
| | Communication channel | Text |
| | | Voice |
| | | Image |

Figure 2. Classification of chatbot features and functions (Adamopoulou & Moussiades, 2020)

Since the COVID-19 pandemic, policymakers and stakeholders have become increasingly aware of the importance of technology in its various manifestations, particularly the application of AI. Language learning is one area that increasingly incorporates into its practices. According to related literature, educational contexts, such as universities and institutions, have taken the lead in adopting this technology due to its perceived benefits. Prior to the advent of AI, earlier technologies were used in educational contexts, including computer-assisted language learning, mobile-assisted language learning, computer-mediated communication, e-learning, and web-based learning (Pokrivcakova, 2019). Recently, ICALL has superseded computer-assisted language learning due to its advanced features and customized characteristics (Bontogon et al., 2018). It has improved student-computer interactions in language learning but also across wider educational contexts.

Van Dis et al. (2023) described AI chatbots as software applications that use a machine learning technique called "reinforcement learning from human feedback," which aims to replicate human-like communication based on user prompts. The advanced features of programs that employ this technique mark significant progress in relation to previous technological programs, particularly in terms of their direct, user-friendly, and personalized interactivity. This rapid advancement requires further exploration to gain a full understanding of the possible impacts of AI programs, as well as any hazards they may present, ensuring that precautionary measures are put in place.

Types of AI Chatbots in Language Learning

Several AI chatbots have been developed to support language learning. A systematic review conducted by Woo and Choi (2021) on the major types of AI devices utilized in language learning revealed that some chatbots are intended to address specific language skills. For instance, Alexa, via its neural network-based dialogue system, can support the development of speaking and listening skills.

Other devices, such as machine translators, provide self-automation and correction in writing skills. Additionally, some tools are specifically developed to improve pronunciation via natural language processing combined with deep learning algorithms. Furthermore, models like machine learning can enhance reading skills and foster vocabulary development.

In addition, it is worth noting that not all AI chatbots are specifically designed to address language learning, yet are useful and beneficial for language learners. For example, ChatGPT is a recent and powerful chatbot widely employed for many purposes. It has a notable capability to generate coherent and cohesive content in the form of human-like conversations (Wu et al., 2023). This feature is very beneficial for language learners, as it provides customized language instructions and authentic learning materials (Baskara, 2023). However, ChatGPT has some drawbacks, including the production of inappropriate or subjective content (Sallam, 2023). This is due to the model's allowance of such content in its training data (Hacker et al., 2023).

Thus, it is evident that AI chatbots are being integrated in language learning for the purpose of enhancing the learning experience. Many features and models—such as machine learning, natural language processing, and neural networks—improve different language skills. The continuous advancement of technology in language learning indicates the importance of AI in the language learning process.

Previous Studies on the use of Al Chatbots

A review of the literature reveals relevant studies that have explored the utilization of chatbots in educational contexts. For example, a study by Vázquez-Cano et al. (2021) examined two groups of students in writing classes. The first group was taught using traditional methods, while the second group used a chatbot in their learning. The results indicated noticeable improvement in the written tasks of the group that used the chatbot compared to those in the traditional group. Indeed, chatbots have merit over traditional means by providing learners with an interactive environment, customized instruction, and personalized feedback.

Yin and Satar (2020) examined the potential pedagogical benefits of two different AI chatbots— "Tutor Mike," a pedagogical chatbot, and "Mitsuku," a conversational chatbot—for language learning. Participants were divided into two groups based on proficiency: one with high proficiency and another with low proficiency, with both groups interacting with each chatbot. The study revealed that the low proficiency learners were more engaged than those with higher proficiency. This indicates that low-proficiency learners could benefit more from the use of chatbots in language learning. Moreover, a systematic review by Huang et al. (2022) revealed that chatbots provide learners with a unique, user-friendly, and customizable learning venue. However, technological issues were highlighted as a major drawback for some learners—an area that should be addressed.

Jeon (2022) found that chatbots can motivate learners in their language learning journey due to their high level of interactivity. This finding aligns with other studies like Essel et al. (2022), which found that the employment of chatbots in language learning enhanced learners' confidence, eventually leading to an improved experience and higher achievement. Furthermore, Chen et al. (2023) revealed that AI chatbots play a pivotal role in fostering a collaborative learning environment and accelerating progress in language learning. A key ability of chatbots is their ability to offer an anonymous and autonomous learning setting, catering to learners irrespective of their individual strengths and challenges. These revolutionary merits are of great importance for learners to attain language proficiency and increase confidence (Annamalai et al., 2023).

Regarding relevant studies within the context of Saudi Arabia, some studies have focused on the application of AI chatbots in specific contexts. For instance, Almalki (2020) explored the use of chatbots in the Saudi health sector in relation to the COVID-19 pandemic. The study revealed a preference toward the use of chatbots for the sake of finding information and instructions. Similarly, Alotaibi et al. (2020) explored the ability of chatbots in supporting tourism in Saudi Arabia and found them to be effective in providing clear instructions and directions to users. In the educational context,

Al-Abdullatif (2023) found that Saudi postgraduate students held positive attitudes toward AI chatbots, attributing this to the advanced features.

