

Using chaGPT to enhance the third preparatory students' performance in English grammar

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Abstract

The present study aimed to investigate the effect of using chatGPT on developing the third preparatory Egyptian students' performance in English grammar rules. The English grammar rules pre-posttests were designed in line with the participants' third preparatory curriculum for the purpose of data collection. Two classes of sixty students were selected for the purpose of conducting the current study. The two classes were equally assigned as a control group and an experimental group. Being an experimental research, the current study employed the mixed method of both types of analytical approach: quantitative and qualitative. The former type includes the use of descriptive statistics of the mean scores and standard deviations of both groups' pre-and posttest performance. In addition, the former type employed the paired samples t-test and the independent samples t-test. The latter type covers the description of both groups' per-and-posttest performance. The results revealed that the experiment group's English grammar was enhanced due to the use of chatGPT. Pedagogical implications and recommendations were provided.

Keywords: ChatGPT, English grammar, preparatory students.

إستخدام دردشة الذكاء الإصطناعي جى بى تى لتنمية أداء الطلاب المصريين بالصف الثالث الإعدادى فى قواعد اللغة الإنجليزية

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المخلص

هدفت للدراسة الحالية إلى بحث تأثير إستخدام دردشة الذكاء الإصطناعي جى بى تى فى تنمية أداء طلاب الصف الثالث الإعدادى المصريين فى قواعد اللغة الإنجليزية ، و تم تصميم الأختبارين القبلى و البعدى لقواعد اللغة الإنجليزية بما يتوافق مع منهج الطلاب بالصف الثالث الإعدادى لغرض جمع البيانات البحثية، حيث تم إختيار فصلين قوامهما 60 طالبا من أجل إجراء الدراسة الحالية، و تم تحديد كل من الفصلين بالتساوى كمجموعة ضابطة و أخرى تجريبية ، و أستخدمت الدراسة الحالية النهج التحليلى المختلط كما و كيفا حيث أستخدم النهج الأول الإحصاء الوصفى للمتوسطات الحسابية و الإنحراف المعيارى لأداء المشاركين فى الأختبارين القبلى و البعدى، كما أستخدم أيضا أختبار "ت" للعينات المقترنة و أختبار "ت" للعينات المستقلة ، بينما شمل النهج الثانى وصف أداء المشاركين فى الأختبارين القبلى و البعدى، و أظهرت النتائج أنه تم تنمية أداء طلاب المجموعة التجريبية فى قواعد اللغة الإنجليزية نظرا لإستخدام دردشة الذكاء الإصطناعي جى بى تى، و تم تقديم مضامين تربوية و مقترحات لتدريس قواعد اللغة الإنجليزية.

الكلمات المفتاحية: دردشة جى بى تى، الأداء ، قواعد اللغة الإنجليزية، طلاب المرحلة الإعدادية

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Introduction

The AI-based advanced technology has been growingly utilized for the various purposes of leaning English. One of the recently AI-generated tools is the *chatGPT* whose impacts on improving the learning of English among EFL learners have been debated and still need further studies. The *AI chatGPT* is based on developing the mode of *generative pre-trained transformer* (GPT) which is able to process natural language in a way which reinforces language learning and creates better learning environments. The *chatGPT* is able to interpret language learners' queries and provide immediate responses which facilitate the users' learning efforts.

Forman, Udvaros and Avornicului (2023) clarified that the *chatGPT* sustains the goals of instruction process in terms of facilitating the attempts of learning exerted by the EFL students. In this concern, the *chatGPT* helps EFL learners not only to acquire the necessary language knowledge, but develop their language skills as well. Through the utility of *chatGPT*, EFL learners will be able to apply language knowledge in different contexts and situations on the one hand and adapt their learning styles and strategies on the other. Thus, the improvement of EFL learners' ability to retain and apply acquired language knowledge can lead to the improvement of their learning practices.

In this regard, Dai, Lin, Jin, Li, Tsai, Gasevic and Chen (2023) explained that the *chaGPT* offers the EFL learners and teachers opportunities to interact and get involved in dynamic practices of teaching and learning. The *chatGPT* can offer various models of language learning whether textual, aural or visual that can improve the EFL learning strategies through effective and collaborative atmosphere of learning. The *chatGPT* enables the EFL learners to effectively interact and discuss language knowledge among themselves and with the robots to have better comprehensions of the English rules being studied.

In terms of theoretical framework, Winstone and Carless (2020) and Barrot (2023) clarified that the *chatGPT* provided feedback can be theorized under two theories. First, the dialogic process feedback as the *chatGPT* is equipped with software that can promptly reply to different types of questions generated during the human-machine interaction.

