



**AN INVESTIGATION OF EFL LEARNERS' GRAMMAR SELF
EFFICACY THROUGH A MOBILE BASED GRAMMAR
INSTRUCTION PROGRAM**



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ABSTRACT

Self-efficacy refers to a person's abilities which powers for learning and performance. People with high self-efficacy are able to plan successfully and effectively in doing a task (Bandura, 1982). The present project aimed at exploring the EFL learners' grammar self-efficacy of using mobile devices. Also, investigating EFL learners' grammar achievement by a mobile based grammar program was another purpose of the study. In order to achieve the objectives of the study, the researcher adopted an experimental research design. A quantitative method was employed and the data were collected from a sample of 60 EFL students. The experimental group included 30 students employed mobile-learning instructions, while the control group included 30 students who were taught by the traditional way. The sample t-test was used for finding the possible difference between the students' performance of two groups. Also, this research investigated the EFL learners' (experimental group) grammar self-efficacy of using mobile device through pre and post- questionnaires. Finally, the results of the post-questionnaire highlighted the positive effect of the students' grammar self-efficacy of mobile learning. Also, the employment of this application had positive effect on the improvement of Iranian EFL learners' grammar achievement.

KEYWORDS

Grammar, Self-efficacy, Grammar Self-efficacy, Mobile-Learning, EFL Learners

RESEARCH PAPER

INTRODUCTION

Self-efficacy is one of important factors which affect students' achievement in English, (Bandura, 1997). It shows individual's belief about his/her competency to manage and get the concrete plan required to make specified achievements. In the case of failure, self-efficacy believers attempted hard to deal with failure, because they believe that their failure brought a new development. Also, they agreed on overcoming the threatening situations by their attempts. Bandura's (1977) self-efficacy is one of the individual factors and is identified as the conviction that one can successfully execute the behavior needed to generate the findings. Self-efficacy plays a necessary role in individuals' performances, it can have indirect effect on memory (Bandura, 1997, 1986). Self-efficacy was considered as a basic factor to determine individual selections, the exerted attempts, and the persistence of attempts in case of difficulties, the thought patterns and emotional responses. Self-efficacy views are strongly related to motivation patterns such as self-regulation (Zimmerman, 2000). Most of students thought that courses will be higher if they have good self-efficacy and then they will be able to succeed in doing tasks (Britner & Pajares, 2001; Zeldin & Pajares, 2000). People often consider English as a global language or lingua franca. When non-native people all over the world try to speak and communicate with others, they usually use the English language as a means of communication (Ortega, 2013). Moreover, Doff (1988) indicated that as we set the goal of English language learning to be speaking and writing the language, learning the main structures of the English will help them to communicate effectively and more accurately. Currently, newborn mobile technologies are increasingly spreading that can be utilized in many territories. Mobile technologies enable different types of connections via internet and accordingly furnish a solid foundation for the new type of electronic learning, called mobile learning (Fu, Su, & Yu, 2009). These developments shed a light for new technologies that are increasingly facilitating access to data and information. Unlike the traditional ways of learning, mobile learning has been introduced as a new learning technology via the availability of some mobile devices, like smartphones, tablets, laptops, and etc. However, mobile learning enables students to learn whenever and wherever they want on their existing mobile devices (Denk, Weber & Belfin, 2007).

According to Verghese (1989), knowledge of grammar is more important to a second language learner than to a native speaker since the procedure of acquiring the language is different. A native speaker has creatively internalized the grammar of the language while the

