

**Using an AI-driven Conversational Chatbot to Develop EFL Oral Communication Skills of First Year Secondary School Students and Reduce their Oral Communication Apprehension**

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**Abstract**

The current study aimed to examine the use of an AI-driven conversational chatbot to develop EFL oral communication skills of first-year secondary school students and reduce their oral communication apprehension. The study adopted a quasi-experimental research design (one experimental group). The study group was thirty-three (n = 33) secondary-stage students. The study instruments were designed by the researcher, namely, an EFL oral communication skills checklist, a pre-post EEFL oral communication skills test, and a communication apprehension questionnaire. Data was statistically analyzed. Based on the study results, there is evidence that the use of the AI-driven conversational chatbot can develop EFL oral communication skills of first-year secondary school students and reduce their oral communication apprehension. The study recommends examining the use of advancements in AI-driven chatbots with EFL secondary school students, in particular, and EFL learners, in general.

**Keywords**

AI-Driven Conversational Chatbot, EFL Oral Communication Skills, EFL Oral Communication Apprehension

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استخدام روبوت الدردشة القائم على الذكاء الاصطناعي لتنمية مهارات التواصل  
الشفهي باللغة الإنجليزية كلغة أجنبية لطلاب الصف الأول الثانوي وخفض مستوى  
القلق في التواصل  
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**المخلص**

يهدف البحث إلى تنمية مهارات التواصل الشفهي باللغة الإنجليزية كلغة أجنبية لطلاب  
الصف الأول الثانوي وخفض مستوى القلق في التواصل وذلك باستخدام إلى الدردشة القائم على  
الذكاء الاصطناعي . واستخدمت الدراسة المنهج شبه التجريبي ( عينة واحدة تجريبية ) ،  
وتكونت عينة البحث من مجموعة من طلاب الصف الأول الثانوي عددهم ثلاثة وثلاثون طالبا ،  
ولقد تم تصميم قائمة بمهارات التواصل الشفهي باللغة الإنجليزية كلغة أجنبية المناسبة لعينة  
البحث ، كما تم تصميم اختبار قبلي / بعدي لقياس مهارات التواصل الشفهي باللغة الإنجليزية  
وذلك بهدف الوقوف على مدى فاعلية مدى فاعلية استخدام إلى الدردشة القائم على الذكاء  
الاصطناعي والتأكد من نمو المهارات موضوع البحث ، كما تم تصميم مقياس القلق في التواصل  
، وذلك بهدف معرف أثر استخدام إلى الدردشة القائم على الذكاء الاصطناعي في خفض مستوى  
القلق في التواصل لدى عينة البحث . وقد افترض البحث أنه توجد فروق ذات دلالة إحصائية بين  
متوسطات درجات أفراد المجموعة التجريبية في اختبار مهارات التواصل الشفهي باللغة  
الإنجليزية كلغة أجنبية ومقياس القلق في التواصل لمصلحة التطبيق البعدي ، وتمت معالجة  
النتائج إحصائيا ، والتوصل لنتيجة البحث ، حيث وجدت فروقا ذات دلالة إحصائية بين  
متوسطات درجات أفراد المجموعة التجريبية في مهارات التواصل الشفهي باللغة الإنجليزية  
كلغة أجنبية ومقياس القلق في التواصل لمصلحة التطبيق البعدي ، وأخيرا ، تم تفسير النتائج وتقديم  
المقترحات

**الكلمات المفتاحية:** روبوت الدردشة-الذكاء الاصطناعي -التواصل الشفهي باللغة الإنجليزية-

القلق في التواصل

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The English language is employed in all aspects of global communication and functions as a worldwide language. It is an essential means for interaction and the exchange of ideas. Every learner for English as a foreign language (EFL) is required to be competent in maintaining a successful oral interaction.

