

Using *AI Chatbot Doulingo*-based activities to develop the Egyptian preparatory school students' English oral skills

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Abstract

The present study explored the effectiveness of using the *AI chatbot Doulingo* on enhancing the oral English skills of Egyptian first year preparatory school EFL students. The 64 participants were randomly selected and equally divided into a control group and an experimental group with 32 participants each. The elicitation of data was administered through the use of English oral skills pretest and posttest. The two groups received training to develop their English oral skills, but differed in the method of instruction. The experimental participants were taught using *AI Chabot Doulingo*-based activities where the control group received regular instruction. As for data analysis, the current study employed the paired samples t-test and the independent samples t-test. The findings showed higher development of the experimental students' English oral skills vis-à-vis their control group counterparts. In terms of pedagogical implications, the current study recommended the integration of *AI chatbot Doulingo* instruction for the purpose of teaching English as a preparatory school subject and for developing the Egyptian FL students' English oral skills.

Keywords: *Chatbot Doulingo*, English oral skills, Egyptian students, preparatory schools, implications

إستخدام الأنشطة القائمة على الذكاء الإصطناعي للتشات بوت دولينجو لتطوير المهارات

الأنجليزية الشفهية للطلاب المصريين بالمرحلة الإعدادية

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الملخص

تم إجراء الدراسة الحالية بأستكشاف أثر إستخدام الأنشطة القائمة على الذكاء الإصطناعي للتشات بوت دولينجو لتطوير المهارات الأنجليزية الشفهية للطلاب المصريين بالصف الأول الإعدادى ، و تم إنتقاء أربعة و ستون مشارك عشوائيا للمشاركة فى هذه الدراسة و تقسيمهم بالتساوى على مجموعتين ضابطة و تجريبية حيث ضمت كل مجموعة 32 طالبا، و تم جمع البيانات البحثية بإستخدام الأختبار القبلى و البعدى للمهارات الإنجليزية الشفهية، و قد تلقت المجموعتان تدريبا لتطوير المهارات الإنجليزية الشفهية و لكن بإختلاف طريقة التدريس، و بينما درست المجموعة الضابطة المحتوى التدريبي للمهارات الإنجليزية الشفهية بإستخدام الطريقة التقليدية فإن المجموعة التدريبية درست نفس المحتوى بإستخدام الأنشطة القائمة على الذكاء الإصطناعي للتشات بوت دولينجو ، و فيما يتعلق بتحليل البيانات البحثية، أستخدمت الدراسة الحالية أختبار "ت" للعينات المقترنة و أختبار "ت" للعينات المستقلة، و أوضحت النتائج التطور الأفضل للمهارات الأنجليزية الشفهية لطلاب المجموعة التجريبية مقارنة بنظرائهم فى المجموعة الضابطة، و فيما يتعلق بالمضامين التربوية أوصت الدراسة الحالية بدمج التدريس بإستخدام الأنشطة القائمة على الذكاء الإصطناعي للتشات بوت دولينجو لغرض تدريس مقرر اللغة الإنجليزية بالمدارس الإعدادية و لغرض تطوير المهارات الإنجليزية الشفهية للطلاب المصريين الدراسين للغة الإنجليزية كلغة أجنبية.

الكلمات المفتاحية: ، التشات بوت دولينجو ، المهارات الإنجليزية الشفهية، الطلاب المصريين ، المدارس الإعدادية ، مضامين

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Introduction

The mastery of English oral skills represents a challenge for the foreign language (FL) students since these skills entail comprehension of the spoken language and production of accurately proper reply. These skills occur in an interactive exchange in real-life situations between listening and speaking skills based on the semantic interpretation of the meaningful messages. The pedagogical importance of these skills in English language learning dwells on reflecting the FL students' ability to properly employ the systems of English grammar and sounds in producing meaningful utterances and communicative messages. At the digital age, the advanced technology characterizes the world at present. It has changed the modes of oral interaction whose skills the FL students are required to acquire, learn and practice.

In this regard, Ella and Dapudong (2014), Yundayani, Abdullah, Tandiana and Sutrisno (2021) and Bilotserkovets, Fomenko, Klochkova, Shcherbyna, and Korniienko (2022) clarified that FL students are expected to develop their English oral skills especially when knowledge of English language is a main component of their school achievement. They are also expected to provide and exchange new information, give explanations, express opinions and be involved in mutual conversations.