second language learner has to make a conscious effort to master those aspects and parts of the language grammar. As Lin (2008) noted, the role of grammar is to help students discover the nature of language, i.e., language consists of predictable patterns that make what the individuals read, say, hear, and write intelligible. As he stated, without grammar, people would have only individual words or sounds, pictures, and body language to communicate meaning. Learners' perceptions (e.g. Tsai, Lin & Tsai, 2001; Oral, 2008) and self-efficacy (e.g. Tsai & Tsai, 2003; Wang & Wang, 2008; Chu & Tsai, 2009) on mobile devices and internet affect their functions. Various factors may have effect on the function and the effectiveness of mobile learning (Judd, Kennedy & Cropper, 2010; Tsai, Tsai & Hwang, 2010; Yang, 2012; Briz-Ponce et al., 2017). Learners' computer self-efficacy and their views were the basic factors which specified the students' participations in mobile learning. Considering the above discussion, the present project tries to investigate EFL Learners' grammar self-Efficacy through a mobile based grammar instruction program.

Statement of the Problem

In addition to the four skills in any language, grammar is an elementary mainstay. According to Hedge (2000), teaching English grammar provides an explicit framework to create correct structures and expedite the learning process. Therefore, teaching grammar should have a tremendous concern regarding any second language teaching process. EFL researchers and teachers should explore the most suitable method to enable students to understand the rules easily and to present accurate forms. Also, Damra (2012) mentioned that grammar is the base of the language that provides students with the required structures and rules in order to organize and arrange their messages and ideas.

Mobile learning has recently raised a lot of attention and it is an extremely fast-moving field that is both specialized and interwoven with daily life and work. Every day, there are new developments, new facts and new figures about device ownership and patterns of use that require us to stop and think about the implications. However, some factors may negatively influence the effectiveness of mobile learning on language instruction which result in a weaker and lower percentage of the students' learning participation in mobile learning (Kreijins et al., 2003; Gulati, 2008; Isman & Celikli, 2009; Judd et al., 2010; Mompean, 2010). Some researchers found a problem in language classes that the students' ability to use grammar is not eligible (Lin, 2010; Mustapha, 2017). This, elicits findings of other strategies such as mastery learning model to make students such a level of mastery. Based on that, this

study tried to find solutions for mastery learning in which students achieve a better level of mastery of grammar. Students' views and self-efficacy towards using mobile devices were issues to be investigated by researchers. Such an investigation is important because the attitudes and self-efficacy by mobile devices are factors that are expected to affect students' interests, motivation, and performance in mobile based environments. Students' perceptions on using mobile devices may affect the motivation and the interest that students employ to use mobile devices, and it may influence their performance in mobile based learning environments. Taking into consideration both the importance of grammar self-efficacy of using mobile devices and investigating EFL learners' grammar achievement, this study examined the EFL Learners' grammar self-efficacy via mobile learning, and also investigated the students' self-efficacy of using mobile devices.

Significance of the Study

Self-efficacy, a significant component in Bandura's (1986) social cognitive theory, has enormous effects on one's effort, interest, persistence and performance. Self-efficacy has the potential to play a key role in the learning process by helping or hindering learner's progress. This system can play a major role in how we perceive situations and how we behave in response to demanding situations. A person's belief in his or her ability to succeed in a particular situation holds an essential part in this self-system. Self-efficacy can have an impact on everything from psychological states to behavior to motivation. Enhancing self-efficacy in learning any difficult linguistic components can pave ways for improving students' performance in learning as well as their language application. It is hoped that the inclusion of self-efficacy in learning grammar will pave ways for both students and teachers for better application of grammar knowledge. This research may help English language teachers to use mobile in teaching grammar and may assist them to organize an effective and exciting teaching-learning environment. Besides, it may help supervisors to make training courses that help the teachers of English to enhance and develop their care and awareness of the importance of teaching English via a mobile application. Also, the new concept of M-learning may be brought into the process of education by carrying out this study. In addition, M-learning can provide a setting in which learners can interact, communicate and learn the materials whenever they are ready for even at midnight. More importantly, students can participate in the process of learning as active users without fear for committing of mistakes or mocking by other students because it may be easier for them to comment and share their

ideas without being seen. Thus, what this study will contribute to the community is significant in the education field by introducing mobile based instruction program as a tool for learning and teaching facilitator.

