

# Towards Implementing AI Mobile Application Chatbots for EFL Learners at Primary Schools in Saudi Arabia

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## *Abstract*

*Chatbots with cognitive pathways have attracted the attention of many EFL instructors and students. This study aims to develop an AI chatbots that may be used to teach pupils a particular linguistic skill in a foreign language. The study considers students' awareness, perceptions, and their attitudes towards using chatbots. This study aims to determine whether the artificial intelligence chatbots can improve students' skills and success while learning a foreign language. Results and findings showed that students recognize the value of utilizing chatbots but they are unsure of how to do so due to a lack of experience. The vast majority of the respondents believed that AI mobile application chatbots can play an essential role in EFL learning.*

*Keywords: Artificial Intelligence (AI), Mobile Applications, Chatbots, English as a Foreign Language (EFL), learning.*

## **1 Introduction**

IBM defines chatbot as a computer software that uses artificial intelligence (AI) tools and usage of natural language processing (NLP) to decipher user queries and provide pre-programmed responses, emulating human interaction. Mobile chatbots can help students get the information they need by communicating with them and answering their questions and requests using text input, audio input, or both. Recently. Nearly everyone uses chatbot software, whether an intelligent home assistant or a corporate chatbot. Modern artificial intelligence chatbots, virtual assistants or virtual agents may take voice commands like Apple's Siri, Google's Assistant, and Amazon's Alexa and carry on conversations with you over short message service (SMS). This ability of chatbots gives EFL learners chances to ask questions about what they need conversationally, and it can help them to clarify their investigations through replies and follow-up questions. Mobile application chatbots or mobile app chatbots are conversational AI tools that interact with users on the mobile application interface of

the company that provides the service. They can understand and respond to the text or voice input of the users.

Since their inception in the 1960s, text-based dialogue systems have been used in most CALL programs involving voice-based dialogues. In the 1980s, researchers engaged in practical CALL began assessing these systems to see if they could aid in language learning. Duolingo, Mondly, and EggBun are just a few of the newer chatbots focusing on language acquisition (Alm & Nkomo, 2020). Several chatbots, like Apple's Siri and Google's Assistant, are made for general human usage and give interactions pre-programmed utilizing scripts set up as decision trees that deliver predetermined responses to user input.

There is a lot of leeway for manipulation in such systems, and interactions can be predicted almost perfectly. Voice systems in artificial intelligence (AI) mobile application chatbots can focus on specific language-learning domains and adapt to learners' varying levels of linguistic competence. This method of incorporating chatbots into structured language learning environments, where their practice can be adjusted according to the theory elucidated above, has been effective. However, many studies have shown that interacting with a chatbot as a free-flowing bot can be difficult for humans. According to the research (Bibauw, François, & Desmet 2019), the unconstrained conversation should not be considered the final goal of CALL which uses dialogue. AI chatbots built within mobile apps that can have free-form discussions using a human-like voice should not be dismissed out of hand. AI-powered digital helpers in particular (IPA), such as Google Assistant and Siri, offer the possibility to merge the advantages of practising English as a foreign using open-ended conversation techniques with characteristics improving both learners' desire to communicate and apply usage-based learning. This study highlights the possibility of implementing an AI mobile application chatbot for EFL Learners at Primary Schools in Saudi Arabia. As a result, this research has been carried out based on investigating EFL learners' awareness about using AI chatbots as conversational agents, which will be achieved when obtaining the answers to the following questions:

- a. Do EFL learners have a clear perception of AI mobile application chatbots?
- b. Do EFL learners plan to use AI mobile application chatbots in learning English inside and outside classrooms?
- c. Are EFL learners familiar with the use of AI mobile application chatbots?
- d. Do EFL learners believe that AI mobile application chatbots will help them to improve their skills and become competent learners?