In addition, Alghail and Mahfoodh (2019) explained that FL first year preparatory school students are particularly in a dire need to master expressions and definitions included in their FL curriculum. Learning of such expressions and lexis should be sustained in the FL academic syllabi. According to Darmi, and Albion (2017), the first year preparatory school FL students' familiarity of these expressions and definitions constitutes a fundamental part of their required English oral skills. Thus, the mastery of English oral skills bears pedagogical merits for the FL students' school achievement. In addition, Bruner, Sinwongsuwat, Bojanic, and Radic-Bojanic (2015) and Sanad (2021) recommended that FL teachers should explore the latest advanced technological applications to enhance their students' English oral skills on the one hand and sustain their motivation, encouragement and self-confidence on the other hand. Duong and Nguyen (2021) called for further studies on the expected drawbacks that might result from using the

AI-assisted applications in teaching English among the university students.

The current study defines English oral skills as the ability to speak English accurately, properly and fluently among foreign language (FL) students. It is the first productive skill which sequentially emanates from their comprehension of the spoken language. Such a skill is interchangeably termed as speaking, communicative, or oral skill. It involves accuracy in the sense of accurate production of English inventory system covering the English phonemes of consonants, vowels, diphthongs and triphthongs. In terms of properness, it entails the ability to use English grammar rules properly in producing the spoken language. It also includes the component of fluency in an imitation of the native-like production of spoken English. Mastering the sub-categories of speaking skill is important at the individual level of FL students since these sub-categories sustain their self-confidence, language proficiency, and school achievement. The importance of improving the English oral skills of FL students crystalizes a main goal of the Egyptian Ministry of Education. Pedagogically, the enhancement of English oral skills among Egyptian FL students poses challenges due to its complex structure necessary for attaining and learning the cognitive components of accuracy, properness and fluency.

The Egyptian EFL Context

In the Egyptian context of FL teaching, there have been various recent calls for empowering the FL instruction and learning among Egyptian EFL learners at different levels by exploiting artificial intelligence (*AI-assisted*) applications. Abdalkader, Gheith and Abd Alkafy (2022), and Marghany (2023), Qoura and Elmansi (2023) emphasized the importance of applying the *AI-assisted* instruction in the Egyptian FL teaching and learning context. Abdalkader, et al. (2022) asserted the pivotal role which *AI* applications can do in improving the preparatory school students' writing skills. Marghany (2023) highlighted the influential effectiveness that *AI-based Grammarly* has in developing the tertiary students' essay writing skills. Qoura and Elmansi (2023) called for a wider implementation of *AI-assisted* applications in teaching and learning the FL skills in Egypt. Therefore, there is a need to examine the impact of utilizing *AI chatbots* on developing the Egyptian first year preparatory school FL students' English oral skills. This need is justified based on the fact that those Egyptian FL students are required to study English as a preparatory school subject. They are also expected to have

good English oral skills and good English proficiency levels in accordance with the main pedagogical goals of the Ministry of Education.

Statement of the problem

In line with the Egyptian Ministry of Education' goals of enhancing the English proficiency levels of Egyptian FL students, the present study explored the effectiveness of using the *AI chatbot Doulingo* on enhancing the oral English skills of Egyptian first year preparatory school EFL students. In other words, it investigated the potential effectiveness of employing an *AI-assisted* application, i.e. *chatbot Doulingo*, on enhancing the first year preparatory school preparatory-school Egyptian students' English oral skills compared to the lecture traditional method. The examined English oral skills include the participants' ability to produce accurate pronunciation of English vocabulary, proper usage of English grammar rules in the spoken English, and proper selection of vocabulary suitable for the spoken context. The examined English oral skills also encompass the ability to understand and reply to the oral spoken English message and converse in English fluently.

Questions

The present study handled the following questions:

1. What is the difference between the control and experimental groups' English oral skills in the pretest?
2. How do the English oral skills differ between the examined groups in the posttest?
3. To what extent is the *AI chatbot Doulingo* effective in enhancing the experimental participants' oral skills compared to the traditional method in the case of the control group?

