VoScreen Educational App: Its Impact on Teaching Grammar to EFL Students

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Abstract: This experimental study explores the use of the VoScreen application (app) to enhance the grammar education of English as a Foreign Language (EFL) students. Forty EFL students from Taibah University were selected for the study: 20 for the control group and 20 for the experimental group. The data were analyzed through independent samples t-tests, which compared the mean scores of the pre-and post-tests of both groups. The experimental group performed better on the post-test, indicating that using the VoScreen app had improved their grammar skills and knowledge. Further experimental investigations are needed to explore and examine the use of VoScreen in teaching other language skills. More broadly, research is also needed to investigate EFL learners' attitudes toward using the VoScreen app in learning English.

Keywords: VoScreen educational app, VoStructure, teaching grammar, TEFL, online language learning, mobile technology

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تطبيق VoScreen «فوسكرين» التعليمي: أثر تدريس القواعد اللغوية على طلاب اللغة الإنجليزية كلغة أجنبية

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مستخلص البحث: تهدف هذه الدراسة التجريبية إلى استخدام تطبيق VoScreen «فوسكرين» لتعزيز تعليم قواعد اللغة لطلاب اللغة الإنجليزية كلغة أجنبية. ولقد تكونت عينة الدراسة من 40 طالبا من جامعة طيبة: 20 للمجموعة الضابطة و20 للمجموعة التجريبية. وتم تحليل البيانات من خلال عينات مستقلة من اختبار t test-، والتي قارنت متوسط درجات الاختبارين القبلي والبعدي لكلا المجموعتين. حيث كان أداء المجموعة التجريبية أفضل في الاختبار البعدي، مما يشير إلى أن استخدام تطبيق «فوسكرين» قد أدى إلى تحسين مهاراتهم اللغوية ومعرفتهم. وتوجد هناك حاجة إلى مزيد من الدراسات التجريبية لاستكشاف وفحص استخدام «فوسكرين» في تعليم مهارات لغوية أخرى على نطاق أوسع، كما أن هناك حاجة إلى إجراء بحث للتعرف على مواقف متعلمي اللغة الإنجليزية كلغة أجنبية تجاه استخدام تطبيق فوسكرين في تعلم اللغة الإنجليزية.

كلمات مفتاحية: تطبيق VoScreen «فوسكرين» التعليمي، تدريس القواعد، تدريس اللغة الإنجليزية كلغة أجنبية، تعلم اللغة عبر الإنترنت، تكنولوجيا الهاتف المحمول.

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Introduction

The use of mobile technology has experienced rapid growth over the last two decades, especially in the fields of education, communication, and manufacturing. Although mobile technology has many potential uses in the field of education, few studies have examined how mobile applications (apps) and related technology can enhance the learning and listening skills of language students (Ozer & Kılıç, 2018). The practice of language learning continues to develop by taking advantage of advances in information technology. The mobile phone, especially the smartphone, is a significant piece of technology that has contributed to a revolution in approaches to teaching and learning. According to Kim (2013), the use of mobile apps differs from traditional classroom learning mainly because mobile devices have access to the internet, can send and receive messages over long distances, and can accommodate software that makes it easier to enhance the quality of language learning. In this way, mobile devices have made teaching and learning languages easier and more effective. Rosell-Aguilar (2018) conducted a study to determine the appropriateness and advantages of using mobile apps, such as *Busuu,* in learning foreign languages autonomously, that is, without assistance. Many apps that can be installed on mobile phones, tablets, and other portable devices offer educational resources, including resources for language learning. Most current mobile apps for language learning focus on providing opportunities to learn, practice, and enhance one's language skills as well as enabling one to relate what is learned to the real world (Rachels & Rockinson-Szapkiw, 2017). However, Kim (2013) noted that mobile devices and associated programs should not be considered substitutes for existing learning tools but should be viewed as an extension of current practices that can provide new capabilities. Similarly, Kukulska-Hulme (2009) proposed that using mobile phones to learn foreign languages allows students to use their free time to practice and gain skills. Explaining the main reasons for the popularity of mobile devices as tools for learning foreign languages, Kukulska-Hulme (2009) noted that they provide a learning process that is informal, spontaneous, contextual, mobile, personalized, and available to the user at any time. Other advantages of mobile-based learning that have been identified by previous studies include the ability to support learning vocabulary, grammar, pronunciation, listening skills, and reading as well as improving contextual language learning experiences (Cavus & Ibrahim 2009; Chen et al., 2008; Kim, 2011). Elfeky and Masadeh (2016) conducted a quasi-experimental study to explore the impact of mobile learning technology on second-language students' conversational skills. A sample of 50 students was recruited into the study, half of whom were enrolled in a mobile-learning class and half in an ordinary language class. The post-test results revealed a significant difference in achievement between the experimental and control groups, with the mean of the former being higher, which is consistent with prior studies (e.g., Crompton, et al., 2017). Munir et al. (2012) conducted the 'Linguistic Pocket Education' mobile-learning project at the University Sains Malaysia. They found that the participating students benefited from learning grammar via Short Message Service (SMS). Gromik (2012) conducted a study in Japan on the use of video recording to develop the language skills of English as a foreign language (EFL) students. He found that they improved students' writing, reading, and speaking skills. Taylan (2018) claimed that the best way to enhance students' foreign language skills was to give them learning tools applicable outside the school environment. In the same vein of research, the present study examines and assesses the use of the VoScreen mobile app to enhance English grammar learning. Taylan reported that the VoScreen app provides a new approach to teaching and learning foreign languages that motivates learners by making the entire process more interesting and engaging than a traditional learning environment. The features of different English-learning mobile apps, such as VoScreen, apparently benefit students in several ways, such as enabling individualized, authentic, informal, spontaneous learning experiences and providing continuous access to learning, even outside the classroom.