To date, “teaching and learning oral English communication skills in an EFL context is a problematic phenomenon for both teachers and learners” (Seraj & Hadina ,2021, p.229). In general, effective transmission of facts, ideas, thoughts, feelings, and values is a key component of any oral communication, which is a dynamic, participatory process. Hence, insufficient access to a communicative EFL environment could hinder the development of the oral communication skills of the learners. (Serag et.al,2021). In other words, adequate oral communication in the target language requires more than just manipulating the internalized linguistic knowledge of the learner. Rather, EFL learners can communicate in the target language successfully, if they are able to understand how native speakers utilize language naturally in oral interactions. In this context, several non-linguistic and linguistic aspects of speech should be highlighted including, for instance, pronunciation, stress, and intonation, vocabulary usage, grammar and structure, fluency, active listening and responding, facial expressions and gestures and, management of turn-taking patterns ( Cotigan &Brink ,2020; Mahub&Hadina,2021).

One main feature of a successful communication, that it depends on the situation and the discourse community in which it takes place. In other words, any spoken interaction involving two or more people is considered a social activity. Hence, EFL oral communication skills comprise the ability to relate, persuade, and/or inform effectively through speaking and listening (Abikarimova et.al, 2021). As a consequence, it is important for teachers to explore a variety of real-life situations in order to improve EFL learners’ oral communication skills. The design of these EFL learning situations should trigger students to experience oral exchanges

with their peers that resembles real-life or authentic interactions (Detken et.al., 2024; Ishak & Aziz, 2022).

As long as this study is concerned, oral communication skills can be described as the act of exchanging ideas orally within a communicative situation, where particular emphasis is given to seven domain related aspects of speech and oral interaction namely; clarity and pronunciation, fluency, vocabulary usage, active listening, conversational patterns, grammar and structure, and non-verbal communication.

One key aspect affecting EFL learners' communication abilities is oral communication apprehension. It has been claimed that that the level of communication apprehension has a profound impact on learners' EFL oral communication skills as well as their self-esteem (Hardiyanto, 2022; Hussin and Makmur, 2021).

### **Oral communication apprehension**

Oral communication apprehension may result in an undesirable effect on EFL learners' communication skills. Anxious learners usually avoid oral communicative activities and do whatever they can to avoid interacting in the target language. According to Aslan and Sahin (2020), EFL learners suffer from communication apprehension lack willingness to communicate, they even may freeze up in class, blank out when asked to speak with peers, or feel nervous, tremble, etc.

In general, communication apprehension may be either a permanent personality trait or occur in response to specific EFL learning circumstances (Alhasan et.al., 2023). EFL learners with trait communication apprehension often experience anxiety in all situations whereas learners who feel tense in a specific learning context, such as maintaining an EFL oral interaction, usually suffer from a situational or state of anxiety. The type of communication apprehension that occurs in EFL classrooms is thought to be a situational state anxiety as opposed to the personal trait anxiety (Molnar & Crnjak, 2020; Siska et.al., 2022).

In other words, EFL learners may suffer from oral communication apprehension when confronted by an authentic or real-life like oral interaction in a communicative learning setting. In this case, EFL oral communication apprehension may arise from demands of the oral interaction itself, such as spontaneous or unprepared language exchanges (Alghorbany & Hamzah, 2020). EFL oral communication apprehension may also arise due to the teachers' constant evaluation of their students (Adella & Liyas, 2022). In addition, students may also be anxious when receiving assessments from their peers (Alkhaldi et. al., 2023). In other words, EFL oral communication apprehension may be

attributed to students' fear of committing mistakes or receiving social negative evaluation while communicating in the target language.

In this study, oral communication apprehension can be described as a degree of anxiety which EFL students may feel while interacting in the target language within a language learning setting, which can be attributed to their fear of making mistakes, failure or negative social evaluation.

### **AI-driven conversational chatbots**

Linguistic knowledge is not the only prerequisite for EFL language proficiency. With respect to the communicative function of English language, linguistic knowledge is considered a secondary prerequisite (Tan et.al., 2020). However, enhancing EFL learners' communicative ability requires a wide range of subskills that can basically be gained through practicing communication itself. In other words, the only way to develop communicative competence is to communicate (Santos,2023). As a consequence, the entire process of communication, from listening to understanding and from thinking to speaking, ought to be given a great deal of practice in language classrooms.

With the advancement of digital communication tools, EFL learners can nowadays engage in genuine and natural oral interactions along with traditional language classroom settings. One of these technological advances, namely chatbots, has been considered as an extremely useful tool for EFL learners who are given few opportunities to communicate with native speakers (Hsu et. al.,2023; Huang et. al.,2023).