Hypotheses

Essentially, the current study sought the verification of the following null hypotheses:

1. The control and experimental groups do not differ in the performance in English oral skills pretest.
2. The two groups have similar English oral skills in the posttest.
3. In comparison to the traditional method, the *AI chatbot Doulingo* is not an effective digital learning application in enhancing the experimental participants' English oral skills

Aims

The present study aimed to explore:

1. The difference between the control and experimental participants' English oral skills in the pretest.

2. The statistically significant differences that may exist between the two examined groups' English oral skills in the posttest.
3. The effectiveness of employing the *AI chatbot Doulingo* in enhancing the experimental participants' English oral skills vis-à-vis the traditional teaching method applied to the control group.

Significance

The present study is significant since it is considered as enrichment to the literature of FL learning in general and in Egypt in particular. Its significance is also related to describing how the Egyptian first year preparatory school students' English oral skills can be developed. In this regard, the present study highlights the influence of using advanced technology, in terms of the *AI chatbot Doulingo*, on the development of Egyptian first year preparatory school students' English oral skills. As such, the present study is compatible with the goals of Ministry of Education to improve the preparatory-school students' FL proficiency. The current study is also significant because it bears pedagogical implications for the process of teaching English as a FL in the Egyptian preparatory schools.

Delimitations

The results and findings of the current study are expected to guide the process of teaching English oral skills in the Egyptian preparatory schools. It also hoped that those results and findings can also provide insights into the teaching of other English skills necessary for developing the language proficiency of Egyptian FL students at different educational levels.

Literature review

Theoretically, the present study is based on the conceptual framework of Siemens' (2005) learning theory of connectivism. Siemens (2005) points out that advanced technology has dominated the scene of foreign language in contrast to other learning theories of behaviourism, constructivism, and cognition in the digital age. One of the essential characteristics of digital age technology is the utilization of *AI-assisted* applications among FL students. Consequently, the utilization of *AI-assisted* applications to develop FL students' English oral skills is a necessity. This exploration can be accounted for based on the *AI-assisted* applications facilities of producing authentic learning sources besides the chatting rooms for student-student communication and student-teacher communication. According to Tamm (2019), *AI chatbots* have become

an increasingly popular learning applications since the coronavirus outbreak because of its advantages. The *AI chatbots* provide numerous advantages such as sharing student-student or student-teacher uploaded files, making video conferences and/or calls, and sending instant messages.

Al-Fuhaid (2021) discussed the effect of utilizing the *AI chatbot Doulingo* on developing the ability of 28 Saudi secondary school students to speak English fluently. The study was conducted in an attempt to enhance the Saudi secondary school students' proficiency of speaking English. Data were elicited via the means of a pretest and a posttest of English language speaking fluency. The 14 experimental students were trained for four months to improve their English speaking fluency by being exposed to the *AI chatbot Doulingo*. On the other hand, the 14 control students studied that fluency of speaking English in traditional classes for the same period of time. Al-Fuhaid found that the utilization of the *AI chatbot Doulingo* not only essentially contributed to the development of experimental group's English speaking fluency but also improved their overall English achievement. Such utilization also lessened the anxiety which the experimental participants used to experience when speaking English. In other words, the utilization of *AI chatbot Doulingo* improved the English speaking proficiency of the experimental group and developed their self-confidence so as they became less anxious when practicing English speaking skills. On the contrary, the control group was unable to attain the same level of fluency attained by the experimental participants. The control group was unable during the traditional classes to hold conversations with native speakers and their fears of speaking English were increased due to the lack of practicing English speaking skills.

Binu (2022) investigated the effect of using the *Private Chat* on improving the FL communication skills of five introverted students. The five technology-majoring participants studied English as an ESP requirement course in *Al-Munssanah University of Technology and Applied Sciences, Oman*. The instruments of interviews and observation were utilized for collecting data. Data elicitation relied on semi-structured interviews and observation. Initially, the selected participants showed reluctance to communicate with the ESP instructor through using the *Private Chat*. The ESP instructor encouraged the engagement of selected participants in reciprocal interaction through the initiation response feedback. The ESP instructor restored to the individual interaction with the selected participants. Observation revealed that the participants' communication through the *Private Chat* was marked by

inability to utter a complete sentence either by using separate words or incomplete clauses.

The repetition of *Private Chat* communication helped the participants to be adapted to hold oral communication with the ESP instructor. The participants showed gradual better improvement in their ESP achievement. Positively, the use of *Private Chat* led to improving the participants' ESP performance as they were able to enhance their English communication skills the feedback received from the ESP instructor through the *Private Chat*. The participants showed improved oral responses to the ESP instructor's corrections and better ability of self-correction in a practical Implementation of the received feedback through the *Private Chat*. In addition to reinforcing the participants' confidence in speaking, communicating and interacting in English, the employment of *Private Chat* also had a positive effect on decreasing the affective barriers of learning represented in the feelings of being afraid, anxious, and embarrassed in learning English.