The VoScreen Educational App

VoScreen is a web and mobile app used mainly for foreign language learning, both autonomously and in a school setting. When the Wharton School of the University of Pennsylvania, a well-known US business school, held the 'Reimagine Education' competition in 2016 for more than 500 international initiatives, Vo-

Screen, which was developed in Turkey, was awarded third place in the 'Best Education Application' category. The app is now used in 74 countries, and the number of people using it has grown to over 1.7 million. Students can use a Facebook account or email address to sign up, and they can choose from many videos in the category of language education. The duration of each video is around 15 seconds, and the content is taken from movies, television serials, and advertisements. At the end of each video, students' comprehension of the dialogue is tested with multiple-choice questions; points are added for each correct answer and deducted for each incorrect answer. The time allowed to answer each question depends on the length of the video. Once a user has finished the questions, the screen displays the correct answers for those that were not answered or were answered incorrectly, and wrong answers are recorded as such in the system. The scored points are used to rank the app's global users, creating competition. Users can obtain detailed records of the questions they have answered, the number of days they have practiced, their numbers of correct and incorrect responses, and the categories to which the answered questions belong.

The videos on VoScreen are grouped into categories, one of which, VoScreen Life, which contains videos about everyday life. Videos developed for children are in the VoKido category, which comprises three color subcategories: Red, Yellow, and Green. Another major category is VoStep, which contains foreign language courses at different levels, the subcategories of which are Beginner, Elementary, Intermediate, Upper, and Advanced. Each subcategory contains relevant questions regarding the videos for that level. The videos in the VoStructure category address grammar, and its subcategories address grammar topics, with titles such as 'Can', 'Am-Is-Are', and 'Will'. Another main category, VoRhythm, contains subcategories for the age groups 1–3, 4–6, 7–9, 10–12, and 13+ accompanied by relevant questions.

Teachers can create classes using their personal accounts. Once a class has been created, the teacher is given an address to use for student registration. This address is then shared with the students who can register for the class using their own accounts. Teachers can create multiple classes in this way. Students can check the points that they have scored and view a grading list for their registered classes. They can also view a variety of other statistics, such as the categories included and the number of students who gave correct and incorrect responses. This generates a sense of competition.

In this study, the researcher used VoStructure, creating a class with her own account and then sharing the registration address with learners so they could register using their own accounts. The purpose of the study was to examine whether the use of the VoScreen app could enhance grammar learning for EFL students. The study also investigated the potential differences in grammar skills and knowledge acquired by students in the control and experimental groups by comparing their results.

Based on the previous discussion, the current study is significant because (a) the VoScreen educational app is not currently used in Saudi EFL classrooms, (b) the videos in the VoStructure subcategory of VoScreen are appropriate for many language levels, (3) this is, to the best of the researcher's knowledge, the first use of a secure web and mobile language skills app in an Arab country, and (4) there has been no previous trial studying the VoScreen app in an EFL educational context, particularly teaching grammar.