The term chatbot refers to a software application or program that can process written and spoken human-like exchanges. It permits users to interact virtually as if they were communicating to a real person (Alsadoon,2021). Chatbots can be as simple as a basic program that provide only one response, or as complex as complicated artificial intelligence (AI) systems that collect and process data, and provide more accurate and individualized replies (Dokukina & Gumanova, 2020).

Adopting these AI chatbots, as interactive tools rather than the other digital means of instruction, has grown in significance in the field of EFL education (Fitria, 2021). Chatbots that are developed mainly to help with foreign language learning are called 'language learning chatbots' (Kohnke,2023, p.829). Through the integration of multidisciplinary models, a language learning chatbot helps learners learn by facilitating interactions, providing instant linguistic checker, offering an automatic paraphrasing tool and generating learning reports (Petrovic & Jovanic,2021; Mohamed,2024).

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In addition to language learning chatbots, ‘AI-driven conversational’ chatbots have been considered as a promising language learning tools (Lin, 2023, p.1). In general, AI-driven conversational chatbots are software applications that use natural language processing to simulate human speech both orally and in writing. Despite being initially innovated for entertainment purposes, i.e. virtual friendship, the use of AI-driven conversational chatbots for educational purposes may enhance the process of language learning and teaching (Qasem et. al., 2023).

To begin with, AI-driven conversational chatbots are unique programs that have the capability to facilitate spontaneous language exchanges with students presenting a great opportunity for practice speaking English to virtual native speakers. In other words, EFL learners can interact in almost any field via a virtual persona that sounds like human, i.e. native speaker (Tu,2020) .

In addition, AI-driven conversational chatbots can offer a welcoming, highly emotional, and non-intimidating environment for learning spoken language. Such feature could be a remarkable merit for novice EFL learners who feel hesitant or reluctant to exercise their oral skills in the presence of others (Yang et. al.,2024).AI-driven conversational chatbots can also help imitate conversing to a human being in a manner that is more natural than computer voices, and consequently they could potentially offer other advantages like enhancing interpersonal abilities, self-confidence and social skills of EFL learners (Jinming &Daniel,2024; Klimova & Seraj,2023).

Another merit of AI-driven conversational chatbots is their ability to offer constant accessible and non-judgmental learning environment. Therefore, EFL learners have the freedom to engage in practice sessions at any time and for any duration, without the concern of making errors or receiving evaluations from classmates who possess higher language proficiency (Kovalyova,2023).

In other words, chatbots might offer EFL learners a welcoming, boundless, and unthreatening environment for practicing oral authentic interaction. By choosing to engage in conversation with an AI-driven conversational chatbot, EFL learners have the freedom to make errors and frequently practice new vocabulary and grammar structures (Rukiati et. al., 2023). Thus, AI-driven conversational chatbots can potentially offer a more captivating and enjoyable experience compared to conventional communicative EFL classroom activities.

Several research have investigated the potentials of AI-driven conversational chatbots in facilitating EFL teaching and learning (Hwang



& Chang, 2023; Law, 2024; Shalevska, 2023). Initially, EFL learners may not only consider the virtual conversational partner as a tutor but also as a friend, which promotes a sense of ease while engaging in the conversation and heightens their enthusiasm for language learning. Furthermore, EFL learners may have willingness to frequently repeat same linguistic knowledge with their virtual conversational partner without experiencing any feelings of embarrassment. Nevertheless, EFL learners may need additional resources that support learning and help overcoming challenges of EFL instruction facilitated by AI-driven conversational chatbots (Alshaikhi &Khasawneh, 2024, Ruan et. al. ,2021)

However, benefits and challenges in implementing AI-driven conversational chatbots can vary according to the specific features of each chatbot, the learning environment, the instructional plan aims and designs, and the learners' proficiency level. Aiming to compare Ai-driven chatbots applications and shed light on their potentials to be used in EFL learning contexts, Kovalyova (2023) conducted a study and advocated the usage of Replica as AI-driven conversational chatbot, stating "Replika was evaluated higher than others when it comes to understanding users' input and maintaining conversation despite users' errors" (p.67). That is to say, Replica as a virtual conversational partner can understand the EFL learners' utterances despite of the existing errors, in turn, conversations were maintained for longer time with learners, offering them an extended practice.