## **2 Literature Review**

### **2.1 AI mobile application chatbots EFL learning**

A rising body of literature in the field of linguistics known as ICALL investigates the potential of conversational bots to improve language learning (Intelligent Computer-Assisted Language Learning). Even though the authors claim that these tools are more beneficial for more advanced language learners, a study by (Fryer and Carpenter, 2006) demonstrated that 211 students could effectively use two different chatbots for self-practice through informal conversation.

(Hill et al., 2015) did a similar analysis, contrasting 100 instant message conversations with 100 exchanges with the Cleverbot chatbot across seven criteria, such as word count, unique words, and the frequency with which profanity, slang, and emoticons were employed. Consistent with later studies on the usage of chatbots among youngsters, (Xu Z. et al.) discovered that people talked to chatbots for longer periods than they chatted with other humans and that human-chatbot communication lacked much of the variety of vocabulary present in human-to-human discussions. Many studies have demonstrated that using a conversational AI to help EFL students improve their language skills can increase their propensity to strike up conversations with native speakers (WTC). The conversational agent enabled this study's immersive setting, providing students with opportunities to use English in realistic, everyday contexts.

There have been multiple studies carried out to evaluate the relative efficiency of conversational agents in the field of language learning. Future research should focus on more advanced types of chatbots, such as those implemented in mobile apps, website embeds, or wearable technology (Io & Lee, 2017). "Lack of research from the human perspective" is a problem in these fields. They looked at the role of chatbots in language teaching again, emphasizing its benefits like endless repetitions and adaptability to different learning styles.

Radziwill and Benton's (2017) assessment looked at the quality issues and features associated with developing and releasing chatbots. The authors examined factors including productivity, efficiency, and customer satisfaction before coming to the conclusion that chatbots can be used both for good and evil in the classroom and in the wider world (misinformation, rumors). Reduced language fear; widespread availability; multimodal practice; novelty impact; extensive contextual vocabulary; efficient feedback; and these are only six of the benefits of using chatbots that have been recognized and addressed. Specifically, Bibauw et al. The authors review 343 publications on dialogue-based systems and discuss the characteristics pertaining to engagement, instruction, and technology, respectively of AI mobile

application chatbots, highlighting outcomes in terms of increased vocabulary and grammar knowledge, as well as the boosts in students' self-esteem and enthusiasm to learn.

Five potential uses for chatbots in the classroom were identified by analyzing 25 case studies (Huang et al., 2022). These uses include: interlocutors, simulations, helplines, transmission, and recommendation engines. The pros and cons were laid out, with the former being things like speed, usability, and personalization, and the latter including things like the robotic sound of the computer-generated voice and communication lapses. Studies have also pointed to chatbots' potential use in adaptive learning settings, micro-learning, and the automation of the educational process.

The use of chatbots in the classroom is not without its pitfalls, though. Their poor communication (off-topic utterances, meaningless phrases), restricted comprehension (vocabulary range, deliberate meaning), and preplanned structure of responses are the most common sources of criticism (which makes them somewhat predictable). Among of the most frequently mentioned problems include students' (lack of) interest in such predictable technologies and the (in)effectiveness of chatbot-human conversation in language acquisition.

From the perspective of a learner of English as a foreign language (EFL), we look into the grammatical accuracy of five widely used chatbots (Dave, Elbot, Eugene, George, and Julie) and find some fascinating insights into the linguistic (in)efficiency of chatbot-human communication. Both the grammar and meaning categories have a low percentage of correctness, and it has been noted that chatbots often provide responses that lack any real substance. It is contended that while chatbots don't make great conversational companions right now, improvements in their performance can help drive future advances.

"Chatbot hype" is a trend labeled by some writers to describe the increase in chatbot-related publications published over the past decade. Despite this, many authors believe in AI's educational potential, and the industry as a whole is seeing fast growth. Chatbots may become useful tools for providing EFL students with access to real-world data gleaned from textual and aural means, according to recent research (Kim, 2020) on the efficacy of chatbots in teaching all facets of language usage (oral and written communication, as well as listening and reading comprehension) and vocabulary.