Nita, Sari, Sussolaikah and Risky (2023) conducted a qualitative study investigating the perception of thirty Indonesian users of *Doulingo* tool for the purpose of learning English. Data were collected through the instrument of closed questionnaire. Nita et al., found that majority of the participants affirmed the usefulness of using *Doulingo* tool in developing their English language skills. There are several benefits of using *Doulingo* tool for learning English because these benefits are not restricted to develop some English language skills. Indeed, *Doulingo* tool is suitable for developing all English language skills due to its provided written and verbal feedback. The tool *Doulingo* sustains the learning of various language functions. It facilitates the learning and memorization of FL vocabulary through its games. It helps improve FL pronunciation and enhance comprehension of FL grammar rules. The benefits of using *Doulingo* tool are also extended to support its users' stimulation and motivation to learn English. It also sustains autonomous learning because users are freed from the teacher's instructions and the strict classroom rules; they can learn English autonomously. Nita et al., noted that users utilize other social media networks along with *Doulingo* tool to optimize the maximum learning benefits.

Pelaez-Sanchez and Velasquez-Duran (2023) examined the effect of using the *AI chatbot Doulingo* on developing the linguistic skills and communicative skills of forty Mexican university students. The collection of data depended on the employment of a pretest and a posttest to measure the development of these two dependent variables, i.e. linguistic

skills and communicative skills. The *AI chatbot Doulingo* offers activities that can help develop different linguistic skills. It includes activities suitable for the development of vocabulary, pronunciation, grammar, translation from and into the target language, air-word activities which require students to match L1-written words into their target language equivalents. Pelaez-Sanchez and Velasquez-Duran asserted that the *AI chatbot Doulingo* had largely positive impact on developing the linguistic and communicative skills of the experimental group in comparison to those of the control group. According to the researchers, the deep improvements were visibly apparent in the experimental group's phonological and written linguistic features. Although the control group's linguistic and communicative performance also witnessed improvement but it was largely behind that of the experimental group.

Qiao and Zhao (2023) investigated the effectiveness of using the *AI chatbot Doulingo-assisted* instruction to develop the English speaking skills of 93 Chinese learners of English. The participants studied English conversation courses and general English courses at different language institutes in China. They were assigned into a control group and an experimental group. The two groups had to sit for English speaking skills pretest and posttest. The control group attended virtual classes to learn English speaking while the experimental group studied English speaking by using the *AI chatbot Doulingo*. Qiao and Zhao emphasized that the experimental group achieved better improvement of the English speaking skills in comparison with the control group which traditionally studied those skills. Qiao and Zhao explained that the improvement of experimental participants' English speaking skills is attributed to the use of *AI chatbot Doulingo*. Such an *AI-assisted* application offers various exercises that enable FL learners to improve accuracy while speaking English in terms of vocabulary usage correct pronunciation and proper usage of English rules of grammar. More precisely, the prompt feedback provided by the *AI chatbot Doulingo* empowered the experimental group' speaking skills of fluency and accuracy. Thus, the experimental group obtained suitable feedback for enhancing of the components of their speaking skills. Qiao and Zhao clarified that the *AI chatbot Doulingo* greatly affected the experimental participants' motivation to learn English speaking skills. It created a suitable learning environment in which the experimental students enjoyed the journey of learning through which they were able to overcome challenges and difficulties that impede their progress in learning English speaking skills.

Method

Research design

The present study adopted the pretest and posttest research design with the employment of the mixed method of quantitative and qualitative analysis (Bruner, et al. 2015, Bunjan and Suppasetserree, 2017, Fraenkel and Wallen, 2019, and Marghany, 2023). The quantitative analysis includes the use of paired samples T-test and the independent samples T-Test. The qualitative analysis described the control and experimental participants' performance in the pretest and posttest of English oral skills.