The purposes of the study are two-fold:

1. To determine the impact of using VoScreen on teaching grammar to EFL students.
2. To measure the effect size, if any, of the VoScreen educational app on teaching grammar.
3. Pursuant to these purposes, the following research questions were formed:
   To what extent does the VoScreen educational app affect the achievements of EFL students in learning English grammar?
   What is the effect size, if any, of the VoScreen educational app on EFL students' achievement in learning English grammar?

Based on the first research question, the following null hypotheses were formulated:

1. There will be no statistically significant differences in the mean pre-test scores of the control and experimental groups at $P < .05$ with respect to the use of the VoScreen educational app in teaching grammar.
2. There will be no statistically significant differences in the mean post-test scores of the control and experimental groups at $P < .05$ with respect to the use of the VoScreen educational app in teaching grammar.

Methods

Participants

The participating students in the control and experimental groups were 40 female Saudi EFL students at the Community College of Taibah University. All participants were native Arabic speakers 19–21 years old (SD = 0.18). The participants were selected randomly, and all were enrolled in the first level of an EFL course. They shared the same variables: (a) years of schooling, (b) amount of present EFL learning, and (c) no previous visit or stay in an English-speaking country.

Experimental Design

This study used an experimental research design, which relies on statistical analysis to prove or disapprove a hypothesis, making experimental research the most reliable form of research (Knight, 2010). According to Mitchell (2015), the experimental research design focuses on establishing causal validity or a cause-and-effect relationship between established variables. In this study, the use of experimental research is intended to establish whether the use of the VoScreen mobile app helps EFL students learn grammar. Hence, the experimental design employed in this study involved a pre-test and post-test control group (Isaac & Michael, 1983), as shown in the following table.

Table 1

Experimental Study Design

Group	Main Procedure of the Study
Experimental (Random selection)	Pre-test --- experimental treatment --- post-test
Control (Random selection)	Pre-test --- no treatment --- post-test

Instruments

To effectively address the research questions, the researcher developed a pre-and post-test to assess participants' grammar performance to measure VoScreen's impact on EFL students' grammar learning compared to the standard approach of lectures and textbooks. The test consisted of 20 questions: 10 multiple choice, 5 sentence or phrase formation, and 5 error correction/error identification. At the outset, correctly answering each test item earned one point. The test was graded by the researcher. Prior to the assessment, a panel of EFL experts refined the test and confirmed the face and content validity of the test items. Cronbach's alpha (0.93) was also used to measure and ensure the reliability of the test.

Procedure

The following research procedure was conducted:

1. Forty EFL students in their first year of community college were randomly selected and assigned to one of two groups: a control group and an experimental group.
2. Both groups took the pre-test, and the researcher told each student their score.
3. The lengths of class time were equated.
4. Both groups used the same instructional materials, which were adopted from the textbook *Q: Skills for Success Reading and Writing* by Jennifer Bixby and Joe McVeigh.
5. The researcher taught both groups five units that addressed the present simple tense, the past simple tense, and the formation of questions.
6. The control group continued hour-long meetings twice per week over five weeks using the traditional method of standard lectures and a textbook.
7. The experimental group, using the VoScreen app, continued hour-long meetings twice per week over five weeks.
8. The researcher created a class and asked the students from the experimental group to register.
9. The students were requested to watch a minimum of 20 videos from the VoStructure subcategories appropriate to the objectives of the grammar unit they were studying.
10. The researcher continually monitored the students' progress and endeavored to motivate them to watch the videos.
11. Both groups of students took the post-test, and the researcher told each student their score.
12. The results of the completed tests were coded for statistical analysis.

Results and Discussion

Means and standard deviations were utilized to test the validity of the hypotheses. A *t*-test was utilized to identify the significance of the differences between the mean scores of both groups on the pre-test and post-test, where eta squared (η^2) was utilized to calculate the effect size of VoScreen on EFL students' achievements in learning English grammar.

The first hypothesis: There will be no statistically significant differences in the mean pre-test scores of the control and experimental groups at $P < .05$ with respect to the use of the VoScreen educational app in teaching grammar. Table 2 indicates the data essential for testing this hypothesis.

Table 2

Descriptive Statistics of the Study Prior to the Treatment

Group	N	Mean	Std. Deviation	Std. Error Mean
Control	20	10.2000	5.04297	1.12764
Experimental	20	10.1000	5.63728	1.26053

Table 2 shows the mean achievements of the control and experimental groups prior to the intervention, that is, before using the VoScreen app. As the table indicates, the control group had a relatively lower mean ($M = 5.04$, $SD = 1.12$); the mean achievement of the experimental group was ($M = 5.63$, $SD = 1.26$). To test the hypothesis, an independent sample *t*-test was conducted (Table 3).