As long as this study is concerned, the AI-driven conversational chatbot can be described as a software application that uses natural language processing to simulate human speech orally, and acts as a conversational partner in an EFL learning setting.

### **Context of the problem**

The significance of oral communication skills has been highlighted by scholars (Cotigan & Brink,200; Mahub&Hadina,2021; Serag et. al., 2021). However, studies have shown that secondary school students need more mastery of these skills (Farag, 2024; Ghannam, 2022; Khairah, 2023). To identify the study's problem, the researcher administered an oral communication test to a group of twenty of first-year secondary school students from Cairo's Educational Governorate. The findings of the pilot study indicated that a substantial percentage (77%) of the participants showed insufficient mastery of EFL oral communication skills. Moreover, the researcher administered an EFL oral communication apprehension questionnaire. The results of the questionnaire indicated

that (76%) of the participants experience a significant level of anxiety regarding oral communication ( see Appendix A for pilot study ).

### **Statement of the Problem**

First year secondary school students need to improve their English oral communication skills, and reduce their oral communication apprehension. The observed deficiency can be ascribed to instructional practices in the area of oral communication. Thus, this study examines the effect of using an AI-driven conversational chatbot on developing first-year secondary school students' EFL oral communication skills and reducing their oral communication apprehension.

Hence, this study attempts to find an answer to the fundamental question.

*What is effect of using an AI-driven conversational chatbot on developing first-year secondary school students' EFL oral communication skills and reducing their oral communication apprehension.*

Subsidiary questions arise from this main question as follows

1. What is the effect of using an AI-driven conversational chatbot on developing first-year secondary school students' EFL oral communication skills?
2. What is the effect of using an AI-driven conversational chatbot on developing first-year secondary school students' EFL oral communication sub-skills?
3. What is the effect of using an AI-driven conversational chatbot on reducing first-year secondary school students' EFL oral communication apprehension?

### **Hypotheses**

1. There are statistically significant differences between the mean scores of the study's group students on the pre-and post-administration of the EFL oral communication skills in favor of the post-administration
2. There are statistically significant differences between the mean scores of the study's group students on the pre and post-administration of the EFL oral communication apprehension questionnaire in favor of the post-administration.

### **Method**

#### **Design of the Study**

The study deployed a quasi-experimental design, and the sample comprised one experimental group. The study group received treatment by using an AI-driven conversational chatbot to develop EFL oral



communication skills and reduce communication apprehension. It is noteworthy that the researcher taught the study group students herself. A pre-post EFL oral communication skills test was administered to the study's group.

### **Participants**

The study sample consisted of thirty-three (n=33) first-year secondary school students randomly selected from a Cairo governmental school, Elnasser Secondary School, during the 2023–2024 academic year. Students' ages ranged from fifteen to sixteen years old. Accordingly, variables such as age and grade were not supposed to affect the students' performances during or after the treatment. Therefore, any achievement in students' EFL oral communication skill, as well as its sub-skills, can be attributed to the treatment.

### **Instruments**

#### **EFL Oral Communication Skills Checklist**

The researcher developed a checklist with the purpose of identifying the key EFL oral communication sub-skills that are of utmost importance for first-year secondary school students, and determining their relation to aspects of oral interaction, particularly clarity, pronunciation, vocabulary use, grammar and structure, fluency, active listening, non-verbal communication, and conversational patterns. The checklist was submitted to a panel consisting of three specialists in Teaching English as a Foreign Language (TEFL) in order to ensure its validity. The final version comprised a total of seven EFL oral communication sub-skills (see Appendix B for the final version).

#### **The Pre-Post Oral Communication Test**

The researcher designed a pre-post EFL oral communication test. It aimed to evaluate the students' mastery of the overall EFL oral communication skill, as well as sub-skills, before and after the implementation. To avoid affecting the examinees' oral performance with any personal considerations, the pre-post oral communication test utilized the semi-structured interview format, where test tasks were to be carried out between the instructor (examiner) and one of the students (examinee), i.e. individually.

