

The Use of Mobile to Boost Iranian EFL Learners' Grammar Knowledge: The Case of Grammar Learning Application in Focus

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Abstract

Using a mobile device in education opened a new way for the teaching and learning process. One aspect of the English language which has been subject to investigation in mobile-assisted language learning (MALL) is grammar. The main purpose of the present study was to probe the efficacy of mobile applications for grammar learning. In so doing, a quasi-experimental research design was adopted to investigate the effect of grammar learning application on EFL learners' grammatical knowledge. For this purpose, 50 Iranian female Intermediate learners were recruited to participate in this study. They were assigned to two groups; control and experimental, consisted of 25 learners in each group. To assess the learners' grammatical knowledge before specific treatment, a pretest of grammar was administered. After the pretest, in each session of the treatment, the participants in the experimental group were taught grammar through Grammar Learning Application on their mobile phones, and in the control group, a conventional method was employed for teaching grammar. After 14 sessions, to discover the effect of treatment both groups participated in another grammar test as the posttest. Finally, an independent samples t-test was run on obtained data. The results indicated that participants in the experimental group performed significantly better in the posttest, demonstrating the effectiveness of the mobile application used in this study on learning grammar. The findings are beneficial for syllabus designers, material developers, and EFL teachers to use mobile applications in teaching grammar.

Keywords: EFL learners, Grammar Ability, M-Learning, Grammar Learning Application

INTRODUCTION

Language is essentially a means of communication among the members of society. Hence to obtain effective communication skills, the learners should pay great attention to grammar. As mentioned by Crivos and Luchini (2012), grammar plays an important role in language learning without which, effective communication may be impossible. Thornbury (1999; as cited in Mart, 2013) mentioned that grammar is a description of the rules for forming sentences, including an account of the meanings that these forms

convey. About grammar, Larsen-Freeman (2001; as cited in Mart, 2013) asserts that grammar is a system of meaningful structures and patterns that are governed by particular pragmatic constraints. Unfortunately, learning grammar is not an enjoyable or easy task, and teaching this important skill is completely different from teaching other skills (Aslani & Heidari, 2015). In fact, a suitable situation should be provided for grammar learning (Cakir, 2004), and technology as one of the most important teaching aids may provide this situation (Hermans, Tondeur, Van Braak & Valcke, 2008). From among all new technologies, the mobile phone as one of the most convenient ones can easily be used as a learning device (Evans, 2008; Peçherzewska & Knots, 2007) to shape Mobil learning which was defined as 'any educational devices which take place in the learning and teaching process by using technologies such as smartphones or iPads' (Peçherzewska & Knots, 2007). Many research studies have been done on the improvement of grammar (Dornyei, 2005; Rutherford, 1987; Schulz, 2001) but still students have problems in learning grammar and have not enough grammatical knowledge. It is believed that using a different application that was designed for teaching and learning via mobile can motivate students to learn better (Mahdizadeh, Biemans, & Mulder, 2008). One of these important mobile applications is Grammar Learning Application. As a result, the current research aimed at investigating the effectiveness of such a device on Iranian EFL learners' grammar knowledge. To reach this purpose, the following research question and hypothesis were postulated:

Q1: Does Grammar Learning Application have any significant effect on grammar knowledge of Iranian EFL learners?

H0: Grammar Learning Application does not have any significant effect on grammar knowledge of Iranian EFL learners.

REVIEW OF THE RELATED LITERATURE

Using technology is an inevitable part of almost every aspect of life and educational environments are no exception (Hashemifardnia, Namaziandost & Rahimi Esfahani, 2018). Recent developments in technology have shown that technical assistance is not limited to computers anymore and "almost all the capabilities of computers have been fit into mobile devices, such as phones and tablets, which have increased access to technology in many classrooms" (Hashemifardnia et al., 2018, p.257). Using the mobile device in education opened a new way for the teaching and learning process. In fact, mobile devices are effective tools for language learning (Rosell-Aguilar, 2007) and have a positive effect on the development of language skills (Chang & Hsu, 2011). Mobile learning was defined as the process of learning and teaching with mobile (Kukulka-Hulme & Shield, 2008). Geddes (2004) believed that mobile learning or m-learning is a kind of learning that permits students to learn all types of knowledge, and earn different kinds of information and skill anywhere and at any time. On the benefit of mobile learning Woodill (2011) adds that it can improve retention, efficiency, and motivation in language learning. Many other researchers also believe that mobile learning may increase learners' motivation (Chen, Liu & Hwang, 2016; Su & Cheng, 2015 & Vibulphol, 2016) and help them to learn grammar better. According to Chalker and Weiner (1994), grammar can be

defined as "the entire system of a language, including its' syntax, morphology, semantics, and phonology" (p.45).