Second, *chatGPT* is a reliable AI-powered writing application that caters for the learners needs by developing accurate and informative textual feedback.

Although there have been several debates on the utility of using the *chatGPT* for educational purposes, its full potential has been realized yet (Ali, Shamsan, Hezam, and Mohammed, 2023; Fikri, 2023; and Xiao, Yangyu and Zhi, 2023). Knowledge of English grammar is indispensable for the development of other English language skills. Therefore, it is necessary to verify the usefulness of using the *chatGPT* in the context of Egyptian preparatory schools. It is also important to examine the *chatGPT* effect on developing the third-preparatory Egyptian students' performance in English grammar which constitutes the underlying foundation of their English language proficiency.

Statement of the problem

The recent advent of chatGPT has revolutionized English language instructions all over the globe. The performance of Egyptian third-preparatory students in English grammar is still unsatisfactory and needs further development. The pilot study showed that the performance of third preparatory students in English grammar was poor as indicated in Table 1.

Table 1: Results of the pilot study

Item	Percentage
The present simple tense	9
The past simple tense	7
The present progressive tense	6
The past progressive tense	7
The present perfect tense	5
The past perfect tense	4
Total	38

Therefore, the present study investigated the effectiveness of using chatGPT in teaching English grammar rules to third-preparatory Egyptian students as being the first chatGPT application in the Egyptian preparatory schools.

Research Questions

The following research questions were investigated in the current study:

1. What is the difference between the two groups' posttest performance in the English grammar rules?
2. How does the posttest performance of both groups differ in terms statistical significance?
3. What is the effect of *chatGPT* and traditional method in on developing the two groups' performance in English grammar rules?

Research Hypotheses

The following research hypotheses were verified in the present study:

1. There is no statistically significant difference between the two groups' posttest performance in English grammar rules.
2. *ChatGPT* and traditional methods are equally effective in developing the two groups' performance.

Aims

The present study aimed to investigate the effect of using chatGPT on developing the third preparatory Egyptian students' performance in English grammar rules.

Significance of the Study

Significance of the present study is embodied as follows:

1. EFL curriculum designers of third preparatory year-FL curriculum can take into consideration the importance of sustaining the role of *chatGPT* in teaching English grammar in the Egyptian preparatory schools.
2. Egyptian EFL teachers should look into the benefits of utilizing the *chatGPT* in teaching English grammar to third preparatory year students.
3. The present study highlights the importance of using *chatGPT* as an AI revolutionized application for teaching English in the Egyptian preparatory schools.
4. The present study adds to the FL literature in general and to the TEFL literature in the Egyptian context in particular.
5. The current study helps to develop the methods utilized in the Egyptian TEFL process.
6. The present study also contributes to the improvement of third preparatory year Egyptian students' FL performance.

Literature Review

Ali et al. (2023) explored the impact of using *chatGPT* on developing the Saudi EFL learners' motivation towards learning English. Based on the non-probability sampling technique, Ali et al. designed this quantitative research for eliciting data from 80 Saudi EFL teachers and students via online questionnaire. The questionnaire was divided into two parts. The first part sought the participants' views on the *chatGPT* ability to develop the learning of English vocabulary and grammar as being micro skills and listening and speaking as being macro skills. The second part sought the participants' views on the *chatGPT* ability to develop their interest, independence and confidence in learning English.

Ali et al. reported that the *chatGPT* effectively contributed to the development of participants' reading and writing skills. Although the participants had initially neutral attitudes to use the *chatGPT* for developing their listening and speaking skills, they eventually gained confidence in using the AI-powered *chatGPT*. Ali et al. strongly recommended the use of *chatGPT* as an educational tool for improving the Saudi EFL learners' language skills since it efficiently helped to develop the main language skills. Ali et al. also asserted that EFL teachers need further training to effectively employ *chatGPT* in teaching English language skills.