The key foci of study in this area is the perceptions of both current students and in-service educators about the accuracy, language learning benefits, and satisfaction of chatbot-human communication.

(Chen et al, 2020) used TAM to investigate how people learning Mandarin felt about chatbots are designed to teach vocabulary. The study participants gave positive ratings for perceived utility but gave lower ratings for perceived ease of use while interacting with chatbots.

With the help of the technology acceptance model, researchers surveyed 225 elementary and secondary school teachers on their attitudes toward chatbots (TAM). By contrasting the conversational design of chatbots (including their use the combination of sociable discourse and initiative) to the average age and level of digital literacy of their teachers, the authors found that a higher perception of the chatbot's PU and PEU led to greater acceptance. To the same end, (Chuah and Kabilan, 2021) investigated the sentiments of 142 instructors of English to speakers of other languages toward the use of chatbots to provide students with on-the-go lessons. According to the authors, there was a consensus that chatbots could be used to make classes more interactive and encourage more student use of the target language.

Nonetheless, there is a dearth of research into how aspiring educators view chatbots and their potential function in language teaching. (Sung, 2020) states that using the Dialog-flow API, 9 groups of aspiring primary school teachers developed 17 English-speaking AI chatbots. The outcomes demonstrated that aspiring instructors place a high priority on utilizing chatbots to engage pupils in engaging and interactive language practice. A recent poll (Yang, 2022) asked 28 aspiring educators about the theoretical and practical implications of incorporating AI chatbots into English education. The authors draw the conclusion that these programs can help bridge the gap between students and teachers' English ability and boost both the students' self-esteem and their desire to learn.

Because chatbots' widespread use as language-learning partners, it is contingent on educators' familiarity with the technology, assessing their knowledge of it is important for the profession as a whole. Hence, we'll be making use of a makeshift model, the Satisfaction with Chatbot-Human Interaction Model. In this survey, prospective language educators share their thoughts on chatbots and their level of comfort with them (CHISM).

## 2.2 The need for AI mobile application chatbots in EFL learning

EFL learners in Saudi Arabia sometimes lack the opportunity to interact with native speakers to acquire the language from them or to communicate with people whose English is used as an everyday activity outside their classrooms (Wahyuni & Riau, 2022). (Fryer and Carpenter, 2006) explained that EFL teachers usually tried to overcome the problems of the lack of interaction with native speakers

by directing the EFL learners to work in pairs or a group. Working in teams or groups leads to interacting with each other using the target language; this technique is always encountered by an inadequate time, a lack of confidence, and inaccurate backwash.

As mentioned by (Kleopatra & Dimitra, 2022), the movement towards applying modern technologies influences EFL learners. An integral approach to AI that can have a conversation is the foundation of educational technology, which is called AI chatbots. AI chatbots are intelligent systems/applications which can communicate with people in different aspects of everyday activities using natural language (NL). AI mobile application chatbots can be found as personal assistants to support learners in achieving their goals. In EFL learning processes, AI chatbots can act as intelligent tutors because they can present teaching materials, stimulate dialogues, provide students feedback about their progress, etc. As a result of the spread of mobile devices, AI chatbots, which are mobile applications, can also play an integral/supportive function to human tutors by responding to queries posed by students and offering direction.

SLA researches have focused on the essential process which puts meaningful practice in the target language first (Gass & Mackey, 2015). However, foreign language learners are offered unequal opportunities for interaction, primarily spoken interaction. (Bibauw & Desmet, 2022) stated that computer-assisted language learning (CALL) researchers spent great efforts exploring using computers as tutors or language companions, announcing these systems as either chatbots, dialogue systems, conversational agents, robots, or intelligent personal assistants.