Research Questions

The present study evaluated the following research questions;

1. What is the effect of mobile learning on the EFL Learners' grammar self-efficacy?
2. What is the effect of mobile learning on EFL learners' grammar achievement?

LITRATURE REVIEW

Self-efficacy Overview

During the 1960s and 1970s, some experts focused on the impressive factors in EFL contexts and one of the effective factors was known as "Self-efficacy". Self-efficacy originated from Bandura's (1986) social-cognitive theory which proposed that individuals' beliefs about their abilities have effect on their subsequent achievement. In Bandura's (1986) view, self-efficacy refers to individuals' judgments of their abilities to arrange and execute courses of action needed to attain designated types of performances. In the other place, Bandura (1982) stated that social cognitive psychologists concentrated on the concept of individual's belief in performing a task which is operationally defined as one's belief to perform a given task and his/her ability to achieve the goal. He added that people with high self-efficacy are able to plan effectively and successfully in doing a task. Such people believe in their capacities and employ them confidently for achieving their aims. In contrast, the people will be unable to achieve their goals, if they avoid doing complicated tasks. Thus, high self-efficacy people are those who understand their capacities and plan their activities effectively, whereas the people with low self-efficacy are not able to do their assignment (Bandura, 1982). Martinez-Pons (2002) classified self-efficacy into groups, one of them is academic self-efficacy and in their views, it reflects a student's perceived ability that a student is expected to perform in academic context. In literature, Academic self- efficacy and Cognitive abilities have been known as well-established predictors of academic performance. On the other hand, specific mechanisms have not been sufficiently investigated. They might lead the relationship between academic self-efficacy and cognitive abilities (Schunk, 2004).

Related Studies on Mobile Learning

Sharples, Corlett, and Westmancott (2002) investigated early technology scenarios to support contextual lifelong learning i.e. they searched for the features that would enable collaboration learning. So, the first generation technologies expected to organize learning collaboratively and it required features that nowadays are available on almost every device. The early ancestors of today's technologies are the simple use of Mobile phones as content delivery of information. Lu (2008) explored the application of short message services (SMS) in the teaching of vocabularies and found SMS to foster learning and retention of words, and a similar study was done by Thornton and Houser (2005) which investigated the effectiveness of using E-mails as content delivery of the material. The results revealed that teaching idioms in a "Learning on the move" context can be an effective tool. Moreover, Wang, Shen, Novak, and Pan (2009) developed a cutting-edge mobile instructional system that teacher to deliver the live broadcast of real-time classroom teaching to students with mobile devices. The results proved M-Learning activities can engage in the learning process effectively. Using podcasts is considered also as an effective way of implementing M-Learning (Al-Fahad, 2009; Lee & Chan, 2007).

What is more, implementing M-Learning in science other than language learning has attracted many interests recently. Although the applications described were under development and not fully satisfactory, they were the early efforts been made to integrate M-learning into every day's life (by providing post museum concept). Along with these activities, there are many methods for learning and teaching sciences and skills, called Science-Technology-Society (STS) that is designed to increase the students' interests. Students can think of solutions to problems or plan activities by e-portfolios on PDA (Chao, Haung, Chen, & Chang, 2009). For natural science course, Chu, Hwang, and Tsai (2009) designed a study in which students equipped with a mobile device that guided them to observe the features of plants in the school campus and showed positive effects for M-Learning. Tango system was another leading generation of "Ubiquitous Learning" environment that provided tags on real objects in the classroom and enabled students to read and write the information provided on the tags (including explanation, answer, and questions). The results revealed the significant improvement in language learning of students whose first language was Japanese (Ogata, Yin, El-Bishouty, & Yano, 2007). The design must be centered on user needs that easily understood by users. However, the shortcoming of the study is the platform of the application which is only IOS Platform. Also, there are some

applications designed specifically for learners with special educational needs. The learning application presented in this study is Picaa. Also, it is important to note that M-Learning has found its way in Iran recently at an enormous pace. Azabdaftari and Mozaheb (2012) compared using M-learning and Flashcards and found the use of mobile phones for language and vocabulary learning would be a better strategy rather than other techniques such as flashcards. Another study by Hedayati and Mohammadi (2016) reported M-learning environment to represent English idioms and share them with peers to be discussed in the classroom. The results displayed that this method supports greater learner autonomy achieved by learner-generated context.