Based on the reviewed literature, it can be argued that the use of AI chatbots has proven to be positive regardless of expected drawbacks. For instance, AI chatbots are crucial tools for improving learners' educational experiences, boosting their confidence, and providing instant feedback and customized tasks (Ai, 2017; Bontogon et al., 2018). Improvements in learners' linguistic competence were noted after the use of AI chatbots in language learning. This positive attitude will encourage the adoption of AI chatbots and their capabilities, challenging traditional human-led instruction. However, concerns related to privacy and security remain potential threats for users of AI chatbots (Woo & Choi, 2021). These threats must be addressed along with possible social and cultural impacts that may arise from the widespread use of these technologies.

The process of language learning has its own characteristics, with accuracy being an important element. Grammar is seen as one of the most tenacious obstacles for learners. The advent of AI chatbots, with their ability to detect and correct grammatical errors, can motivate the learner's experience by shifting their focus from accuracy to while still obtaining feedback on the topic (Kao, 2020). Moreover, AI is of great help for both teachers and learners in the assessment and evaluation of speaking and listening skills, providing instant and clear feedback (Lee & Cho, 2020; Li, 2024). AI chatbots also help learners in maximizing their semantic repertoire and improving their use of phrasal verbs by listing a series of informative suggestions and relevant vocabulary (Liu et al., 2019). In writing, AI can support learners with limitless attempts to edit, revise, and correct their text—a process that can improve the accuracy of their language (Abbas et al., 2023). Besides writing, the anonymity facilitated by AI chatbots has been found to help learners develop their fluency and speaking proficiency (Li et al., 2016).

AI applications also facilitate the provision of a customized and personalized tutoring environment, which is a major advantage over alternative methods and approaches. Adaptive learning systems embedded in AI tools and chatbots can respond to each learner's characteristics and needs (Xiao & Hu, 2019). However, issues regarding privacy and security have been raised in previous studies, particularly in terms of users' level of awareness of the need to safeguard their personal information (Woo & Choi, 2021). In addition, the use of AI chatbots presents potential issues concerning intellectual property rights and copyright issues (Farina & Lavazza, 2023). Thus, the current study employs a robust methodology to investigate individual awareness of, and attitudes toward, AI in Saudi Arabia, specifically on the impact of chatbots in language learning.

It can be argued that AI chatbots have a positive impact on facilitating language learning and making it a pleasant experience (e.g., Annamalai et al., 2023; Cunningham-Nelson et al., 2019; Divekar et al., 2018; Smith & Evans, 2018; Xu et al., 2021). Their usability and interactivity enhance learners' confidence, while providing personalized experiences and appropriate feedback. This does not mean that AI chatbots are without drawbacks. For instance, privacy concerns were highlighted as a possible issue, particularly among users with insufficient knowledge and awareness of technology.

There remains a lack of research exploring this phenomenon within the context of Saudi Arabia (Crompton et al., 2024). Therefore, the current study explores the awareness, attitudes, usability, effectiveness, and drawbacks of AI chatbots among individuals in Saudi Arabia. While much of the related literature has investigated this phenomenon in educational settings, few studies have explored this in terms of the societal impact in this context.

METHODOLOGY

Research Design

This study attempts to explore perspectives concerning the use of AI in language learning in Saudi Arabia, with a particular focus on chatbots and any potential impact on individuals. To ensure validity and credibility, a mixed-methods approach involving an explanatory design was adopted. The

design integrates the analysis of both quantitative and qualitative data. Specifically, quantitative analysis was used on closed-ended survey questions, while qualitative analysis was conducted on open-ended responses. The integration of methods occurred during the analysis phase, allowing for a comprehensive understanding of the information. An advantage of such a mixed-methods approach is its ability to overcome limitations within a "false dichotomy" (Doyle et al., 2009).

Study Tool

An online questionnaire was employed to collect data from a diverse sample. Data collection encompassed various geographical areas of Saudi Arabia to access participants from different educational, economic, and social backgrounds, thereby gathering a range of perspectives on the use of AI and its potential impact. Prior to its administration, the questionnaire was reviewed by five experts in the field to ensure its quality and validity. It was then distributed to the target population. The questionnaire was comprised of 35 items, mostly closed-ended, with responses given using a four-point Likert-type scale. Closed-ended questions, as Cohen et al. (2007, p. 321) pointed out, are "useful in that they can generate frequencies of response amenable to statistical treatment and analysis." The Likert-type scale is useful for researchers in differentiating responses while producing data suitable for the generation of numbers (Cohen et al., 2007). Additionally, a few open-ended items were included to give respondents the chance to provide more in-depth explanations.