Learning a foreign language is difficult for students whose first language system is very different from the second language they want to know. Students always encounter cultural variations, pronunciation difficulties, lack of motivation, non-effective feedback, the need to acquire specialized vocabulary, and many other barriers during their studies (Luke & Rollo 2006). Students who learn a foreign language frequently encounter all or some of the general challenges and may be provided with little or no opportunity to practice their language skills outside the classroom.

### 2.3 Using and Organizing AI mobile application chatbots

The majority of Saudi Arabia's English language learners (EFL) do not have access to native speakers or to those for whom English is a daily medium of communication outside of school (Wahyuni & Riau, 2022). Although many EFL instructors have attempted to remedy their students' lack of contact with native speakers by having them work in pairs or small groups to practice communicating in the target

language, this approach has run into difficulties due to factors such as insufficient time, students' lack of confidence, and inaccurate feedback (Fryer and Carpenter, 2006). Chatbots have practical applications for language instructors and students alike. Students of any language should be free to determine when and where they study independently. Based on the demands of the students, the bot can work tirelessly and endlessly. Students in this group won't have to worry about getting nasty looks, comments, or criticism when they make mistakes in front of their classmates or the teacher. Conversely, teachers have limited face-to-face time with students, supplemented by robots that help them with tasks like boosting students' self-esteem and giving them tailored feedback based on their skill levels (Norton, 2020).

When discussing Mayer's principles for generative e-learning (Luke Fryer & Rollo Carpenter, 2020) noted that AI chatbot mobile applications that are developed using learners' input might have an advantage over those programmed more clearly by proselytizing teachers. Most chatbots today get their communication abilities from software that allows them to interact with any user. While recent AI chatbot mobile applications may fall short of what is required to build comprehensive, seamless learners, they can be made far more useful by focusing on specific learners. These days, many people learning English as a foreign language use chatbots built into artificial intelligence mobile applications like Duolingo and Mondly. Some EFL students could gain just from utilizing a feature of the AI mobile application chatbots program that enables the chatbot to focus on continuous questioning even if it isn't part of a language platform. Although EFL adults may tire of a conversation that consists mostly of questions and answers, chatbots built into mobile applications may be an effective tool for EFL children as they acquire and refine their linguistic abilities (Tewari, Brown, & Canny, 2013).

### 2.3.1 Duolingo

Duolingo is, without question, the most popular chatbot-based language-learning software. This chatbot platform is equipped with the appropriate artificial intelligence (AI) algorithms that can comprehend the context of the user and respond to users in a manner that is both contextual and personal, providing varying responses to the same question. enquiry for different users. Duolingo's virtual language teachers are state-of-the-art language learning chatbots. They have helped tens of thousands of people learn a new language without risking social embarrassment by making embarrassing mistakes while speaking to native speakers. At first, the bots could only speak four languages: English, Spanish, German, and French. They can now speak more than 23 languages (and growing). As a result,

Duolingo was recognized as a top language-learning program by PC Magazine.

### 2.3.2 Mondly

In addition to Duolingo and Babbel, Mondly is another great software for learning a new language on your Android or iOS device. Mondly's chatbot can help you learn a new language in one of 33 supported tongues. With the addition of chatbots to their online courses and a voice-activated smartphone app, students now have more ways to express themselves while studying. Helping people with routine tasks, such as ordering drinks at a restaurant. A daily chatbot can speed up your acquisition of rudimentary linguistic competence in a foreign language.

### 2.3.3 Andy

Can you communicate in English, even if it isn't your first language? Your new English instructor, Andy, will help you with drills in this lesson. Andy can help you learn grammar rules, increase your vocabulary with the built-in dictionary, and give you a straightforward platform for everyday chat. Andy is also capable of engaging in linguistic parlour games. Andy is a free app that can be downloaded on Android or iOS. Even though Andy isn't the most advanced chatbot available, it is a solid foundation for beginners learning English.