Bakmeedeniya (2024) discussed the contribution of *chatGPT* as a transformative educational tool that can be engaged in different educational tasks. Bakmeedeniya employed the focused approach of analyzing such contribution through a systematic review of some articles. Bakmeedeniya concluded that the *chatGPT* can respond due to its huge capabilities to various learning queries. The *chaGPT* should be integrated into the educational process due to its advantages and despite its disadvantages. The *chatGPT* can help teachers manage and organize online classes effectively, trace and analyze students' involvement and provide suggestions for modifying the teaching methods. The *chatGPT* can personalize the learning experience by catering for the personal learning needs of every student. It can immediately assist students' attempts of learning through the provision of prompt feedback that clarifies and answers students' queries about the learning tasks. The *chaGPT* employs brainstorming strategies that foster learners' collaborative discussions. The *chatGPT* can largely benefit language learners through actual real conversations which help enhance learners' language proficiency. In terms of drawbacks, Bakmeedeniya clarified that the *chatGPT* is unable to verify sources credibility, and information accuracy. It lacks deep understanding of the underlying learning principles. It also needs to develop better ways for checking plagiarism' an ethical issue that could affect its credibility.

Javier and Moorehouse (2023) explored ways of developing the ability of 49 secondary school EFL students in the Philippines to become critical and productive users of *chatGPT*. The participants are first year secondary school students enrolled in a public school and classified as intermediate EFL learners. The participants were taught *chatGPT*-based activities during the sequence of four lessons. In an alignment with their English language syllabus, the participants were expected to develop their writing skills by making questions on listening comprehensions related to

themes of travelling abroad. Data were collected through a post-training questionnaire and language instructor's observation. Although most participants mentioned that they were not familiar with using *chatGPT* for English language learning purposes, they expressed eagerness to pursue learning English by using further *chatGPT* based activities. The participants affirmed that the use of *chatGPT* helped them to smoothly interact during the learning activities.

The participants managed to critically correct some inaccurate information provided by the *chatGPT* about locations of some hotels in Manila. The participants were also able to discuss the inaccuracy of some *chatGPT*-provided information pertaining to the travel industry in the Philippines. In these instances, the *chatGPT* prompts gave warning notes about the accuracy of its provided information. Thus, the English language instructor discussed with the participants ways of verifying the accuracy of *chatGPT*-provided information. Javier and Moorehouse concluded that *chatGPT* is an important tool that helps develop interaction among EFL learners. However, those learners should be trained to critically use *chatGPT*-provided information. It is the role of the EFL instructors to develop the EFL learners' skills required for the proper use of *chatGPT* in order to effectively maximize the gained learning benefits of using the *chatGPT*.

Liu, Darvin and Ma (2024) investigated the perception of 867 EFL Chinese learners about using the AI-assisted *chatGPT* and Bing Chat for the purposes of learning English. Data were collected through an online questionnaire and semi-structured interviews for which 20 participants were selected. Data were analyzed both quantitatively and qualitatively by identifying the interrelations between the elements of the online survey, namely the easiness of using these two AI-powered chats, usefulness, the real use, and the intended use. Liu et al. reported that participants' responses provided insights into the availability and probability of using these AI advanced technologies for learning English. The participants had positive attitudes for using these two types of chatbots because they enhanced the participants' learning ability through providing learning activities and materials. These activities helped the participants to attain full comprehension of the lessons being taught and enhanced their language skills.

Mahaptra (2024) quantitatively and qualitatively studied the effect of utilizing the *chatGPT* provided feedback on developing the ESL learners' writing ability. The participants were science and engineering freshmen enrolled in an Indian university. Mahaptra gathered data through the pre-and-posttest instruments and a perception questionnaire.

Mahaptra emphasized that the *chatGPT* had positive effect on developing the experimental group's English writing skills. The experimental students positively perceived the use of *chatGPT* for learning English writing skills as well. The experimental students stated the *chatGPT* helped them to generate and organize ideas, and adopt the proper and accurate academic steps of writing including identification of topic sentences, controlling ideas, supporting sentences, and concluding sentences. Mahaptra recommended the employment of *chatGPT* as a reliable AI application for developing the English writing skills of ESL students. Mahaptra called for the necessity of training ESL students on the proper usage of *chatGPT* particularly in large size classrooms. Mahaptra suggested that different types of English writing can be investigated in the light of using the prompt feedback provided by the *chatGPT*.

Definition of Terms

Below is a description of how the two terms '*chatGPT*' and English grammar' are defined and employed in the current study.

ChatGPT

It is an AI application which provides human-machine interaction for the purposes of learning certain English grammar rules. In other words, the experimental students conducted *chatGPT* chats for the purposes of learning some English grammar rules.

English Grammar Rules

These rules are confined to the third-preparatory English curriculum taught in the Egyptian schools during the first school year 2023-2024.

Details of these rules are clarified in Table 2.