Participants

The participants comprised sixty four first year preparatory school Egyptian FL students. The control and experimental participants were homogenous as their age ranged between 11 and 13 years old. Out of the 32 control participants, 18 students were females and 14 students were males. The experimental group comprised 20 female students and 12 males. All participants belong to middle social class registering in a prestigious private school located in October 6 district. They are affiliated to educated parents and families as registered in the school records. All participants represent the product of Egyptian basic private schools spending equal years of studying English (Table 1). The study was conducted in the first term of the school year 2023-2024.

Table 1: Distribution of participants

Items	Control Group	Experimental Group
Age	11-13	11-13
Females	18	20
Males	14	12
Years of studying English	8	8
Parents' education	Educated	Educated
Social Class	Middle	Middle

Data collection instruments

The English oral skills test consists of ten scenarios derived from the English textbook taught to first year preparatory school students, namely New Hello Student's Book (Appendix A). The test examined the students' oral skills in terms of oral language accuracy covering proper articulation of English vocabulary, correct selection of suitable words to convey spoken messages and correct usage of grammar rules. It also tested the students' ability of understanding and replying to the spoken messages.

Procedure

The English oral skills of students involved in both groups were tested by administering the English oral skills pretest and posttest. Students were asked to work in pairs for the purpose of performing ten scenarios selected from *New Hello Student's Book*. Oral performances of all students were recorded and then transcribed for the purpose of data analysis. The administration of the pretest and the posttest lasted for four sessions each. Each session spanned forty five minutes where four pairs of students (eight students) were tested. The researcher was assisted by two student-teachers for the purposes of organization and keeping discipline. After the pretest administration, students taking part in the experimental class were instructed to upload the *AI chatbot Doulingo* application at <https://blog.duolingo.com/duolingo-max/>. The experimental students were trained over ten weeks on performing oral English dialogues by using the *AI chatbot Doulingo*. The topics of dialogue based activities were all selected from the first year preparatory school student's book (Table 2). Meanwhile, the students placed in the control group studied English oral skills through the utilization of the traditional lecture method. The total test mark is one hundred marks where each scenario was graded out of ten marks. In other words, two and a half marks were allocated for grading the four components of test, namely proper pronunciation, proper usage of grammar, proper selection of vocabulary, and comprehending and replying to the spoken language. A pilot study was applied to a sample of twenty five first year preparatory school students to ascertain the test validity of investigating the students' English oral skills. The test is internally valid since it attained the measurement of what it was designed to measure. It measured the intended English oral skills. The test is also externally valid because it can be applied to other contexts of learning, other skills, and educational stages. It also checked for the test reliability where the Cronbach's Alpha coefficient was .87 in a reference of high reliability. For the purpose of inter-rater reliability, the *Percent Agreement* was calculated as two raters judged the 10-scenario test suitability on a scale ranging from 1 to 3, where 1= very suitable, 2= slightly suitable, and 3= not suitable. The inter-rater reliability was 1 in an indication of the two raters' full agreement of the test suitability.

Table 2: Examples of AI Chatbot Doulingo performed activities

- *Sports Star*
- *All about me.*
- *A website blog.*
- *Adventures in Wonderland.*
- *Description of a story character.*
- *Favourite book.*

- *The best friend.*
- *A prominent family member.*
- *Introducing school subjects.*
- *I like swimming.*
- *I like playing chess.*
- *I like painting.*
- *I like playing basketball.*
- *Using tablets in schools.*
- *Using 3D printer, laptops, and mobile phones.*

Data analysis

The quantitative analysis of data aimed to compare the control and experimental groups' oral communication skills in the pretest and the posttest. It also aimed to determine the development of both groups' oral communication skills in the posttest. Thus, the paired samples T-test was used to realize this aim. The quantitative analysis determines the existence of statistically significant differences between the two groups' performances in the two tests. Thus, the independent samples T-test was employed to realize this end. The descriptive statistics the pretest and posttest shown in Table 3 indicates that at the level of the pretest all participants had low achievement of English oral skills as the minimum and maximum values (45-61) for the control group and (47-62) for the experimental group were relatively similar. Furthermore, the mean scores of (54.18) for the control group and that of (54.62) for the experimental group affirmed the similarity of both groups' achievements in the English oral skills pretest. The two groups' oral pretest performances were marked with hesitation, stumbling, grammatical inaccuracy, ways of mispronunciation, incorrect usage of vocabulary. For examples, most participants deleted the *possessive '-s'* in *'My sister's name is Ola'*. Many participants also deleted the copula in the previous utterance. Other participants did not observe the *'-ed' participle form* in *'My grandmother is called Huda'*. The majority of participants mispronounced the consonant clusters by inserting a short vowel as in *'sports', 'bands', 'parents'*. The participants also found difficulty in producing the English /v/, /p/, and velar nasal /ŋ/ as in *'I love football', 'parents' and 'swimming'*. Most participants also had difficulties in the oral production of questions about possession such as *'Whose bag is it?', 'Who is the owner of this car?', and 'Who owns this car?'* Many participants also found it difficult to differentiate between *possessive adjectives 'my, her, our, their'* and the *possessive pronouns 'mine, hers, ours, theirs'*. Therefore, the current study accepts the first null hypothesis stating oral English skills do not differ among all participants in the pretest. There is