### 2.3.4 Education consultant Lanny from Eggbun

A little less well-known is Eggbun Education, where you can study Korean, Japanese, or Chinese with the help of a lovely figure named Lanny. Regarding learning a new language, Lanny is "An automated language tutor in your pocket," as the Eggbun website describes. Besides its mobile app, Lanny can be accessed on any web-enabled device. Millions of individuals have used their chatbots (Eggbun: Easy to Learn). Unlike other language-learning chatbots, Lanny will also educate you about the culture and history of the nation where the target language was first spoken. This chatbot app's audio messages enhance your listening and speaking abilities. That's something you can get if you use either Android or iOS.

### 2.3.5 Memrise

Memrise's chatbot software provides lessons in different areas besides language instruction. The 2017 Google Play Awards Best App Prize went to this very app. It supports over 20 languages worldwide and provides clever ways to get readers involved in learning language and vocabulary more naturally. This app can be used on both iOS and Android devices. To facilitate instantaneous learning, this uses object recognition technology. Users can snap a picture of anything and have the app teach them the word for it in their preferred language.



### 2.3.6 Rosettastone

There are more than 25 languages available for study in this app, and they may be accessed from any mobile device at any time. Users can utilize this software to supplement their online and offline studies. This app has web and mobile app counterparts for both iOS and Android. Rosetta Stone uses the TruAccent speech engine to give its users the best possible pronunciation.

#### 2.3.7.1 Babbel

Babbel's lessons are designed by linguists and narrated by native speakers to provide the best possible preparation for using the language in real life. Our speech recognition technology will help you feel more comfortable participating in interactive dialogues and increase your chances of success. By revisiting the material you've studied in different settings, well-constructed review sessions will help you permanently store the information in your long-term memory, ensuring that you'll never find yourself at a loss for words again.

## 3 Methods

This study gathered data using a questionnaire as a data collection device. The questionnaire was created based on the questions of the study to investigate how an EFL learner in a Saudi Arabian primary school can benefit from AI mobile application chatbots. Each item has five degrees which describe participants' responses; the first degree is (Strongly agree), which has received (5) points; then (Agree), which has received (4) points; and (Not sure), which has received (3) points, before the final (Disagree) which has received (2) points and finally (Strongly disagree) which has received (1) point. The questionnaire was distributed online to students in primary schools who have been studying English as a foreign language for about six years.

### 3.1. Participants

This study was conducted online, with a questionnaire distributed to primary school students. The questionnaire was given to 75 students between the ages of twelve and fifteen to participate as a sample and respond to its items. There were no females among the students who took part in this study. All of the students studied English as a major required course of the Saudi Arabia primary school curriculum, which qualified them to enter secondary school. Participants had at least six years of experience using the internet and mobile apps to learn English.

### 3.2 Questionnaire items

The questionnaire contains thirteen items designed to assess learners' understanding of the value of using AI mobile application chatbots to assist and enhance English language learning. The items also assess students' familiarity with using chatbots and their experience practising language through interaction with AI chatbots. Finally, the items investigate the impact of AI chatbots on student grades.

## 4 Results

### 4.1 Responses distribution

Firstly, the student's responses to each item of the questionnaire are statistically analyzed to determine the mean to determine where the centre value is located and to make projections about a baseline level of normalcy among the pupils that fill out the survey. Second, the dispersion of the data is evaluated by computing the standard deviation; this statistic is the measure of how far each observed value differs from the distribution's mean. The percentages of the items are then calculated to determine the highest and lowest to determine the direction of the samples and their ranks. The distribution of the (5) responses to the items is shown in table (1) and chart (1).