Table 3

Results of the Pre-Test

		Levene's Test for Equality of Variances		**T-test for Equality of Means**						
		F	Sig	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Pre-test scores	Equal variances assumed	1.707	.199	.059	38	.953	.10000	1.69131	-3.32388	3.52388
	Equal variances not assumed			.059	37.538	.953	.10000	1.69131	-3.32526	3.52526

According to Table 3, the mean achievement difference between the experimental and control groups was not statistically significant at $p \leq .05$ ($t(38) = 0.59$, $p = .953$). The null hypothesis about the mean achievements of the control and experimental groups on the pre-test is therefore accepted.

The second hypothesis: There will be no statistically significant differences in the mean post-test scores of the control and experimental groups at $P < .05$ with respect to the use of the VoScreen educational app in teaching grammar.

Table 4
Descriptive Statistics of the Study after the Treatment

Group	N	Mean	Std. Deviation	Std. Error Mean
Control	20	21.2000	3.91488	87539.
Experimental	20	27.2500	2.95359	66044.

According to Table 3, the mean achievements of the control and experimental groups after the intervention are substantially different: The mean achievement of the control group is (M = 21.2, SD = 3.91), while the mean of the experimental group is (M = 27.25, SD = 2.95).

An independent t-test was also conducted on the data to determine the significance of the observed differences in Table 4, the results of which are in Table 5.

Table 5
Results of the Post-Test

		Levene's Test for Equality of Variances		T-test for Equality of Means						
		F	Sig	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Pre-test scores	Equal variances assumed	1.064	.309	-5.517	38	.000	-6.05000	-6.05000	-8.26992	-3.83008
	Equal variances not assumed			-5.517	35.337	.000	-6.05000	1.09659	-8.27543	-3.82457

As evident in Table 5, the significance level (.001) is less than (0.05), indicating statistically significant differences between the mean scores of the experimental and control groups in the post-test in favor of the experimental group with respect to the use of the VoScreen educational app in teaching grammar. Therefore, we reject the null hypothesis and accept the alternative hypothesis. The students achieved better results, and their level of achievement was higher than the control group, indicating the effectiveness of the VoScreen educational app in teaching grammar.

To evaluate the effect size of the independent variable (VoScreen app) in changing the dependent variable (teaching grammar), the improvement of academic achievement in learning grammar, eta squared (η^2), was estimated (η^2= 0.14 < 0.444). This indicates that the effect size of the independent variable is large.

These results support prior research findings. For example, Klimova (2019) explored the impact of the use of mobile technology on foreign language learning among university students and found that better results could be achieved by tailoring or designing mobile learning to address students' specific needs. Similar findings were also made in the research of Elfeky and Masadeh (2016) as well as Wu (2015), where he found that EFL students who used the smartphone educational app (Word Learning-CET6 app) significantly outperformed those in the control group. This result also coincides with Al-Fahad's (2009) study, which determined that the usage of technology in language learning supported EFL students' learning and enriched students' learning experiences.

Conclusion and Recommendations

Based on the present study's findings and discussion, the VoScreen educational app significantly enhances student performance in learning grammar. Mobile apps should be used to support learning grammar and to improve contextual language learning experiences. The VoScreen app should be used as a device to teach and learn grammatical points. EFL teachers should become familiar with the use of VoScreen and consider its beneficial effects on the performance of EFL learners, and they should consider incorporating it into their language classes and language-teaching strategies. Language instructors should provide opportunities to learn, practice, and enhance language skills through VoScreen app. Additionally, instructors should enhance pre-service teachers to adopt the VoScreen app in language teaching classes at various language grades. Pre-service teachers should also be familiar with how to use the VoScreen app in a school setting. EFL instructors should familiarize pre-service teachers with apps that are installed on mobile phones and other portable devices to offer educational resources for language learning. Further experimental investigations are required to explore the relationship of using the VoScreen app in relation to age and gender. Future work should focus on improving the effectiveness of language teaching and the teaching experience via the VoScreen educational app, and it should further explore the perspectives of both teachers and students regarding the use of VoScreen app in teaching grammar. It is also important to explore and examine the use of the VoScreen app in teaching other language skills. Generally, further research is also needed to investigate EFL learners' attitudes toward using the VoScreen app in learning English.

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