similarity of this finding with those concluded by Al-Fuhaid (2021), Binu (2022), Nita et al., (2023), Pelaez-Sanchez and Velasquez-Duran (2023), and Qiao and Zhao (2023).

At the posttest level, Table 4 shows supremacy of the experimental group's English oral skills over those of the control group. The minimum and maximum values of the former (60-90) were highly supreme to those of the control group (53-77). Similarly, the former's mean score (81.94) highly exceeded that of the control group (67.30). The posttest descriptive statistics indicates higher enhancement of the experimental participants' English oral skills as opposed to those of the control group. In other words, the control group made more errors in performing the English oral skills. The experimental participants largely reduced their grammatical and phonological errors. As opposed to the control group, the experimental participants were less hesitant, anxious, and stumbling compared to the control participants. Thus, the experimental participants showed higher fluency of the English oral skills in comparison to the control group. Consequently, the second null hypothesis was rejected as the posttest revealed differences between the two groups' English oral skills. There is compatibility between this finding and those included in the studies of Al-Fuhaid (2021), Binu (2022), Nita et al., (2023), Pelaez-Sanchez and Velasquez-Duran (2023), and Qiao and Zhao (2023).

Table 3: Descriptive Statistics of the Pretest and Posttest

	N	Minimum	Maximum	Mean	Std. Deviation
Control pretest	32	45.00	61.00	54.1800	3.66834
Control posttest	32	53.00	77.00	67.3000	5.74367
Experimental pretest	32	47.00	62.00	54.6200	2.73966
Experimental posttest	32	60.00	90.00	81.9400	5.43387
Valid N (listwise)	32				

Furthermore, Table 4 shows that the control group's pre-and posttest performances in the English oral skills do not bear statistical significant differences as the p value is $> .05$. However, there is a statistically significant difference between the experimental participants' performances in the pre-and posttests of English oral skills as indicated in the p value $< .05$. The finding asserted the better improvement of the experimental participants' English oral skills as opposed to those of the control group. This improvement resulted from the employment of AI

chatbot Doulingo in providing oral skills instruction to the experimental group. On the other hand, the control group failed to achieve statistical significant difference in their performance in English oral skills due to the employment of the traditional instruction to teach them English oral skills.

Table 4: Paired Samples T-Test

Group	M	SD	N	df	t-value	Sig.
Control pretest	54.1800	3.66834	32	31	5.832	.006
Control posttest	67.3000	5.74367	32	31		
Experimental pretest	54.6200	2.73966	32	31	11.627	.003
Experimental posttest	81.9400	5.43387	32	31		

The independent samples T-test was carried out to verify the positive effectiveness of the *AI chatbot Doulingo* in enhancing the experimental group's English oral skills against the traditional method effect on developing the control group's English oral skills. Table 5 indicates that the gained mean score (27.33) of the experimental participants was extremely higher than that of the control group (13.12). The difference between the gained mean scores of both groups was statistically significant as the p value was .05. The finding confirms the positive effectiveness of using the *AI chatbot Doulingo* versus the traditional method in improving the experimental participants' English oral skills on contrast to the control group. This finding is similar to those concluded by Tamm (2019), Al-Fuhaid (2021), Abdalkader et al. (2022), and Marghany (2023).

Table 5: Independent samples T-test

Group	N	Gained M	SD	df	t-value	Sig.
Control	32	13.12	2.08	31	5.795	.000
Experimental	32	27.33	2.7	31		

Discussion of the results

It was concluded that the English oral skills of all participants were marked in the pretest with various errors covering accuracy, fluency, properness, and vocabulary. However, these errors were largely reduced in the experimental participants' English oral skills versus those of the control group in the posttest. Therefore, the current study accepted the first null hypothesis whereas it rejected the second null hypothesis. The two findings resembled those reported by Al-Fuhaid (2021), Binu (2022),

Nita et al., (2023), Pelaez-Sanchez and Velasquez-Duran (2023), and Qiao and Zhao (2023).