Table 1: Students' responses

Item	SA	A	NS	D	SD
In language classes, using chatbots is a good idea.	25	30	11	4	5
I believe that using chatbots will assist me in learning more about the learning content.	27	25	15	3	5
Chatbots will be useful for foreign language learning.	26	29	10	3	7
I believe that using chatbots will help me improve my grades.	25	25	15	6	7
Using chatbots in my language learning will make it more enjoyable and fun.	10	11	12	19	23
I plan to use chatbots to help me improve my language skills.	9	10	11	21	24
Chatbots have an easy-to-use interface.	8	10	12	19	26
After using chatbots, I believe I will become a competent learner.	8	10	10	20	27
Chatbots will be simple to use in language learning.	7	9	14	19	26
The benefits of using chatbots outweigh the drawbacks of not using them.	5	11	14	19	26
I am familiar with and capable of using chatbots.	4	11	15	20	25
Chatbots are simple to use.	4	12	13	21	25
Chatbots will be clear and understandable.	7	8	10	20	30

Chart 1: Students' responses

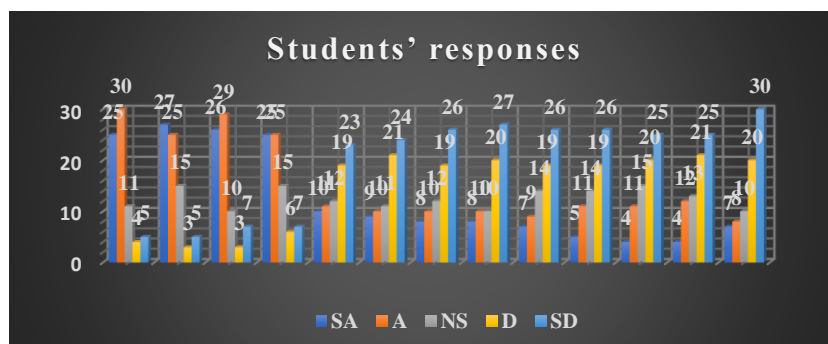


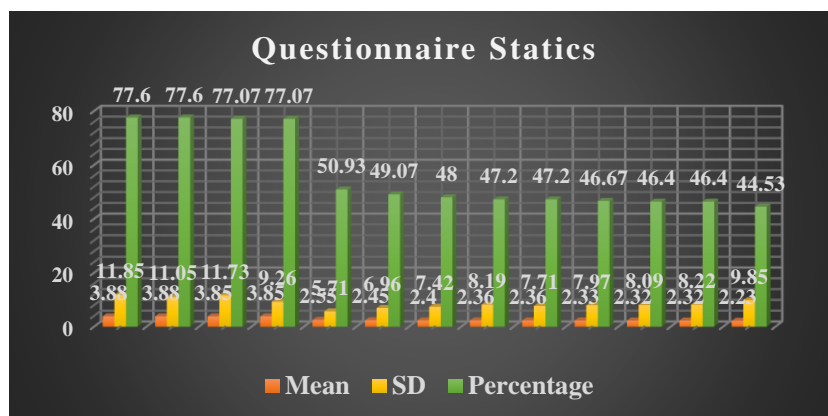
Table 1 and Chart 1 show the distribution of the students' responses to the thirteen items of the questionnaire. Their responses are distributed to the (five) options: strongly agree, agree, not sure, disagree, and strongly disagree, this distribution is the basis for the statistical analysis that was carried out in order to find the mean, standard deviation, percentage, sample directions and items' rank as shown in Table 2 and Chart 2 below.