Related Studies on Self-efficacy

In previous decades, self-efficacy has been explored widely in educational setting, primarily in the area of academic performance, motivation, and self-regulation (Linnenbrink & Pintrich, 2002; Schunk, 2004). Also, self-efficacy studies considered some variables as learning strategies, motivation, language achievement, and language anxiety in EFL contexts. Numerous studies revealed that high levels of self-efficacy are related to the good performance in language learning tasks in different language domains (Hsieh & Schallert, 2008; Wang, Kim, Bong & Ahan, 2009; Rahimi & Abedini, 2009; Ghonsooly & Elahi, 2010; Farjami & Amerian, 2013; Liu, 2013). Ghonsooly et al., (2012) examined the relationship between university students' self-efficacy and their achievement in general English, and a significant positive relationship between the students' self-efficacy and their achievement in general English was achieved. The same result was also provided in other studies which focused on self-efficacy as a strong predictor of academic achievement (Rahemi, 2007; Hsieh & Schallert, 2008; Rahimpour & Nariman-Jahan, 2010; Doordinejad & Afshar, 2014). Some other studies evaluated the relationship between EFL learners' self-efficacy and reading comprehension skill. In fact, a positive relationship was found between self-efficacy beliefs and reading comprehension skill (Shang, 2011; Naseri & Zaferanieh, 2012; Kargar & Zamanian, 2014). However, Asadi Piran (2014) evaluated the relationships between self-efficacy, self-esteem, self-concept, and reading comprehension achievement of 92 EFL students and no significant relationship was found between the students' self-efficacy and their reading comprehension scores.

Li and Wang (2010) checked the relationship between reading self-efficacy and the use of reading strategies in an EFL context. Second year of English students in China University

were selected as the participants and answered two questionnaires. The findings indicated that reading self-efficacy was in a positive and significant way related to the use of reading strategies. Therefore, students with high self-efficacy in reading applied more reading strategies compared to ones with low self-efficacy. Another study was done by Rahimi and Abedini (2009). They investigated the relationship between EFL learners' self-efficacy beliefs focusing on listening comprehension and listening proficiency. 61 freshmen undergraduate learners of English were the participants, and a designed self-efficacy questionnaire along with a listening pre-test adopted from TOEFL were the instruments of the study. The careful analysis of the data revealed a great relationship between students' self-efficacy and their listening comprehension skill. Moreover, other study was carried out by Rahemi (2007) with the aim of examining English self-efficacy and EFL achievements among students with low proficiency levels at the senior high school. A structured questionnaire, a measure of EFL achievements, and an interview with the English teachers were the instruments of the study. The findings showed that students had no tendency toward English and did not enjoy positive English self-efficacy. Also, EFL achievements were significantly affected by English self-efficacy. Around the same time, Chen (2007) conducted a study on investigating the relationship between self-efficacy and EFL listening achievement. The results showed a remarkable positive relationship between EFL learners' self-efficacy beliefs and their listening achievement. In the mentioned field, a study was done on writing self-efficacy by Hosseini, and Vahidnia (2013). They found a significant relationship between EFL students' writing performance and their English self-efficacy beliefs. On the other study by Wang et al., (2013), the relationship between self-efficacy and self-regulated learning strategies was explored with the purpose of comparing between Chinese and German participants. English language test was used for checking the students' English proficiency. Self-efficacy indicated similar results between both Chinese and Germans. However, the case was different with self-regulated learning strategies as Chinese students presented a lower level of self-efficacy in spite the fact that their English was not extremely different from the German students. The findings also revealed that female students in both groups got low level in English test, but they showed higher levels of self-efficacy.