The questionnaire was divided into several sections. The first section gathered information on the participants' demographic characteristics and backgrounds. The second section addressed participants' linguistic backgrounds. The third section explored participants' attitudes toward the use of AI in language learning, while the fourth section focused on the expected impact of AI in the Saudi context. The questionnaire addressed participants' attitudes toward AI in language learning, identified the most commonly used AI tools in language learning tools according to participants, and explored their perceptions of AI's role in language learning.

Population

The study population consisted of both male and female Saudi and non-Saudi residents from various parts of Saudi Arabia, representing a diverse range of educational backgrounds and qualifications. This diversity also likely included learners from different age groups. To research as many respondents as possible, the researchers used their social networks. In terms of ethical considerations, all respondents were adults who consented to participate in the study. They were assured that their data would be used solely for research purposes and that their responses and identities would be kept confidential and secure. The questionnaire was distributed online via WhatsApp groups, resulting in a total of 202 valid responses.

Participants

A total of 202 participants took part in the study (see Figure 3). Although males and females were approached equally during data collection, most respondents were male, with 160 (79.2%) males and 42 (20.8%) females. As the study targeted participants living in Saudi Arabia, most respondents (173, 85.6%) were Saudi nationals, while the rest of the sample (14.4%) were expatriates living in Saudi Arabia. The respondents were grouped into three age categories: 18–20 years (94, 46.5%), 20–40 years (68, 33.7%), and over 40 years (40, 19.8%).

International Journal of Computer-Assisted Language Learning and Teaching

Volume 15 • Issue 1 • January-December 2025

Figure 3. Sample demographic information



RESULTS

Just over half of the sample (50.5%) were undergraduates, while the remaining were graduates (31.7%) or postgraduates (17.8%). As for marital status, 67.3% of the sample were single, and 32.7% were married. In response to the question, "How many languages do you speak fluently?," 83 participants reported being Arabic monolinguals, 107 stated they could speak two languages fluently, 11 were competent in three languages, and one indicated proficiency in six languages. Table 1 provides a summary of the background information of the participants.

| | | Category | |
|-------------|---------------------|------------|------------|
| | Number (percentage) | | |
| Gender | Male | Female | |
| | 160 (79.2%) | 42 (20.8%) | |
| Nationality | Saudi | Non-Saudi | |
| | 173 (85.6%) | 29 (14.4%) | |
| Age group | 20 > | 20-40 | 40+ |
| | 94 (46.5%) | 68 (33.7%) | 40 (19.8%) |

continued on following page

| | Category Number (percentage) | | |
|-------------------------|--------------------------------|--------------------------|---------------------------------|
| | | | |
| Education | Undergraduate | Graduate | Postgraduate |
| | 102 (50.5%) | 64 (31.7%) | 36 (17.8%) |
| Marital status | Married 136 (67.3%) | Single 66 (32.7%) | |
| No. of languages spoken | One 83 (41%) | Two 107 (53%) | More than two 12 (6%) |

Table 1. Continued

To investigate the popularity of AI in language instruction among the study population, participants were asked three questions: *What is your preferred method of language learning? Have you ever used AI to learn a foreign language? If yes, which tool(s)/software did you use?* In response to the first question, 119 participants (59%) reported that they preferred self-learning over language learning in schools and institutes.

The responses to the second question showed that only 40.5% of the respondents had used AI tools for language learning, despite most preferring self-learning. This suggests that AI language learning tools may have great potential in the future. As more people have access to and become familiar with available AI learning tools, the number of users can be expected to increase. However, only 52 participants (25.7%) reported still using these tools at the time of completing the survey. Thus, it may be that AI language learning tools face challenges in encouraging users to continue using them to achieve their language learning goals.

Most Commonly Used AI Chatbots Among Participants

Regarding the third question, respondents reported using many AI language learning tools, with the most common being ChatGPT, Google Translate, and Duolingo. The findings also indicated that social media was the most common means for disseminating and popularizing AI language learning tools. Indeed, 122 participants (60.5%) reported that they heard of these tools for the first time on social media platforms. Other sources of information included friends and relatives (20%), e-marketing (6.5%), schools (6.4%), and work (4%). The respondents were also asked about the frequency of their use of AI language learning tools. A small proportion of the sample reported using these tools "always" (10.9%), while slightly more (32.7%) mentioned they "sometimes" used them. The remaining participants reported using AI tools either "rarely" (37.7%) or never (21.8%). Table 2 summarizes the responses. Most of the participants with previous experience using these tools indicated frequent use of AI chatbots.

| | Category Number (percentage) | | |
|--|--------------------------------|------------------|---|
| | | | |
| Preferred language learning method | Self-learning 119 (59%) | | Schools and language institutions 83 (41%) |
| Previous experience with AI language learning tools | Yes 120 (59.5%) | No 82 (40.5%) | |

Table 2. Use of AI language learning tools

continued on following page

Category Number (percentage) Currently using AI language Yes No 52 (25.7%) 150 (74.3%) learning tools How did you hear of AI Social media Friends & relatives Other 39 (19.2%) language learning tools? 122 (60.5%) 41 (20.3%) Sometimes Frequency of use of AI Always Rarely Never 70 (34.7%) 44 (21.8%) language learning tools 22 (10.9%) 66 (32.7%)

Table 2. Continued

Attitudes Toward AI Language Learning Tools

The subsequent part of the questionnaire aimed to investigate participants' attitudes toward the use of AI language learning tools. It contained six questions. The first question asked whether the participants were enthusiastic about technology. People who are enthusiastic about technology are more likely to try out modern technological tools, including innovative AI language learning tools. The majority of participants (146, 72.3%) reported being keen on using technology, whereas only 56 participants (27.7%) stated they were not.