To communicate properly in any language, a sufficient amount of grammar knowledge is needed. According to Beverly (2007), "Grammar is the sound, structure, and meaning system of language. All languages have grammar, and each language has its own grammar" (p. 1). The role of grammar is to "help students discovering the nature of language, i.e., that language consists of predictable patterns that make what we say, read, hear, and write intelligibly" (Azar, 2007, p. 3). As Azar (2007) mentioned without grammar, people would have only individual words or sounds, pictures, and body language to communicate meaning.

A good English proficiency comes from a good grasp of grammar. As it was mentioned by Canale and Swain (1980), one of the most crucial components of a language is teaching and learning grammar. Thus, teachers should motivate learners to learn this important skill by using new technology. Using different kinds of applications on a mobile phone, tablet and iPad can enable students to learn the English language namely grammar better (Wang, 2016). They provide a situation that allows students to assess their knowledge on specific topics such as verbs, grammar points, prepositions, tenses, etc (Wang, 2016).

Munir, Amelia, Issham, and Siti Nur Afiqah (2012) claim that teaching grammar through mobile may be a possible pedagogical tool that will offer benefits to students. According to Azizan and Gunasegaran (2013), the mobile-based approach to teaching and learning English grammar is unique in that it allows the language learners to benefit from the learning process in a ubiquitous and more personalized manner. This approach can also enrich, enliven, or add variety to the conventional method of grammar learning as it is digitally designed, flexible and mobile - i.e., anytime and anywhere (Azizan& Gunasegaran,2013).

Many studies have been done on the use of mobile to improve different language skills such as reading, writing, listening, and pronunciation (Abbasi & Behjat,2018; Gheytsi, Azizifar & Gowhary, 2015; Hashemifardnia et al., 2018; Rahimi & Soleymani, 2015; Xodabande, 2017) and found a positive effect. Other studies specifically focused on grammar and investigated the impact of mobile learning on EFL learners' grammar knowledge (Alkhezzi & Al-Dousari, 2016; Baleghizadeh & Oladrostam, 2010; Clifton, 2006; Salabery, 2001; Wang & Smith, 2013). For example, Alkhezzi and Al-Dousari (2016) in their study explored the impact of using mobile phone applications on teaching and learning English in an ESP context. The results showed that using mobile phone applications to teach foreign language skills has impacts on learners' comprehension of vocabulary and grammatical rules. Furthermore, Baleghizadeh and Oladrostam (2010) in their study investigated the effect of mobile phones on grammatical knowledge of EFL learners. The results indicated that the learners who benefited from mobile-assisted learning in the experimental group had better performance on a multiple-choice grammar posttest than the learners in the control group.

Besides, Clifton (2006) investigated the effect of MALL on grammar. The results showed that the use of Electronic learning facilitated overall grammar learning. In another study,

Wang and Smith (2013) examined both the feasibility and the limitations of developing English reading and grammar skills through the interface of mobile phones. Throughout the project, reading and grammar materials were regularly sent to students' mobile phones. Findings indicated that reading and learning grammar through using mobile devices is regarded as a positive language experience. Finally, in contrast with the results of the above-mentioned studies Salabery (2001) has found that learning grammar-based MALL cannot meaningfully facilitate learning.

METHOD

Participants

To accomplish the objectives of this study, 50 Iranian female learners were considered as the main sample of the study. The participants were selected from among 80 EFL learners studying at one language institutes in Tehran, Iran. All of them were at the intermediate level of proficiency in English based on the results of the Nelson English Language Test. The sample of the present study was randomly assigned to experimental and control groups each with 25 learners. They varied in age from 17 to 21 and all were native speakers of Persian.

Instruments

Nelson Homogeneity Test

To homogenize the participants of the current study, Nelson English Language Test (Fowler & Coe, 1976) was conducted to assure that the participants were all at the intermediate level of proficiency. The applied test contained 50 items. The test is set for a 30 (60%) pass mark.