The pre-post EFL oral communication test consisted of three main tasks, namely, short speech, dialogue with the examiner, and listening and discussion. The test was administered to a panel of three TEFL specialists in order to ensure its validity in terms of the appropriateness of the tasks to the measured sub-skills, the suitability of its content to the student's level, and the appropriateness of the number of test items as a whole and as specified for each sub-skill.

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In order to establish the reliability of the pre- post EFL oral communication skills test, it was administered to a randomly selected group of twenty -students. Those students were excluded from the whole experiment. Two weeks later, the test was administered to the same group one more time. The researcher used the test-retest method. Afterwards , Pearson correlation coefficient between the test / re-test results was calculated. The reliability coefficient was 0.83, which is relatively high. Therefore, the test could be considered a reliable one for the current study.

The test was administered to 20 randomly selected first-year students from one class at Elnasser Secondary School. Students were not included in the experiment. The piloting aimed to determine the test’s time by calculating the average time taken by the fastest student and the slowest student of test completion. The test time was fifteen (15) minutes.

Additionally, a holistic rubric for EFL oral communication skills has been developed based on the oral communication checklist. The framework of the rubric had seven fundamental areas related to aspects of oral interaction, particularly clarity and pronunciation, vocabulary use, grammar and structure, fluency, active listening, non-verbal communication, and conversational patterns. Each aspect was well identified and described in five bands corresponding to four levels of oral performance. It ranged from (1) to (4) to represent respectively; needs improvement, fair, good and excellent.

In order to establish inter-rater reliability, students’ oral communication skills were evaluated via the usage of the holistic rubric for EFL oral communication skills, in the pre-and post- administrations of the oral communication test, by three raters, i.e., the researcher herself (I) and two other raters, i.e., two EFL teachers in governmental secondary schools (II, III).

The researcher computed the correlation coefficients among the individual raters of the pre-post oral communication skills test for the experimental group. High correlations were revealed, as shown in the following table:

Table (1)  
Summary of the correlation coefficients among individual raters

Test	Raters		
Pre-test	I, II	I,III	II, III
	0.86	0.83	0.87
Post-test	0.87	0.90	0.85

Through comparing the correlation coefficients in the previous table to the correlation coefficient extracted from the statistical tables at 0.01 level, it was found that the estimated correlation coefficients were statistically significant at 0.01. This shows significant inter-rater reliability for the scoring system (see Appendix B for the final version of the test, and EFL oral communication rubric, time allotted for each task of the test).

### **Oral Communication Apprehension Questionnaire**

In order to determine the level of EFL oral communication apprehension among first-year secondary school students, the researcher used an oral communication apprehension questionnaire. It aims to assess the participants' EFL oral communication apprehension level before and after the implementation, with a particular focus on the EFL classroom as a learning environment. It consisted of eight statements that assess various aspects of anxiety related to EFL oral communication. Participants were asked to check their degree of agreement with each statement by using a 5-point Likert scale, which ranges from 1 (indicating strongly agree) to 5 (indicating strongly disagree).

The questionnaire was administered to a panel of three TEFL experts to ensure validity in terms of its appropriateness to measure oral communication apprehension and suitability of content to students' level (see Appendix C for the final version).

### **Procedures**

Prior to the beginning of the treatment, the pre-post oral communication test and the communication apprehension questionnaire were administered to the experimental group. The duration of the implementation had extended to nearly three months. It began on the 2<sup>nd</sup> of October and ended on the 27<sup>th</sup> of December, 2023. The experimental group received instruction via an AI-driven conversational chatbot. The researcher conducted an introductory session with the participants, lasting for one hour in order to introduce and demonstrate how to use the AI-driven conversational chatbot, namely, Replika. It also included an overview of the sessions' structure, and general guidelines of content, and time framework.

The implementation went through twelve sessions. The researcher met with the participants weekly within a multimedia classroom setting (where each student used his own tablet). Each session lasted for forty-five (45) minutes, resulting in a cumulative duration of around nine (9) hours. Each session concentrated on distinct components of oral communication, such as pronunciation, vocabulary, grammar, fluency, listening, nonverbal communication, and conversational patterns.