In the second question, participants were prompted to select from two options, indicating whether they found AI language learning tools useful. The responses showed that the vast majority (185, 91.6%) thought that using AI to learn language was useful, while only 17 participants (8.4%) considered AI language learning tools to be not useful.

The third question aimed to determine the motives for using AI language learning tools. Most participants (88, 43.6%) viewed AI language learning tools as useful because of their ease of use. A significant number of participants (67, 33.2%) reported that AI language learning tools increased their language learning motivation. Another 20 participants (10%) stated that their enthusiasm for trying new technologies drove them to use AI language learning tools. Other motives reported by participants included privacy, low cost, and flexibility.

Participants were then asked about their level of satisfaction with regard to the use of AI language learning tools. Most (182, 90%) reported they were either satisfied or fully satisfied. Only 14 (7%) stated they were not satisfied, and 6 (3%) stated they were entirely dissatisfied with AI language learning tools. In terms of whether they would recommend AI language learning tools to others, 178 participants (88%) said they would, while only 24 (12%) reported they would not.

This section of the questionnaire concluded with an open-ended question prompting participants to answer the question: *What are the benefits you have gained from using AI language learning tools?* Participants reported a range of benefits, including ease of use, self-learning, hassle-free foreign language learning, the opportunity to practice various language skills, constant availability, the ability to learn at home and at one's own pace, precision, error detection, improved pronunciation, saving time, quiz generation, and reducing teachers' tasks. Table 3 summarizes the findings of this section.

| | | (| Category | |
|--|---------------------------------------|---------------------------------------|--|--------------------------------------|
| | Number (percentage) | | | |
| Enthusiasm for technology | Yes 146 (72.3%) | No 56 (27.7%) | | |
| Usefulness of AI language learning tools | Useful 185 (91.6%) | Useless 17 (8.4%) | | |
| Motives for using AI language learning tool | Ease of use 88 (43.6%) | Intrinsic motivation 67 (33.2%) | Enthusiasm for technology 20 (10%) | Other 27 (24.2) |
| Satisfaction with AI language learning tools | Completely satisfied 43 (21.3%) | Satisfied 139 (68.8%) | Dissatisfied 14 (7%) | Completely dissatisfied 6 (3%) |
| Recommend others to use AI language learning tools | Yes 178 (88%) | No 24 (12%) | | |

Table 3. Attitudes toward using AI language learning tools

DISCUSSION

The findings showed that most participants preferred self-learning rather than going to schools or language institutions, although a sizeable portion had not yet used AI in their learning. Indeed, 59% of the sample reported that they prefer self-learning when it comes to language learning. This is coupled with 59.5% of the sampled respondents having prior experience using AI language learning tools. The results align with previous studies in different contexts (Vázquez-Cano et al., 2021; Yin & Satar, 2020). Additionally, only a small proportion (21.8%) reported never having used AI language learning tools. These findings suggest great potential for the future integration of AI tools in language learning. The preference for autonomy in learning suggests a growing interest in personalized and flexible learning experiences. This aligns with Essel et al.'s (2022) study showing that chatbots can provide a better language learning experience and lead to higher achievement among learners.

However, despite the potential of AI language learning tools, 40.5% of participants had not used AI tools for language learning, especially among older participants, indicating that a sizeable portion of the sample has yet to explore these resources within the context of Saudi Arabia. This finding raises questions about the barriers that may hinder adoption, such as lack of awareness, skepticism about their effectiveness, or simply a preference for traditional methods.

Moreover, the findings indicate that while many participants have tried AI language learning tools, a smaller number continue to use them actively. This discrepancy suggests issues in terms of the usability and effectiveness of these tools in meeting users' language learning goals. This contrasts with the findings of Chen et al. (2023), who found that the use of AI robots and chatbots fostered a collaborative language environment and accelerated achievement. This implies that while AI tools may initially attract users, they might not sustain long-term engagement.

With reference to the second and third questions, the AI language learning tools most mentioned by participants were ChatGPT, Google Translate, and Duolingo. These tools offer a range of features, from translation services to interactive language learning platforms, catering to different learning preferences and needs. Interestingly, social media emerged as a key channel for disseminating and popularizing AI language learning tools. This highlights the role of social platforms in shaping trends and preferences in education technology. It also and suggests the need to leverage social media channels effectively as a means of increasing the awareness and adoption of AI language learning tools among a wider audience. The frequency of usage varied among the participants, with a significant number using AI tools only occasionally or not at all. This suggests that while some users find value in incorporating AI into their language learning routines, others may not find it as essential or effective for their achieving their goals.