#### 4.1 Statistical analysis

Table 2: Questionnaire Statics

Item	Mean	SD	%	Sample Direction	Rank
In language classes, using chatbots is a good idea.	3.88	11.85	77.6	A	1
I believe that using chatbots will assist me in learning more about the learning content.	3.88	11.05	77.6	A	2
Chatbots will be useful for foreign language learning.	3.85	11.73	77.07	A	3
I believe that using chatbots will help me improve my grades.	3.85	9.26	77.07	A	4
Using chatbots in my language learning will make it more enjoyable and fun.	2.55	5.71	50.93	D	5
I plan to use chatbots to help me improve my language skills.	2.45	6.96	49.07	D	6
Chatbots have an easy-to-use interface.	2.4	7.42	48	D	7
After using chatbots, I believe I will become a competent learner.	2.36	8.19	47.2	D	8
Chatbots will be simple to use in language learning.	2.36	7.71	47.2	D	9
The benefits of using chatbots outweigh the drawbacks of not using them.	2.33	7.97	46.67	D	10
I am familiar with and capable of using chatbots.	2.32	8.09	46.4	D	11
Chatbots are simple to use.	2.32	8.22	46.4	D	12
Chatbots will be clear and understandable.	2.23	9.85	44.53	D	13

Chart 2: Questionnaire Statics



Learners' responses to the first item (In language classes, using chatbots is a good idea) represent inclination towards agreeing with it because (77.60%) of the learners stated that using AI mobile application chatbot to learn English language is a good idea. The mean (3.88) explains an acceptable response that describes the sample direction as an agreement, but the standard deviation (11.85) shows a strange distribution that indicates more spread out of the data.

Learners' responses to the second item (I believe that using chatbots will assist me in learning more about the learning content.) indicate a tendency to agree with it because (77.60%) of the learners stated that using AI mobile application chatbot to learn English language will enhance their ability to learn about the language contents. The mean (3.88) explains an acceptable response that describes the sample direction as an agreement, but the standard deviation (11.05) shows a strange distribution that indicates more spread out of the data.

The third item (Chatbots will be useful for foreign language learning), displays learner responses that indicate a tendency to agree, with (77.07%) of learners stating that using an AI mobile application chatbot will be beneficial to EFL learning. The mean (3.85), which describes the sample direction as agreement, explains an acceptable response, but the standard deviation (11.73) shows an unusual distribution, indicating that the data is more spread out.

The fourth item (I believe that using chatbots will help me improve my grades) displays learner responses that indicate a tendency to agree, with (77.07%) of learners stating that using an AI mobile application chatbot will help them improve their English language learning grades. The mean (3.85), which describes the sample direction as agreement, explains an acceptable response, but the standard deviation (9.26) demonstrates an unusual distribution, indicating that the data is more dispersed.

Respondents to the fifth item (Using chatbots in my language learning will make it more enjoyable and fun) indicate a tendency to disagree with it because (50.93%) of the learners cannot assume that using AI mobile application chatbot will make EFL learning more enjoyable and fun. The mean (2.55) explains a low number that describes the sample direction as a disagreement, and the standard deviation (5.71) shows an unusual distribution that indicates more data spread out.

The sixth item (I intend to use chatbots to help me improve my language skills) represents learners' responses tend to disagree because (49.07%) of the learners are unable to demonstrate that using AI mobile application chatbot will help them improve their language skills. The mean (2.45) denotes an average that describes the sample direction as a disagreement, whereas the standard deviation (6.96) denotes an unusual distribution that indicates more data spread out.

Respondents to item seven (Chatbots have an easy-to-use interface) tend to disagree because (48.00%) of learners believe that the user interface of AI mobile application chatbot is difficult to use when dealing with it in learning English. The mean (2.40) explains a low number that indicates a disagreement in the sample direction, and the standard deviation (7.42) demonstrates an unusual distribution that indicates more data spread out.

In item eight (After using chatbots, I believe I will become a competent learner), learners' responses display a tendency towards the option disagree because (47.20%) of learners do not believe that they will become competent learners if they use AI mobile application chatbots. The mean (2.36) demonstrates a low number that takes the sample to disagreement direction, and the standard deviation (8.19) illustrates an unusual distribution that indicates more data spread out.

Learners' responses to item nine (Chatbots will be easy to use in language learning) show a preference for the option disagree, as (47.20%) of the learners do not believe that AI mobile application chatbots will be easy to use in EFL learning. The mean (2.36) shows a low number that leads to disagreement, and the standard deviation (7.71) shows an unusual distribution that indicates the spread out of more data.