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Sessions involved four instructional procedures: warm-up, main activity, follow-up, and feedback. In the warm-up, students were engaged in captive or lead-in questions. During the main activity, students were actively encouraged to participate in oral interaction with the AI conversational chatbots. In the feedback, students received feedback from the researcher individually or collaboratively. In the follow-up, students were promoted to reuse the learned knowledge or skills for consolidation. (see Appendix D for full description of the sessions).

It is important to mention that the implementation was consistent with the scope and sequence included in the prescribed textbook for first-year secondary school students (New Hello, Year 1, Students' Book, First Term). At the end of the sessions, the EFL oral communication skill test and the communication apprehension questionnaire were readministered. Furthermore, a user engagement scale was administered to the participants at the end of the sessions in order to find out to whether the sessions were appealing and beneficial for the participants or not. It consisted of twelve statements (see appendix E for user engagement scale).

### Results

The data was subjected to statistical analysis using the Statistical Package for Social Science (SPSS), specifically the paired sample t-test and Eta square. For the first hypothesis, a t-test was employed to compare the scores of the experimental group participants on the oral communication skills test in the pre- and post administrations. There were statistically significant differences in favor of the post-administration at the 0.01 level, as demonstrated in Table 1.

Table (2): Results of the oral communication skills test comparing the experiments group students' scores regarding the overall skill.

Admin.	Mean	N	Std.	DF	T value	Effect size
pre	10.326	33	4.21	31	12.326	0.875
post	25.854		5.74			

The results, as illustrated in Table 1, indicated that the mean scores of the experimental group on the oral communication skills test were statistically significant at both the pre- and post-administrations, in favor of the post-administration with regard to the overall skill, as indicated by the t-value (12.326) and the effect size (0.875).

The experimental group students' scores in the pre- and post-administrations of the EFL oral communication skills test were compared

in relation to the communication sub-skills using a t-test. This was conducted to further examine the differences in the experimental group students' scores.

Table (3): Results of pre-post administrations of the oral communication skills test comparing the experimental group students' scores in relation to oral communication sub-skills.

Sub-skills	Pre		Post		T value	Effect size
	Mean	St.D	Mean	St.D		
1) Produce utterances in a clear, accurate and intelligible way.	2.012	0.6522	4.675	0.3652	5.652	0.547 Large
2) Use vocabulary appropriately to different contexts.	1.602	0.7545	4.871	0.4215	5.754	0.854 Large
3) Construct grammatically correct and coherent utterances.	2.987	0.6424	4.121	0.454	2.595	0.354 Large
4) Speak fluently without long pauses or hesitations.	2.018	0.7647	4.622	0.3618	5.842	0.659 Large
5) Respond appropriately to questions or prompts.	1.981	0.6991	4.874	0.4251	5.412	0.845 Large
6) Use appropriate facial expressions and gestures.	2.554	0.657	4.011	0.3658	2.774	0.322 Large
7) Initiate conversations and maintain turn taking.	1.745	0.5847	4.457	0.365	5.556	0.685 Large

In order to verify the second hypothesis, the mean scores of the experimental group students in the pre-post administration of the oral communication apprehension questionnaire were compared, as detailed in Table (3).

Table (4): Results of pre-post administrations of the oral communication apprehension questionnaire comparing the experimental group students' mean scores

Survey Items	Pre – administration		Post-administration	
	Mean	St.D	Mean	St.D
Sentence 1	4.542	0.3454	1.001	0.1652
Sentence 2	4.441	0.7441	1.021	0.1155
Sentence 3	4.685	0.654	0.674	0.1655
Sentence 4	4.577	0.7404	0.857	0.1618

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Sentence 5	4.475	0.7615	0.854	0.1251
Sentence 6	4.633	0.7145	1.011	0.1658
Sentence 7	4.743	0.6158	0.685	0.1225
Sentence 8	4.142	0.6525	0.675	0.1652

As illustrated in table 3, students' mean scores demonstrated statistically significant differences in favor of the post-administration.