The questionnaire provided valuable insights into participants' attitudes toward the use of AI language learning tools, as well as their motivations, satisfaction levels, and likelihood of recommending their use. A notable majority of participants (72.3%) reported being enthusiastic about the use of technology, indicating a high level of motivation to adopt modern technological tools, including innovative AI language learning tools. This attitude could potentially drive usage and exploration of AI language learning tools within the Saudi society. In addition, almost all participants (91.6%) found AI language learning tools to be useful for learning foreign languages. This high level of perceived usefulness indicates a strong positive attitude toward incorporating AI in language learning tools attitudes toward the use of technology, particularly due to personalized experiences (see AI-Abdullatif, 2023; Almalki, 2020; Alotaibi et al., 2020). Participants also recognized the ease of use as a primary benefit for valuing AI language learning tools, highlighting the importance of user-friendly interfaces and accessibility in driving adoption. This aligns with Teng and Huang (2025), who found that chatbot-generated feedback positively influenced student engagement in language learning.

Moreover, the willingness of most participants to recommend the use of AI language learning tools to others indicates the potential for these tools to have a broader positive impact. Favorable word-of-mouth recommendations can significantly influence adoption rates and contribute to the wider acceptance and integration of AI language learning tools in language learning practices.

Finally, the open-ended question elicited a detailed variety of benefits associated with the use of AI language learning tools, including ease of use, self-learning opportunities, flexibility, and improvements in various language skills like pronunciation and error detection. These benefits provide valuable insights into the specific advantages that participants perceive to exist with AI language learning tools and further supports positive attitudes toward these tools. Notably, the issue of privacy emerged as a double-edged sword. Although some users valued the privacy afforded by AI language learning tools—such as the ability to learn at their own pace, make mistakes without worrying about judgement, and the opportunity to learn in their own premises—others expressed concerns about the security of their personal data when using such tools.

Overall, the findings of this study highlight the importance of addressing the challenges associated with the use of AI language learning tools, such as user engagement and effectiveness, while also capitalizing on their potential to offer personalized and accessible language learning experiences. Having a greater number of participants in the 18–20-year age group may enable the study to derive more plausible expectations of the use of AI in language learning tools in the future. As technology continues to evolve and users become more familiar with AI tools, the landscape of language learning is likely to undergo further transformation. The results of this study suggest a strong acceptance of AI language learning tools among the participants, driven by their perceived usefulness, overall satisfaction, and recognition of the benefits associated with their use.

CONCLUSION

This study explored the attitudes of individuals within the sample toward the use of AI chatbots in language learning in Saudi Arabia. It is apparent that AI chatbots have the potential to capture the attention of the public due to their high capabilities and advanced features. However, the sample size does not lend itself to the generalizability of the results. Nevertheless, the findings provide valuable information and can benefit future research on emerging trends in language instruction.

These findings may be insightful for parents with concerns about AI being employed in teaching second or foreign languages to their children. Language learning is just one of the many areas that will benefit from this technology. The general positive attitudes toward AI chatbots are notable and

expected, given the widespread recognition of tools like ChatGPT. However, the implications with regard to using AI chatbots are considerable, as AI technology is expected to have a significant impact on people's lives. Further research into the application of AI in language learning is needed to shed more light on the possible implications and expectations for its future use.

The study could have been improved if a mixed-methods approach had been conducted. However, due to the limited availability of participants, a questionnaire was chosen as the primary data collection method. Moreover, the questionnaire was distributed via WhatsApp groups, which may have created selection bias, particularly in terms of tech-savvy participants. In addition, the study entails a gender imbalance, with 79.2% of respondents being male, which could limit the generalizability of the results. This imbalance was due to limited access to female participants who were willing to participate as compared to the male participants.

Implications and Future Directions

The results of this study have some implications that are worth consideration. These findings underscore the potential of AI language learning tools to play a significant role in enhancing the language learning experience and meet the different needs and preferences of learners in Saudi society. Developers are advised to make AI chatbots more user-friendly and customizable in an engaging way (Wang et al., 2024). In schools, while AI chatbots can be seen as a source of unauthorized assistance, it is recommended that schools and stakeholders in Saudi Arabia allow and support the use of AI chatbots as an additional source of information. In doing so, learners can benefit from AI chatbots, making language learning a continuous process.

Further research involving the use of a mixed-methods approach is advised to explore the challenges, possible threats, and future expectations regarding the integration of AI chatbots in language learning. A longitudinal study would be of great value (Engwall & Lopes, 2022). Currently, the novelty of AI chatbots may affect learners' behavior, revealing inaccurate results (Van den Berghe et al., 2019). Therefore, a long-term study is suggested, especially once the novelty impact decreases (Leeuwestein et al., 2021). Additionally, ensuring gender balance among research participants is advised to determine if gender differences might arise.