Table 2: English grammar rules content

- Prepositions of time and place
- The present simple for scheduled events
- The comparative and superlative
 - Both, either, neither
- Present continuous for future plans and arrangements
 - Going to for future plans and intentions
 - Adjectives ending in -ing or -ed
 - The past simple
 - The present perfect with ever or never
 - The present perfect with for and since
- Must/ mustn't; have to/don't have to; should/ shouldn't; might
- Had to/ didn't have to; as/wasn't able to; could/couldn't

Proficiency

Proficiency is defined in the present study as the level of participants' mastery of English grammar rules.

Delimitations

The current study was delimited to:

- 1) Sixty students from the Official Saad bin Abi-Waqas language School in October 6 City
- 2) Some English grammatical rules e.g. the present simple tense, the past simple tense, the present and past progressive tenses, and the present and past perfect tenses.
- 3) The first semester of school year 2023/2024.

Method

Research Design

Being an experimental research, the current study employed the mixed method of both types of analytical approach: quantitative and qualitative. The former type includes the use of descriptive statistics of the mean scores and standard deviations of both groups' pre-and posttest performance. In addition, the former type employed the paired samples t-test and the independent samples t-test. The latter type covers the description of both groups' pre-and-posttest performance. The rationale of the present study is based on Siemens' (2005) Connectivism learning theory which advocates the use of advanced technology in language learning at the digital age.

Participants

The sixty participants are enrolled at the third preparatory year in the official Saab bin Abi-waqas language school in October 6 City. Participants' age ranges from 14 and 15 years old. They are 37 females and 23 males who represent product of TEFL process in the Egyptian FL context. Two control and experimental groups were created by allocating two classes as the two groups comprised 30 participants each. The present study was conducted during the first semester of the school year 2023-2024. The similar pretest performance is evident in the minimum and maximum scores of both groups (15-24) for the control group and (15-25) for the experimental students. Similarly, both groups achieved roughly similar mean scores and standard deviations (1.92) and (2.00) for the control group and (1.98) and (1.96) for the experimental students (Table 3).

Data collection instruments

The present study adopted the research design based on the use of the pre-and-posttests of English grammar rules (Gonsalves, 2023; Marghay,

2023; and Mahaptra, 2024). Each test consists of fifty multiple choice questions with the total mark of fifty marks. That is, one mark was assigned for the correct answer of each question. Both tests were designed and derived from the participants' FL textbook so as they would be familiar with all examples and exercises which they had went through according to the school curriculum. Each test covered the English grammar rules shown in Table 1.

Procedure

1. The present study administered the pre-and-posttests to investigate the participants' performance in English grammar rules in line of the third preparatory school curriculum taught during the first term of the school year 2023-2024.
2. The English grammar rules pretest was initially administered to the two classes that took part in the current study.
3. One class was assigned as a control group and another was assigned as an experimental group. Both groups were taught the third preparatory English grammar rules content (Table 2).
4. A traditional method-based instruction was introduced to the control class, while chatGPT-based instruction was utilized for the purpose of teaching English grammar rules to the experimental class over a ten-week period. In this regard, the experimental class students were required to create chatGPT accounts which they accessed via their mobile phones. Meanwhile, the researcher used her laptop to operate the chatGPT activities during the actual classes of the experimental group. This procedure helped to ensure clarity and accessibility of the learning materials to all experimental students. The experimental students were allowed to use their mobile phones for practice during and outside the actual classes. The researcher introduces a separate file of chatGPT-based training provided to the experimental class and another separate file of the pre-and-posttest samples. In addition, websites of the youtube-based grammar activities uploaded via the chatGPT (Appendix C).
5. Early, the English grammar rules pre-and-posttests were piloted by using 20 third-preparatory grade students. The purpose was to check the internal and external validity of the test as its items are derived from the third preparatory grade textbook. The tests were also referred to a jury of three TEFL expert senior teachers to assess its validity. The pilot study also ascertained whether the questions are clear, suitable and replicable. The coefficients of

Cronbach Alpha were successively .93 for the pretest and .94 for the posttest revealing high reliability.

Data analysis

The comparison between the two groups' English grammatical rules pre-and-posttest performance was realized through the quantitative analysis. Likewise, determination of both groups' posttest improved performances in the English grammatical rules was attained through the quantitative analysis as well. As such, the paired sample t-test was employed to attain the previously mentioned analytical purposes. Furthermore, the quantitative analysis was employed to identify the probable significant differences in both groups' pre-and-posttest performances in terms of statistics. Attainment of this purpose was realized through the employment of the independent samples t-test.

Table 3 shows the pre-and-posttest descriptive statistics where all third-preparatory students had poor performance in the English grammar pretest.