The current study concluded that it is important to employ AI applications in the FL teaching to Egyptian students. The finding is similar to those reported by Abdalkader, et al. (2022) and Marghany (2023). The study also concluded that the *AI chatbot Doulingo* positively affected the enhancement of the experimental participants' English oral skills. The finding resembles those reported by Al-Fuhaid (2021), Pelaez-Sanchez and Velasquez-Duran (2023), and Qiao and Zhao (2023).

The improvement of experimental group's English oral skills is attributed to the use of the *AI chatbot Doulingo*. It offered interaction and communication opportunities to the experimental participants with the machine application that in turn provided them with corrective feedback. The experimental participants had benefited from the machine immediately provided feedback and were able to correct their oral grammar mistakes, ways of mispronunciation, and inability to comprehend the connotative meanings of different vocabulary.

Conclusion

The study emphasizes the necessity of employing AI tools in teaching and learning English in the Egyptian FL context. It shows that the use of modern technology has crucial role in developing the FL students' language skills. Thus, FL teaching methods should shift to using up-to-date teaching methods which are based on employing technology for the purposes of FL learning at the digital age. The study also highlights the positive effective contributions of using the *AI chatbot Doulingo* to enhance the experimental students' English oral skills. It asserts the benefits which experimental students gained through receiving *AI chatbot Doulingo*-based instruction. Such benefits are not only restricted to develop the way experimental participants speak English but include better improvement of FL vocabulary comprehension, correct pronunciation, and proper usage of English grammar in spoken English.

Pedagogical Implications

The present study provides a strong recommendation for the integration of the *AI chatbot Doulingo* into the FL teaching process in the Egyptian preparatory schools. The integration of *AI chatbot Doulingo* entails successful enhancement of students' English oral skills and other English language skills. The use of *AI chatbot Doulingo* has a promising prospect that can yield fruitful results in the process of English instruction to the Egyptian FL students. This positive status is related to the easy accessibility, connectivity, usability, convenience and practicality of using the *AI chatbot Doulingo* which can be operated by using different

mobile learning devices like computers, laptops, or mobile phones. The present study found positive results of the impact of *AI chatbot Doulingo* on improving the experimental participants' English oral skills covering FL vocabulary, grammar rules, pronunciation, and the ability to comprehend and reply to the spoken English messages. The *AI chatbot Doulingo* offers different activities which enhance the FL learners' oral skills due to its various gamification instruction. The *AI chatbot Doulingo* is divided into thematic and grammatical units. However, as revealed in the literature review the benefits of *AI chatbot Doulingo* cannot only be restricted to a single language skill, but rather they can be exploited to include other language skills of listening, reading, and writing. It is the role of FL curriculum planners and designers to exploit the various language learning potentials offered by the *AI chatbot Doulingo*. This can be realized by devising appropriate syllabi and language learning contents in which the *AI chatbot Doulingo* can be widely used by Egyptian FL learners to master the different English language skills.

Recommendations

The present study recommended the following topics for future research:

1. The *AI chatbot Doulingo* can be applied to Egyptian FL students at other different educational levels like primary and secondary schools or at tertiary level.
2. The impact of using *AI chatbot Doulingo* on the Egyptian FL students' learning styles and strategies can also be examined.
3. The participants' perceptions of using the *AI chatbot Doulingo* can be investigated in a descriptive qualitative study.
4. The effect of using *AI chatbot Doulingo* on learning other skills such as reading comprehension can be explored.
5. The effect of using the *AI chatbot Doulingo* on developing the participants' writing skills can be investigated.

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Appendix A
English Oral Skills Test

Students were instructed to work in pairs and perform the following scenarios:

1. Talking about family.
2. Interviewing two brothers who are twins.
3. Talking about various hobbies.
4. Talking about the best friends.
5. Talking about favourite food and drink.
6. Talking about the Egyptian gymnast *Habiba Marzouk*.
7. Talking about favourite subjects.
8. Talking about the daily journey to school.
9. Talking about the daily routine.
10. Describing people's features.