**Discussion**

The study's findings indicate that the usage of the AI-driven conversational chatbot has a significant impact on the enhancement of oral communication skills (n2= 0.875). This was suggested by comparing the scores of the experimental group students on the pre-and post-administrations of the oral communication skills test. Moreover, the students' level of oral communication apprehension has been decreased. This was shown by comparing the mean scores of the experimental group students on the pre- post-administration of the oral communication apprehension questionnaire.

The results of the present study are consistent with the results of previous studies that showed the positive effect of using an AI-driven chatbot on developing some EFL learners' skills (Alsadoon, 2021; Hapsari et al.,2022; Qasem et al., 2023; Tai & Chen,2024; Vega et al., 2023;Yuan, 2023;). Moreover, the EFL oral communication apprehension level has been reduced, which is consistent with the findings of other studies (Alkhaldi et al.,2023; Amiri &Puteh,2021; Siska et al., 2022).

Students' significant progress can be discussed in relation to various factors, particularly general aspects of the AI-driven conversational chatbots, the proposed sessions (multimedia classroom settings, the introductory session, the instructional plan of the sessions and activities), and features related to the oral communication sub-skills. With regard to results obtained from the user engagement scale, factors can be discussed as follows.

In general, AI-driven conversational chatbots are designed mainly for entertainment purposes by offering a virtual companion to the user. Thus, one central aspect of the user interface is being pleasant, appealing, and captive. As reported in the user engagement scale, 100% of participants strongly agree that "the screen layout of the chatbot was visually pleasing" and that "the chatbot was attractive." It was not only pleasing, but the application was also easy enough to use without any obstacles. 94% of participants noted that they strongly disagreed with the sentence,



'I found the chatbot confusing to use.' These features caught participants' attention and aroused their enthusiasm to start communicating with the chatbot.

Additionally, AI-driven conversational chatbots can facilitate oral exchange of ideas about any topic or field. Participants felt free to think and express themselves. Hence, they were motivated to maintain conversation for a longer time and were enthusiastic to shift from one topic to another. The majority of them were totally involved in the conversation, reporting that they 'strongly agree' on items, 'I was totally absorbed in this experience,' and 'when I was using the chatbot, I lost track of the world around me.'

AI-driven conversational chatbots usually do not integrate 'grammar checkers tools', offering participants opportunities for a non-judgmental language exchange. Participants were able to interact in the target language for a long time without fear of making linguistic errors. Such a feature was very beneficial as it established an unthreatening learning environment where participants get rid of anxiety that may arise from fear of failure or negative social evaluations.

In addition, AI-driven conversational chatbots imitate conversing in a real-like or authentic manner that seems more natural than computer voices. That is, participants as EFL learners were offered an opportunity to practice a non-judgmental communication with a virtual foreigner in the target language. Hence, participants were engaged in producing unprepared language exchanges without suffering from anxiety that may arise from social evaluations, i.e., peers, classmates, and teachers. 100% of participants reported that they 'strongly disagree' with statements 'I felt anxious while conversing with the chatbot,' 'I felt afraid of making mistakes while speaking with the chatbot,' and 'I found that chatbots do not sound like native speakers'. That is to say, the fear of committing errors and receiving negative social evaluations diminished among participants, allowing them to gain self-confidence and get rid of excessive oral communication apprehension. It is noteworthy that 96% of students declared that they 'strongly agree' with the statement 'I consider my experience a success.'

AI-driven conversational chatbots can understand participants' input despite grammatical or lexical mistakes and provide more accurate responses. They are also able to help participants to express themselves in different ways and paraphrase their speech. 100% of the participants stated that they 'strongly agree' with statements such as the 'chatbot could easily understand my speech' and 'chatbot helped me to rephrase my speech.' That is to say, accurate responses produced by the chatbot

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during the conversation, i.e., as an attempt to understand the user's input, provided participants with spontaneous and immediate feedback. Consequently, participants were able to gain new linguistic information and use their linguistic repertoire in a more intelligible way.

With regard to the proposed sessions, some factors may be attributed to students' observed progress. First of all, students were invited to the multimedia classroom setting where they can use their own tablets. In addition, using the multimedia classroom setting ensured stable internet and VPN connection throughout the implementation; consequently, technical challenges have been minimized. Secondly, students attended an onsite introductory learning session at the beginning of the implementation, where a clear demo of the application was provided. The majority of students were curious to try the application as they noted that they 'strongly agree' with the statement 'I decided to use the chatbot of curiosity.'