Table 2: Descriptive Statistics of participants' performance in the Pretest and Posttest

	N	Minimum	Maximum	Mean	Std. Deviation
Control pretest	30	15.00	24.00	1.9225	2.00513
Control posttest	30	27.00	41.00	10.8436	7.46035
Experimental pretest	30	15.00	25.00	1.9841	1.96731
Experimental posttest	30	30.00	49.00	21.7542	6.07813
Valid N (listwise)	30				

Table 4 indicates that there was improvement of both groups' performances in both tests. The control and experimental groups' posttest performances statistically and significantly differed from their pretest performances. However, the experimental group' posttest performance was statistically significant at (.000) which is statistically higher in value than the (.005). In other words, the experimental group's posttest performance had greater development than that of the control group. Such a greater development of the experimental group's posttest performance is attributed to the use of the chatGPT-based instruction. On the other hand, the development resulted from using the traditional method instruction for the control group was not as high as that of their experimental group counterparts.

Table 4: Results of the paired samples t-test

Group	M	SD	N	df	t-value	Sig.
Control pretest	1.9225	2.00513	30	29	7.584	.005
Control posttest	10.8436	7.46035	30	29		
Experimental pretest	1.9841	1.96731	30	29	18.931	.000
Experimental posttest	21.7542	6.07813	30	29		

Consequently, the independent samples t-test was used to determine the degree of effectiveness associated to both methods. Table 5 emphasizes the higher effectiveness associated to the *chatGPT* compared to that of the traditional method in developing both group's English grammar performance. The experimental participants' gained mean score (19.77) was largely higher than that of the control group (8.92). The higher standard deviation of the control group (5.45) than that of experimental group (4.11) indicates that there was more variance in the former's pre-posttest performances compared to these of the latter. Furthermore, the gained mean scores of the two groups statistically and significantly differ at the confidence level (.000). As such, the *chatGPT* had largely higher degree of effectiveness compared to the traditional method in teach English grammar rules to the third-preparatory students. The finding comes in agreement with those reported by Ali et al. (2023), Javier and Moorehouse (2023), Liu et al. (2024), and Mahaptra (2024) who asserted the use of advanced technology leads to better achievement in language learning. The finding led to the rejection of the tested two null hypotheses that there is no statistically significant difference between the two groups' posttest performance in English grammar rules and traditional and chatGPT-based are equally effective in teaching English grammar.

Table 5: Results of the independent samples t-test

Group	N	Gained M	SD	df	t-value	Sig.
Control	30	8.92	5.45	31	11.347	.000
Experimental	30	19.77	4.11	31		

Discussion of the Results

In terms of proficiency, the pretest showed low performance in using the English grammar rules among all participants. They were

unable to correctly use English tenses such as the present and past perfect tenses, the present progressive for future arrangements, the ‘-ed’ and ‘-ing’ ending adjectives, the comparative and superlative forms of adjectives, conjunctions such as ‘both and’, ‘neither nor’, ‘either or’, different types of prepositions, and expressions such as ‘have/had to’, ‘must/should’, and ‘could, able to, might’. Table 5 indicates examples of the participants’ pretest performance. The participants’ low performance reflects their inability to correctly comprehend the tested English grammar rules, even though they had previously studied such rules in earlier educational stages. Thus, construction of the Egyptian EFL students’ knowledge in English grammar should be earlier sustained at the primary stage.

Table 5: Examples of participants’ errors in the English grammar pretest

Questions	Errors	Correct answer
<i>It’s the corner of the botanical gardens.</i> <i>a. At b. on c. in</i>	At	On
<i>The aquarium is The left.</i> <i>a. On b. in c. at</i>	In	On
<i>I always to the park on Saturday morning.</i> <i>a. Went b. goes c. go</i>	Went	go
<i>How long does the journey to Luxor?</i> <i>a. Took b. take c. takes</i>	Took	Take
<i>My dad is Me to the Space exhibition tomorrow?</i> <i>a. Taking</i> <i>b. takes c. taken</i>	Takes	Taking
<i>It is to shop online now than before.</i>	Easy	Easier

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<p>a. Easy b. easier</p> <p>c. more easy</p>		
<p>The Useful thing in the kitchen is the fridge.</p> <p>a. Most</p> <p>b. less c. more</p>	Less	Most
<p>Neither the smart TV the large TV suits the customer.</p> <p>a. Nor b. or</p> <p>c. both</p>	Or	Nor
<p>Have you ever to Luxor?</p> <p>a. Be</p> <p>b. been</p> <p>c. seen</p>	Be	Been
<p>Has anyone in your class the mountain?</p> <p>a. Climb b. climbs</p> <p>c. climbed</p>	Climb	Climbed
<p>I was By the number of people that came to the festival.</p> <p>b. Amaze</p> <p>b. amazing</p> <p>c. amazed</p>	Amazing	Amazed
<p>I Go to the stadium, but I'm unsure.</p> <p>a. Have</p>	Have	Might