COMPETING INTERESTS

The authors of this publication declare there are no competing interests.

FUNDING

This research was supported by the Deanship of Postgraduate Studies & Scientific Research at Majmaah University (R-2025-1684) and the Deanship of Scientific Research, Vice Presidency for Graduate Studies and Scientific Research, King Faisal University, Saudi Arabia (KFU251327).

PROCESS DATES

Received: January 7, 2025, Revision: April 8, 2025, Accepted: April 11, 2025

CORRESPONDING AUTHOR

Correspondence should be addressed to Ali Alsaawi; a.alsaawi@mu.edu.sa

REFERENCES

Abbas, M. A., Hammad, S., Hwang, G. J., Khan, S., & Gilani, S. M. M. (2023). An assistive environment for EAL academic writing using formulaic sequences classification. *Interactive Learning Environments*, *31*(1), 407–421. DOI: 10.1080/10494820.2020.1789670

Adamopoulou, E., & Moussiades, L. (2020). Chatbots: History, technology, and applications. *Machine Learning with Applications*, 2, 100006. DOI: 10.1016/j.mlwa.2020.100006

Ai, H. (2017). Providing graduated corrective feedback in an intelligent computer-assisted language learning environment. *ReCALL*, 29(3), 313–334. DOI: 10.1017/S095834401700012X

Al-Abdullatif, A. M. (2023). Modeling students' perceptions of chatbots in learning: Integrating technology acceptance with the value-based adoption model. *Education Sciences*, *13*(11), 1151. DOI: 10.3390/ educsci13111151

Almalki, M. (2020). Perceived utilities of COVID-19 related chatbots in Saudi Arabia: A cross-sectional study. *Acta Informatica Medica*, 28(3), 218. DOI: 10.5455/aim.2020.28.219-224 PMID: 33417645

Alotaibi, R., Ali, A., Alharthi, H., & Almehamdi, R. (2020). *AI chatbot for tourist recommendations: A case study in the city of Jeddah*. International Association of Online Engineering.

Annamalai, N., Eltahir, M. E., Zyoud, S. H., Soundrarajan, D., Zakarneh, B., & Al Salhi, N. R. (2023). Exploring English language learning via chabot: A case study from a self-determination theory perspective. *Computers and Education: Artificial Intelligence*, 100148.

Araujo, T. (2018). Living up to the chatbot hype: The influence of anthropomorphic design cues and communicative agency framing on conversational agent and company perceptions. *Computers in Human Behavior*, 85, 183–189. DOI: 10.1016/j.chb.2018.03.051

Ayedoun, E., Hayashi, Y., & Seta, K. (2019). Adding communicative and affective strategies to an embodied conversational agent to enhance second language learners' willingness to communicate. *International Journal of Artificial Intelligence in Education*, 29(1), 29–57. DOI: 10.1007/s40593-018-0171-6

Baskara, R., & Mukarto, M. (2023). Exploring the implications of ChatGPT for language learning in higher education. *Indonesian Journal of English Language Teaching and Applied Linguistics*, 7(2), 343–358. DOI: 10.21093/ijeltal.v7i2.1387

Bontogon, M., Arppe, A., Antonsen, L., Thunder, D., & Lachler, J. (2018). Intelligent computer assisted language learning (ICALL) for néhiyawêwin: An in-depth user-experience evaluation. *Canadian Modern Language Review*, 74(3), 337–362. DOI: 10.3138/cmlr.4054

Chen, X., Cheng, G., Zou, D., Zhong, B., & Xie, H. (2023). Artificial intelligent robots for precision education: A topic modeling-based bibliometric analysis. *Journal of Educational Technology & Society*, 26(1), 171–186.

Ciechanowski, L., Przegalinska, A., Magnuski, M., & Gloor, P. (2019). In the shades of the uncanny valley: An experimental study of human-chatbot interaction. *Future Generation Computer Systems*, 92, 539–548. DOI: 10.1016/j.future.2018.01.055

Crompton, H., Edmett, A., Ichaporia, N., & Burke, D. (2024). AI and English language teaching: Affordances and challenges. *British Journal of Educational Technology*, *55*(6), 2503–2529. DOI: 10.1111/bjet.13460

Cunningham-Nelson, S., Boles, W., Trouton, L., & Margerison, E. (2019). A review of chatbots in education: Practical steps forward. In *30th annual Conference for the Australasian Association for Engineering Education (AAEE 2019): Educators becoming Agents of change: Innovate, integrate, motivate* (pp. 299–306).

Divekar, R. R., Drozdal, J., Zhou, Y., Song, Z., Allen, D., Rouhani, R., Zhao, R., Zheng, S., Balagyozyan, L., & Su, H. (2018). Interaction challenges in AI equipped environments built to teach foreign languages through dialogue and task- completion. In *DIS 2018 - proceedings of the 2018 designing interactive systems conference* (pp. 597–610).