Grammar Learning Application

English grammar application is an offline application. To use it no internet connection is required. With this application, the learner can learn grammar quickly and effectively. This application uses the most effective task to build learners' grammar skills. It's perfect for beginner, pre-intermediate, and intermediate levels. Nice design and easy interface navigation make it clear and more attractive. It also includes complete test tasks to see which grammar topics of English you are good at and which of them require review. (Grammar learning app, 2019).

Grammar Test as Pretest and Posttest

To check the participants' grammatical knowledge before and after the treatment, two grammar tests were designed and developed by the researcher. In fact, Pretest and posttest of grammar were employed from learners' coursebook and each of them consisted of 20 questions and the time allocated to each test was 30 minutes. The total score was 20, each item worth one point. The content validity of the tests was checked by two experts before it was administered to the participants. The pretest and the posttest of grammar had the same format but different content for the reason of eliminating the retention effect that the pretest may have on the subjects' performance on the posttest. Additionally, to check the reliability of the pretest and posttest, the internal consistency

reliability of both tests was checked by calculating Cronbach's alpha coefficient and it was found that the reliability of the grammar pretest was 0.79 and the posttest was 0.87.

Procedure

To investigate the effects of Grammar Learning Application on Iranian EFL learners' grammatical knowledge, a structured procedure was designed to collect the data. The research method used in this study was a quasi-experimental one with the pretest-posttest design. To homogenize the students, a sample copy of the Nelson Homogeneity Test was given to 80 EFL learners. This test took more than one hour to be finished. Due to the normal distribution of scores, 50 students whose scores fell between one standard deviation above and below the mean served as actual participants of the study. After that, the selected participants were randomly assigned to two groups: control and experimental groups. Thereafter, the grammar pretest was administered to all subjects one week before the treatment to ensure their homogeneity prior to the beginning of the study. Following this, the treatment period started and lasted for 12 sessions. The treatment was conducted during the term in 2019 and each session took one hour. The role of the teacher in the devoted time was to teach grammar to both groups. In this study present conditional, present continuous, past continuous, present perfect, present perfect continuous, and the passive form of these tenses were selected to be taught in both groups. In each session of the treatment in the experimental group, the participants were required to run Grammar Learning Application on their mobile phones and practice the selected tenses, and complete specified tasks. For each tense, the application first presents one picture with the necessary information about it and introduces all forms of the tenses with some examples. After that, at the bottom of the page, the learners were exposed to some multiple-choice question tests to check their initial understanding of the selected tense. Then, in the final task, the learners were exposed to three sets of multiple-choice question tests to check learners' improvement. The control group received no treatment, actually, they received the instruction and materials as before. The instruction in the control group followed a traditional way of teaching grammar specified by the students' coursebook. Following 6 weeks of treatment, the posttest was administered to both experimental and control groups to evaluate the amount of change in the grammar knowledge of the learners. After the posttest, the collected data were analyzed.

RESULTS

Reliability Analysis of the Grammar Tests (pilot study)

The reliability of 20 items of the pre-test and 20 items of the post-test of grammar was estimated through a pilot study on 15 EFL learners. The results are presented in Table 1.

Table 1. Reliability Statistics for the Pre and Post-Test Scores

	Cronbach's Alpha	N of Items	N of sample
Grammar Pretest	.79	20	15
Grammar Posttest	.87	20	15

The estimated values of Cronbach's Alpha for the pre-test of grammar came to (α pre-test = .79) be an "acceptable" value, and for the post-test amounted to .87, which was considered a "good" value.

Pretest of Grammar

At the beginning of the study, all the participants took part in the pre-test of grammar. The purpose was to prove that they enjoyed the same level of grammatical knowledge before the main study. Descriptive statistics were computed for the results of the pretest scores of the grammar. The results are presented in Table 2.

Table 2. Descriptive Statistics for the Pre-test of Grammar

	Group	N	Mean	Std. Deviation	Std. Error Mean
Pretest of Grammar	Control Group	25	13.81	1.85	.390
	Experimental Group	25	14.21	1.78	.378

Based on the results displayed in Table 4.2, it can be claimed that the control ($M = 13.81$, $SD = 1.85$) and experimental ($M = 14.21$, $SD = 1.78$) groups had close means on the pretest of grammar. The comparison between the mean scores showed that the two groups differed simply some points (0.40) in their mean scores before giving them any specific instruction. To examine if the mean differences between the two groups were statistically significant independent t-test was run (see Table 3).