<p><i>b. might</i></p> <p><i>c. can</i></p>		
<p><i>Before I went home, I Called my friend.</i></p> <p><i>a. Have</i></p> <p><i>b. has</i></p> <p><i>c. had</i></p>	<p>Have</p>	<p>Had</p>
<p><i>Both the laptop the microwave are in the sale.</i></p> <p><i>a. Nor</i></p> <p><i>b. or</i></p> <p><i>c. and</i></p>	<p>Or</p>	<p>And</p>
<p><i>They Unable to pass the examination.</i></p> <p><i>a. Was</i></p> <p><i>b. is</i></p> <p><i>c. were</i></p>	<p>Was</p>	<p>Were</p>

Improvement occurred in both groups' English grammar rules posttest performances. However, the experimental students had largely higher improvement in comparison to that of the control group as indicated in the two groups' posttest minimum and maximum scores. This leads to the higher effective contribution that resulted from using the *chatGPT* compared to that related to the traditional method. The extremely higher *chatGPT* effectiveness was also evident in the experimental students' largely higher gained mean score compared to that of the control group. The difference in the former's gained mean score was statistically significant compared to that of the latter. The findings rejected the null hypotheses that posttest performance does not vary

between both examined groups and the *chatGPT* an traditional method are equally effective in teaching English grammar rules to both groups. These findings are compatible with those reported by Ali et al. (2023), Javier and Moorehouse (2023), Liu et al. (2024), and Mahaptra (2024).

Table 6 shows the effect size of using *chatGPT* for teaching English grammar to the experimental participants vis-à-vis the use of traditional method for teaching English grammar to the control group. Table 6 indicates high statistically significant effect size in favour of the experimental group as Cohen's $D = .8$ and $p < 0.05$.

Table 6: Effect size

Item	Control Group		Experimental Group		T(60)	P	Cohen's d
	M	SD	M	SD			
Maximum proportion	8.92	5.45	19.77	4.11	7.42	.000	0.8

Implications

The improvement of Egyptian EFL students' knowledge in English grammar should start at early stages of FL learning as shown in Table 1. Thus, EFL teachers should pay attention for selecting the proper teaching strategies of English grammar to earlier educational grades such as primary and first and second preparatory grades. The Egyptian EF teachers should take into considerations the development of their students' cognitive skills necessary for comprehending the structure of English sentence and forms of English tenses which are totally different from the Arabic sentences and forms due to the syntactic differences between both languages.

Since the *chatGPT* had higher degree of effectiveness compared to the traditional method, it is the role of EFL teachers to seek the realization of optimal use of *chatGPT* in teaching English language proficiency skills to the third-preparatory students. Thus, the student-teacher training programs should take into consideration the necessity of equipping pre-service FL teachers with all skills and training necessary for successful implementation of *chatGPT* in FL classes. The *chatGPT* usefulness is not only restricted to English grammar skills, but can be extended to include other oral and written skills important for the development of the third-preparatory students. In addition, planning and designing of English third-preparatory curriculum should give room for exploring the benefits of utilizing the *chatGPT* in the Egyptian EFL context. As such, planners and designers of English third-preparatory curriculum should incorporate the *chatGPT*-based learning activities to sustain the development of Egyptian preparatory school students' proficiency in English. As for the Egyptian Ministry of Education, it is its

role to ensure in collaboration with the Ministry of Communications the internet accessibility to most preparatory schools.

Conclusion

The pretest low performance in English grammar rules of all participants highlights the necessity of selecting proper teaching strategies on the part of Egyptian EFL teachers for teaching the target language grammar. Construction of Egyptian EFL students' knowledge in English grammar should start at earlier educational stages so as they could acquire the cognitive skills necessary for comprehending these rules which differ from those Arabic rules.

Although there was development of both groups' performances in English grammar due to the *chatGPT* and traditional method instruction, the former was extremely higher in its effectiveness compared to the latter. Therefore, the present study concludes the necessity of incorporating *chatGPT* instruction into the process of teaching English grammar rules to the third-preparatory Egyptian students.