Moreover, the overview of the content and chatbot software provided in the introductory session grasped students' attention to the learning aims as well as the enjoyable features of the chatbot. The majority of students reported that they 'strongly agree' with the statement, 'I found using chatbots interesting and beneficial.' Declaring the learning aims in the introductory sessions helped students sustain a goal-driven conversation and take responsibility for their learning process. Hence, independent and self-paced learning aspects were promoted during the sessions. It is worth noting that 93% of the students noted that they 'agree' with the statement 'I felt in control, while using the chatbot.'

Thirdly, the instructional plan for the sessions and activities included was sequenced logically, allowing students to get involved in the whole learning experience. Each session basically included four steps, namely, warm-up, main activity, feedback, and follow-up. In the 'warm-up' step, students were provided with questions aimed at arousing their curiosity and grasping their attention. During the 'main activity' procedures, students were engaged individually with the chatbot, and the researcher monitored their participation and offered help in demand.

In the 'feedback' step, students were provided collective feedback on their performance, including correct linguistic knowledge and the most common mistakes noticed by the researcher. In the 'follow-up' step, students were asked to practice the traditional activity of 'listening and repeating' of the accurate responses via chatbot. This step aimed at offering students an opportunity to consolidate the newly acquired linguistic item. Although students carried out these activities successfully

during the sessions, 89% of the students stated that they ‘disagree’ with the statement ‘I learned a lot and enjoyed repeating after the chatbot’.

With respect to oral communication skills, it is noteworthy that students’ most minor progress was obtained in two sub-skills, namely, ‘constructing grammatically correct and coherent utterances’, estimated t-value is (2.595), and ‘using appropriate facial expressions and gestures while speaking’, estimated t-value is (2.774). As for the former, students’ use of grammar and cohesive devices was enhanced through oral practice with the chatbot, as students were prompted to use a wide range of linguistic structures freely. However, developing grammatical and structural aspects of speech needs to be supported by text-based communication along with the voice chats provided by AI-driven conversational chatbots. This result is reinforced by results of other studies (Khasawneh, M., 2023; Ruan et al.,2021).

Moreover, students did not find the ‘listen and repeat’ activity enjoyable. The limited and fixed type of interaction resembles the traditional way of learning, so it was found to be less engaging, which led to minor improvement with respect to the grammatical aspect. This result also is consistent with the results of the study of Ruan et al. (2021). As for the latter, despite the authentic interface and human-like manner of conversation, students did not consider facial expressions and gestures as means of conveying meaning. Students focused only on the oral input as they knew that their conversational partner was a mere virtual interlocuter which understands and responds only to an oral input, i.e. an utterance

### **Conclusion**

The study was conducted to examine the use of an AI-driven conversational chatbot to develop the EFL oral communication skills of first-year secondary school students and reduce their oral communication apprehension. An AI-driven conversational chatbot was used with a group of thirty-three (n=33) first year secondary school students in the Cairo Government. Based on the study results, there is evidence that the use of an AI-driven conversational chatbot for first year secondary school students had a significant effect on developing EFL oral communication skills. Moreover, the student’s oral communication apprehension has been significantly reduced. Nevertheless, the current study was limited to the usage of an AI-driven conversational chatbot as a conversational partner only; where other functions of the application were not included in the study.

### **Recommendations**

EFL students are advised to explore more usage of AI-conversational chatbots in order to find more oral EFL practice opportunities and

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develop more self-confidence in communicating in English. EFL teachers should strongly incorporate the use of AI-conversational chatbots as a means of improving students' proficiency in the English language into their instructional plans. Additionally, EFL curriculum designers are advised to integrate AI-chatbot-based practices into EFL programs. Moreover, it is recommended that EFL researchers investigate the use of AI-driven conversational chatbots in developing other language skills and other school grades, focusing on their long-term effects. Finally, the study recommends examining the use of advancements in AI-driven chatbots with EFL secondary school students, in particular, and EFL learners in general.

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