In item ten (The benefits of using chatbots outweigh the disadvantages of not using them), learners' responses favor the option disagree because (46.67%) of the learners do not agree with the notion that using AI mobile application chatbots compensates for the disadvantage of not using them. The mean (2.33) shows a low number, indicating that the sample is in disagreement, and the standard deviation (7.97) shows an unusual distribution, indicating that there is more data spread out.

Respondents to the eleventh item (I am familiar with and capable of using chatbots) indicate a tendency to disagree with it because (50.93%) of the learners cannot assume that using AI mobile application chatbot will make EFL learning more enjoyable and fun. The mean (2.55) explains a low number that describes the sample direction as a disagreement, and the standard deviation (5.71) shows an unusual distribution that indicates more data spread out.

Respondents to item twelve (Chatbots are simple to use) indicate a preference for the option disagree, with (46.40%) of learners believing that AI mobile application chatbots are not simple to use in EFL learning. The mean (2.33) is a low number that causes disagreement, and the standard deviation (8.22) is an unusual distribution that indicates that more data has been spread out.

Students' responses to item twelve (Chatbots will be clear and understandable) prefer the option disagree, with (44.53%) of learners believing that when used in EFL learning, AI mobile application chatbots will not be clear and understandable. The mean (2.23) is an unusually low number that indicates that more data has been dispersed, and the standard deviation (9.85) is an unusual distribution that indicates that more data has been dispersed.

## **5 Discussion and conclusion**

77.34% of the learners have a clear perception of AI mobile application chatbots; they agree with the concept and explain that using AI mobile application chatbots in language classes is a good idea; they believe that using chatbots will assist them in learning more about language contents, and this will be useful in learning English as a foreign language. They argue that using AI mobile application chatbots will help them improve their grades in academic courses. However, 47.38% of the learners disagree with the notion, saying that using AI mobile application chatbots will make it more enjoyable, and they do not have plan to use AI mobile application chatbots in learning English inside and outside classrooms; they find chatbots difficult to use and neither clear nor understandable because they are not familiar with them.

Artificial intelligence mobile app chatbots can provide an alternative to conventional and virtual classroom settings for English language study. Incorporating a chatbot into English as a Foreign Language (EFL) education implies using it in and out of the classroom to facilitate student learning further. Since no single bot exists to meet all EFL learning objectives, it is important to carefully select or develop bots to meet the needs of individual EFL learning objectives. With the right bot, students will be able to learn when and where it's most

convenient for them, boost their self-assurance, focus on specific areas where they need help, receive immediate feedback, and accomplish more in less time than they would if they only interacted with human instructors and classmates.

The use of chatbots in language learning by artificial intelligence mobile applications is a prime example. In this study, researchers analyzed participants' attitudes toward using chatbots to improve their language skills in the future. Unfortunately, most English as a foreign language students' exposure to chatbots in modern artificial intelligence mobile applications stops with the use of a few incompetent Intelligent Personal Assistants (IPAs). As a result, there is a need for improved training within the EFL curriculum in order to bridge the gap between the level of preparation of language EFL candidates and current advances in the use of AI for language acquisition. Furthermore, to effectively teach languages in the future, teachers need a thorough understanding of chatbots and their benefits and drawbacks.

## 6 Study limitations and future research directions

A few limitations should be stated and demonstrated for future and additional research, such as the distribution of the data collection tool online. Personality traits of participants that may influence results or regional differences are not measured. The sample size in this study was large enough to produce appropriate results after statistical analysis. These limitations will be addressed in my upcoming study. In addition, a study on implementing informal digital learning of English (IDLE) to improve the productive skills of EFL learners will be conducted.

Funding: This research is not funded by any institution

Competing Interests: There is no conflict of interest on the part of the author

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Journal of Namibian Studies, 33 S1(2023): 271–287 ISSN: 2197-5523 (online)

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