Doyle, L., Brady, A. M., & Byrne, G. (2009). An overview of mixed methods research. *Journal of Research in Nursing : JRN*, *14*(2), 175–185. DOI: 10.1177/1744987108093962

Engwall, O., & Lopes, J. (2022). Interaction and collaboration in robot-assisted language learning for adults. *Computer Assisted Language Learning*, *35*(5-6), 1273–1309. DOI: 10.1080/09588221.2020.1799821

Essel, H. B., Vlachopoulos, D., Tachie-Menson, A., Johnson, E. E., & Baah, P. K. (2022). The impact of a virtual teaching assistant (chatbot) on students' learning in Ghanaian higher education. *International Journal of Educational Technology in Higher Education*, *19*(1), 57. DOI: 10.1186/s41239-022-00362-6

Farina, M., & Lavazza, A. (2023). ChatGPT in society: Emerging issues. *Frontiers in Artificial Intelligence*, 6, 1130913. DOI: 10.3389/frai.2023.1130913 PMID: 37396972

Fryer, L. K., Nakao, K., & Thompson, A. (2019). Chatbot learning partners: Connecting learning experiences, interest and competence. *Computers in Human Behavior*, *93*, 279–289. DOI: 10.1016/j.chb.2018.12.023

Greenfield, P. M. (2009). Technology and informal education: What is taught, what is learned. *Science*, 323(5910), 69–71. DOI: 10.1126/science.1167190 PMID: 19119220

Hacker, P., Engel, A., & Mauer, M. (2023, Jun). Regulating ChatGPT and other large generative AI models. *In Proceedings of the 2023 ACM conference on fairness, accountability, and transparency* (pp. 1112–1123). DOI: 10.1145/3593013.3594067

Huang, W., Hew, K. F., & Fryer, L. K. (2022). Chatbots for language learning—Are they really useful? A systematic review of chatbot-supported language learning. *Journal of Computer Assisted Learning*, 38(1), 237–257. DOI: 10.1111/jcal.12610

Io, H. N., & Lee, C. B. (2018). Understanding the adoption of chatbot. In *Future of Information and Communication Conference* (pp. 632–643). Springer.

Jeon, J. (2022). Exploring AI chatbot affordances in the EFL classroom: Young learners' experiences and perspectives. *Computer Assisted Language Learning*, *37*(1–2), 1–26.

Kao, C. W. (2020). The effect of a digital game-based learning task on the acquisition of the English Article System. *System*, *95*, 102–373. DOI: 10.1016/j.system.2020.102373

La Fors, K., Custers, B., & Keymolen, E. (2019). Reassessing values for emerging big data technologies: Integrating design-based and application-based approaches. *Ethics and Information Technology*, *21*(3), 209–226. DOI: 10.1007/s10676-019-09503-4

Lee, Y., & Cho, J. (2020). Design of a foreign language conversation learning system using machine learning. *International Journal of Innovation. Creativity and Change*, *13*(4), 235–247.

Leeuwestein, H., Barking, M., Sodacı, H., Oudgenoeg-Paz, O., Verhagen, J., Vogt, P., Aarts, R., Spit, S., de Haas, M., de Wit, J., & Leseman, P. (2021). Teaching Turkish-Dutch kindergartners Dutch vocabulary with a social robot: Does the robot's use of Turkish translations benefit children's Dutch vocabulary learning? *Journal of Computer Assisted Learning*, *37*(3), 603–620. DOI: 10.1111/jcal.12510

Leshkevich, T., & Motozhanets, A. (2022). Social perception of artificial intelligence and digitization of cultural heritage: Russian context. *Applied Sciences (Basel, Switzerland)*, *12*(5), 2712. DOI: 10.3390/app12052712

Li, K., Qian, X., & Meng, H. (2016). Mispronunciation detection and diagnosis in 12 English speech using multidistribution deep neural networks. *IEEE/ACM Transactions on Audio, Speech, and Language Processing*, 25(1), 193–207. DOI: 10.1109/TASLP.2016.2621675

Li, M. (2024). Leveraging ChatGPT for Second Language Writing Feedback and Assessment. *International Journal of Computer-Assisted Language Learning and Teaching*, *14*(1), 1–11. DOI: 10.4018/IJCALLT.360382

Lin, C. C., Lin, V., Liu, G. Z., Kou, X., Kulikova, A., & Lin, W. (2020). Mobile-assisted reading development: A review from the Activity Theory perspective. *Computer Assisted Language Learning*, *33*(8), 833–864. DOI: 10.1080/09588221.2019.1594919

Liu, G. Z., Lu, H. C., & Lai, C. T. (2016). Towards the construction of a field: The developments and implications of mobile assisted language learning (MALL). *Digital Scholarship in the Humanities*, *31*(1), 164–180. DOI: 10.1093/llc/fqu070

Volume 15 • Issue 1 • January-December 2025

Liu, H., Wang, L., & Koehler, M. J. (2019). Exploring the intention-behavior gap in the technology acceptance model: A mixed-methods study in the context of foreign-language teaching in China. *British Journal of Educational Technology*, *50*(5), 2536–2556. DOI: 10.1111/bjet.12824

Marr, B. (2018). The key definitions of artificial intelligence (AI) that explain its importance. Forbes, 4(2).