Table 3. Independent Samples t-Test for the Pretest of Grammar

	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
Equal variances assumed	.441	.514	.872	48	.372	.400	.532	-.622	1.651
Equal variances not assumed			.872	48	.372	.400	.532	-.622	1.651

The results of the independent t-test ($t(48) = .872$, $p = .372$, $r = .126$) representing a weak effect size. Table 4.3 indicated that there was not any significant difference between the two groups' mean scores on the pretest of grammar. Thus, it can be claimed that they enjoyed the same level of grammatical knowledge prior to the main study. It should be noted that the assumption of homogeneity of variances was met (Levene's $F = .441$, $p = .514$).

Posttest of Grammar

To answer the only research question "Does Grammar Learning Application have any significant effect on grammar knowledge of Iranian EFL learners?" of the current study, the researcher statistically analyzed the scores on the post-test. In doing so, first, the

results of descriptive statistics were computed for the posttest scores. The means of the grammar scores for the two groups are displayed in Table 4.

Table 4. Descriptive Statistics for the Posttest of Grammar

	Group	N	Mean	Std. Deviation	Std. Error Mean
Pretest of Grammar	Control Group	25	15.50	1.05	.206
	Experimental Group	25	18.20	1.16	.225

Based on the results displayed in Table 4.4 it can be claimed that the experimental group ($M = 18.20$, $SD = 1.16$) had a higher mean on the posttest of grammar than the control group ($M = 15.50$, $SD = 1.05$). In order to examine if the mean differences between the two groups were statistically significant, an independent t-test was run (see Table 5).

Table 5. Independent Samples t-Test for the Posttest of Grammar

	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
Equal variances assumed	.029	.844	9.200	48	.000	2.70	.312	2.251	3.509
Equal variances not assumed			9.200	48	.000	2.70	.312	2.251	3.509

The results of the independent t-test ($t(48) = 9.20$, $p = .000$, $r = .799$ representing a large effect size) and indicated that there was a significant difference between the two groups' mean scores on the posttest of grammar. Thus, the research null hypothesis was rejected which suggested that Grammar Learning Application has a significant effect on grammar knowledge of Iranian EFL learners.

DISCUSSION

The findings of the current study revealed that participants in the experimental group in which students were taught grammar through Grammar Learning Application had more progress than the control group and this progress was statistically significant. These findings are in line with the findings of other studies (Abbasi & Behjat, 2018; Gheytsi et al., 2015; Rahimi & Soleymani, 2015; Xodabande; 2017) who concluded that the mobile-learning can positively improve different language skills. The results also support the idea of Rosell-Aguilar (2007) who believed that mobile devices can be considered as an effective tool for language learning.

Consistent with findings by Chang and Hsu (2011), the researcher in the current study found that M-learning has a positive effect on the development of language skills namely grammar. The results of this study are also in line with findings of some other researchers who investigated the effectiveness of mobile learning on grammar knowledge in EFL context and found that using mobile applications can improve EFL learners' grammatical

knowledge (Alkhezzi & Al-Dousari, 2016; Baleghizadeh & Oladrostam, 2010; Clifton, 2006; Wang & Smith, 2013). In contrast with the results of this study, Salabery (2001) found that grammar-based MALL cannot meaningfully facilitate grammar learning.

CONCLUSION

As mentioned earlier, the results of this study showed that the treatment could improve the grammar abilities of students. It is proved by representing the achieved results when it showed that there was a great difference between scores of both groups that is the mean of the control group was lower than that of the experimental group in the post-test. The researcher concluded that using mobile as a teaching tool can facilitate grammar learning. In the current study a mobile application, namely Grammar Learning Application was used to teach grammar. Therefore, it can be concluded that this application can be a learning aid for EFL learners both inside and outside of the classroom. The findings of this investigation complement those of earlier studies. The findings of this research provide insights for learners and teachers in demonstrating the importance of using mobile applications to improve students' grammar knowledge. The results of this study can be beneficial to material developers and syllabus designers to design some teaching strategies more adoptable with using mobile applications such as Grammar Learning Application.

Based on the findings, some suggestions for future studies were proposed regarding the role of Grammar Learning Application in improving grammar. This study was conducted on EFL intermediate level and cannot be generalized to other levels, so it can be replicated to other levels of language proficiency. Furthermore, this study was conducted on female EFL learners, further research could study male Iranian EFL learners. Finally, future studies are urged to utilize mixed methods research design to gather both qualitative and quantitative data to probe into the effectiveness of utilizing mobile devices in language teaching/learning on the development of grammatical knowledge.

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