Recommendations

The current study introduces the following recommendations:

1. Egyptian EFL teachers should be trained on how to use advanced technology in the classrooms.
2. AI applications including chatGPT are recommended for the purposes of FL teaching in the Egyptian context.
3. English curriculum designers should incorporate the AI applications into the FL preparatory school syllabi.

Suggestions for further research

The current study introduces the following suggested tentative topics for further research:

1. Using the *chatGPT* for teaching English at a different educational stage.
2. Employing the *chatGPT* instruction for teaching other English language skills rather than grammar.
3. Studying the impact of using *chatGPT* on the teaching strategies adopted by Egyptian EFL teachers.
4. Investigating the effect of using *chatGPT* on students' learning styles.
5. Exploring the possible modification that can be carried out in preparatory school English curriculum planning and design due to the effect of using the *chatgPT*.

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Appendix A

English grammar rules pretest

Choose the correct answer a, b, or c:

2. *Ali wants to..... to the library.*
a. Goes b. going c. go
3. *It's the corner of the botanical gardens.*
a. At b. on c. in
4. *It's the museum and the restaurant.*
a. In b. at c. between
5. *It's Front of the aquarium.*
a. In b. at c. on
6. *The aquarium is The left.*
a. Onb. in c. at
7. *I always to the park on Saturday morning.*
a. Went b. goes c. go
8. *Nadia usually her grandparents at the weekend.*
a. Visit b. visits c. visited
9. *We Math at 9.00 am on Thursdays.*
a. Had b. have c. has
10. *We to school in the morning.*
a. Walk b. walks c. walking
11. *Shady shopping on Fridays.*
a. Gob, goes c. going
12. *In Nadar's city, all of the buildings Old.*
a. Is b. was c. are
13. *Yesterday, Noha A new dress.*
a. Buys b, bought c. buy
14. *She to bed late last night.*
a. Want b. went c. goes
15. *Nadder and Juddy to the sports centre last week.*
a. Go b. goes c. went
16. *I Tennis lessons at the sports centre last night.*
a. Have b. had c. has
17. *Weto swim in the lake when we were young.*
a. Use b. used c. uses
18. *How long does the journey..... to Luxor?*
a. Took b. take c. takes
19. *How you travel to Luxor last week?*
a. Did b. does c. do
20. *Have you ever to Luxor?*
b. Be b. been c. seen

21. My dad is Me to the Space exhibition tomorrow?
a. Taking b. takes c. taken
22. I'm Forward to our trip to El-Orman garden!
a. Looking b. look c. looks
23. When the exhibition start last week?
a. Does b. do c. did
24. The Useful thing in the kitchen is the fridge.
a. Most b. less c. more
25. Televisions are expensive than kettles.
a. More b. much c. most
26. It is to shop online now than before.
a. Easy b. easier c. more easy
27. Of these two TVs have a big sale.
a. And b. both c. or
28. Both the laptop the microwave are in the sale.
a. Nor b. or c. and
29. You can get a free speaker or a free TV.
a. Neither b. both c. either
30. Neither the smart TV the large TV suits the customer.
a. Nor b. or c. both
31. They have a horse.
a. Ride b. ridden c. rode
32. Hania played tennis many times.
a. Has have c. does
33. Has anyone in your class the mountain?
a. Climb c. climbs c. climbed
34. Which people in your family been to another country?
a. Were b. have c. has
35. Have grandparents In their house for a long time?
a. Lived b. lives c. live
36. Lamia has her phone for two years.
a. Had b. have c. has
37. He Stayed in Alexandria for many years.
a. Have b. has c. was
38. He Been friends with her since they were children.
a. Has b. have c. was
39. They have English since last year.
a. studies b. studied c. study
40. I was By the number of people that came to the festival.
a. Amaze b. amazing c. amazed
41. I was really because I found the questions difficult.

- a. Surprised b. surprise c. surprising
42. The book was really and I didn't even finish reading it.
a. Boring b. bored c. bore
43. We were all very when we heard about the trip.
a. Exciting b. excite c. excited
44. Friends keep secrets.
a. Mustn't b. must c. have
45. I To be good at science subjects.
a. Mustn't b. has c. have
46. I Go to the stadium, but I'm unsure.
a. Have b. might c. can
47. Before I went home, I Called my friend.
a. Have b. has c. had
48. After she had her work, she had a drink with her friend.
a. Did b. does c. done
49. They Unable to pass the examination.
a. Was b. is c. were
50. They pass the exam last month.
a. Unable b. unable to c. couldn't
51. Nada and Hatem able to solve the problem.
a. Was b. is c. were