McAvinia, C. (2016). Online learning and its users: Lessons for higher education. Chandos Publishing.

Pokrivcakova, S. (2019). Preparing teachers for the application of AI-powered technologies in foreign language education. *Journal of Language and Cultural Education*, 7(3), 135–153. DOI: 10.2478/jolace-2019-0025

Sallam, M. (2023). ChatGPT utility in healthcare education, research, and practice: Systematic review on the promising perspectives and valid concerns. *Health Care*, *11*(6), 887. DOI: 10.3390/healthcare11060887

Small, G. W., Moody, T. D., Siddarth, P., & Bookheimer, S. Y. (2009). Your brain on Google: Patterns of cerebral activation during internet searching. *The American Journal of Geriatric Psychiatry*, *17*(2), 116–126. DOI: 10.1097/JGP.0b013e3181953a02 PMID: 19155745

Smith, M. T., & Evans, J. J. (2018). In B. Hokanson, G. Clinton, & K. Kaminski (Eds.), Educational technology and narrative: Story and instructional design Storytelling as transdisciplinarity: An experiment in first-year composition and communication (pp. 103–112). Springer.

Teng, M. F., & Huang, J. (2025). Incorporating ChatGPT for EFL writing and its effects on writing engagement. *International Journal of Computer-Assisted Language Learning and Teaching*, *15*(1), 1–21. DOI: 10.4018/ IJCALLT.367874

Vakhstein, V. S. (2022) Rebuilding everyday life: Drones, elevators and the PkM-1 Project. https://cyberleninka .ru/article/n/peresborka-povsednevnosti-bespilotnikilifty-i-proekt-pkm-1

Van den Berghe, R., Verhagen, J., Oudgenoeg-Paz, O., Van der Ven, S., & Leseman, P. (2019). Social robots for language learning: A review. *Review of Educational Research*, 89(2), 259–295. DOI: 10.3102/0034654318821286

Vázquez-Cano, E., Mengual-Andrés, S., & López-Meneses, E. (2021). Chatbot to improve learning punctuation in Spanish and to enhance open and flexible learning environments. *International Journal of Educational Technology in Higher Education*, *18*(33), 1–20. DOI: 10.1186/s41239-021-00269-8

Wang, X., Pang, H., Wallace, M. P., Wang, Q., & Chen, W. (2024). Learners' perceived AI presences in AI-supported language learning: A study of AI as a humanized agent from community of inquiry. *Computer Assisted Language Learning*, *37*(4), 814–840. DOI: 10.1080/09588221.2022.2056203

Wang, Y. F., Petrina, S., & Feng, F. (2017). VILLAGE – Virtual immersive language learning and gaming environment: Immersion and presence. *British Journal of Educational Technology*, 48(2), 431–450. DOI: 10.1111/bjet.12388

Woo, J. H., & Choi, H. (2021). Systematic review for AI-based language learning tools. preprint arXiv:2111.04455.

Wu, T., He, S., Liu, J., Sun, S., Liu, K., Han, Q. L., & Tang, Y. (2023). A brief overview of ChatGPT: The history, status quo and potential future development. *IEEE/CAA Journal of Automatica Sinica*, 10(5), 1122–1136.

Xiao, Y., & Hu, J. (2019). Assessment of optimal pedagogical factors for Canadian ESL learners' reading literacy through artificial intelligence algorithms. *International Journal of English Linguistics*, 9(4), 1–14. DOI: 10.5539/ijel.v9n4p1

Xu, Y., Wang, D., Collins, P., Lee, H., & Warschauer, M. (2021). Same benefits, different communication patterns: Comparing children's reading with a conversational agent vs. a human partner. *Computers & Education*, *161*, 104059. DOI: 10.1016/j.compedu.2020.104059

Yang, H., & Kyun, S. (2022). The current research trend of artificial intelligence in language learning: A systematic empirical literature review from an activity theory perspective. *Australasian Journal of Educational Technology*, *38*(5), 180–210. DOI: 10.14742/ajet.7492

Yin, J., Goh, T. T., Yang, B., & Xiaobin, Y. (2021). Conversation technology with micro- learning: The impact of chatbot-based learning on students' learning motivation and performance. *Journal of Educational Computing Research*, *59*(1), 154–177. DOI: 10.1177/0735633120952067

Yin, Q., & Satar, M. (2020). English as a foreign language learner interaction with chatbots: Negotiation for meaning. *International Online Journal of Education & Teaching*, 7(2), 390–410.

Dr Ali Alsaawi is an associate professor of applied linguistics at Majmaah University, Saudi Arabia. He holds a PhD in applied linguistics from Newcastle University, UK. He has published number of papers in the areas of discourse analysis, sociolinguistics and second language acquisition. He has participated in number of local and international conferences.