Appendix B

English grammar rules posttest

Choose the correct answer a, b, or c:

1. Ali's friend him directions from the station.
a. Give b. gives c. given
2. I In Ismailia.
a. Left b. live c. living
3. It's Port Said and Suez.
a. In b. between c. at
4. The Suez Canal through the city.
a. Run b. runs c. ran
5. There Attractive buildings in Ismailia.
a. Is b. was c. are
6. There are lots Things to do in Ismailia.
a. At b. of c. in
7. On Fridays, I often to Lake Timsah
a. Gob. goes c. went
8. Sameh Watching fish at the aquarium.
a. Like b. likes c. go
9. Nadder and Juddy that there is much things to do in the city.
a. Thinks b. think c. thanks
10. Sometimes, Nadder and Juddy to the museum.
a. Goes b. went c. go
11. Last week, Hady His grandparents.
a. Visits b. visit c. visited
12. We used to home by bus.
a. Came b. come c. comes
13. They need to to the metro station.
a. Went b. go c. goes
14. The first metro train At 6.30 am.
a. Leave b. left c. leaves
15. What time does the exhibition?
a. Start b. starts c. started
16. The film hasn't it ends at 9 o'clock.
a. Finish b. finished c. finishes
17. Neither Sami Ali ever shops online.
a. Or b. nor c. and
18. Both Nadder Juddy like shopping at the market.
a. Nor b. and c. or
19. Salma is the ... friend of mine.
a. Better b. best c. good

20. It is to buy clothes in the shops than online.
a. Good b. better c. best
21. The supermarket is the Shop in the city.
a. Busy b. busiest c. more busy
22. English is Than math.
a. Easy b. easiest c. easier
23. Red is the colour.
a. Nicest b. nice c. more nice
24. Neither Ali Sarah likes apple.
a. Or b. and c. nor
25. Faten is courageous than her sister.
a. Most b. more c. better
26. Online shopping is expensive than shopping at the market.
a. More b. better c. much
27. Either Fahd Karim is clever.
a. Nor b. and c. or
28. Rahma and Noha are clever students.
a. Either b. both c. neither
29. The kettle is the thing at the market.
a. Cheap b. cheaper c. cheapest
30. Nadder is Forward to meet his friend.
a. Look b. looks c. looking
31. Samira's mother is her to the park tomorrow.
a. Taken b. takes c. taking
32. They have never by train.
a. Travel b. travels c. travelled
33. It is Lara's birthday today and she has A lot of cake!
a. Eaten b. eat c. ate
34. About half people in the class haven't To a football match.
a. Be b. was c. been
35. Which two things have the most people in the class?
a. Do b. done c. did
36. I have In this house since I was born.
a. Live b. lives c. lived
37. Your parents have in that house since 2009.
a. Stayed b. stay c. stays
38. They have each other for a long time.
a. Knew b. known c. know
39. We have married for over 50 years.
a. Be b. ben c. been
40. He Been at this school since 2020.

- a. *Have* b. *is* c. *has*
41. *I was to hear the bad news.*
a. *Disappoint* b. *disappointing* c. *disappointed*
42. *The new businesses are*
a. *Interest* b. *interesting* c. *interested*
43. *The plan is*
a. *Excite* b. *excited* c. *exciting*
44. *Villages were to hear about the plan.*
a. *Exciting* b. *excited* c. *excite*
45. *We able to push the car.*
a. *Was* b. *is* c. *were*
46. *You don't to see this as a negative thing.*
a. *Had* b. *has* c. *have*
47. *You Talk to them.*
a. *Should* b. *have* c. *able*
48. *I To tell my parent about the problem that I faced.*
a. *Has* b. *had* c. *were able*
49. *After I finished my homework, I watch TV.*
a. *Has* b. *had* c. *have*
50. *I went for swimming after I had my breakfast.*
a. *Have* b. *has* c. *had*

Appendix C

Websites of *chatGPT* uploaded activities

<https://www.youtube.com/watch?v=nvVdIJ0las0>

<https://www.youtube.com/watch?v=IEODxorEaYw>

<https://www.youtube.com/watch?v=S6CnTCRXvkc>

<https://www.youtube.com/watch?v=vRlOspjQhTc>

https://www.youtube.com/watch?v=AKzG_ZS-Ydg

<https://www.youtube.com/watch?v=RIEF3-onNWU>

<https://www.youtube.com/watch?v=klmsCRxWYNs>

<https://www.youtube.com/watch?v=N-4CRUEIcIc>