METHOD

Participants

The participants of this study were Iranian EFL learners of a language institute in the academic year 2019. In accordance with Dornyei (2007) cluster sampling, all the intermediate EFL learners of four intact classes were selected as the sample of this study. In other words, sixty intermediate English learners were chosen from four intact classes (15 in each class) and took part in this research. They were male and female students whose age ranged from 14 to 18. All of them were teenagers that presented in an English class for about 4.5 hours a week. They had already studied English for 3 years in the language institute.

Instrumentation

In order to gather data, some instruments were employed in this study as pre and post-test of grammar, and pre and post- questionnaire of grammar self-efficacy.

Pre-Test and Post-Test

A pre-test and post-test administered to experimental and control groups to investigate students' grammar performance. The tests were extracted from Nelson Test (Intermediate Level). It is a standard test and it is the paper-based. It gives a good foundation for a professional English qualification. In other words, the purpose of pre-test was to identify the two groups' level of grammar before starting to use mobile application for learning grammar. However, the aim of post-test was to compare the results of the pre-test with the results of the post-test after the experiment, using mobile application for learning grammar. The pre-test consisted of 40 multiple-choice questions and the scores were calculated out of 20. The same test was employed as the post-test. It was administered by the researcher after the treatment to compare the scores and find out the possible differences between the two groups. The test also included 40 multiple-choice grammar questions and the allocated time to post test was 30 minutes. As pre- test, the post-test were scores were calculated out of 20. The questions of the both tests were related to English conditional statements (Type I, II, and III).

Pre and Post- Questionnaire of Grammar Self-efficacy

A pre-questionnaire and a post-questionnaire administered to the experimental group in order to explore the participants' attitude of the study before and after treatment. In other words, a two-part questionnaire consists of 15 items was used to explore the participants' grammar self-efficacy before and after the treatment. The questionnaire developed by Wang et al., (2013), includes 15 items on five-Likert Scale, ranging from "Strongly Agree" to "Strongly

Disagree". The English questionnaire translated into Persian for the participants to follow the items easily. The purpose of pre-questionnaire was to identify the students' views before starting to use mobile application in learning grammar. However, the aim of post-questionnaire was to compare the students' views after the treatment, using mobile application for learning grammar. In other words, before and after learning grammar through mobile, the questionnaires distributed to the experimental class for investigating students' grammar self-efficacy. The questionnaire was made valid by the researcher. In other words, the validity of the instruments, the wording of the survey instruments, and the ease of the implementation of the procedures were examined by two experienced professors in order to avoid any ambiguity and if any final adjustments needed to be done. Totally, the adapted research instrument was checked according to research questions and objectives. To check the reliability, Cronbach's alpha coefficients was tested and it was greater than 0.70 ($\alpha > 0.70$). All the proposed items of the questionnaire represented Cronbach's alpha value greater than 0.70 which indicating acceptable level of reliability.

Data Collection Procedures

For conducting this study, at first four intact classes of 60 male and female learners of intermediate level were chosen by the researcher. Second, out of 60 EFL learners, 30 of them were randomly selected as a control group (CG) and 30 of them as an experimental group (EG). Third, students of both groups participated in pre-test, including grammar questions. Then, their papers were corrected and the scores were recorded by the researcher. Also, the pre-questionnaires were distributed among the students of the experimental group in order to achieve their views towards the effectiveness of students' grammar self-efficacy through using mobile device. After the completion of pre-test and pre-questionnaire, the treatment was imposed on the participants of the experimental group (30 students) in 8 sessions according to the proposed lesson plan. The timing of each session for both groups was 90 minutes. The control group received no treatment and followed the traditional teaching method. However, the students of experimental group employed their mobile phones for learning grammar. The material for teaching grammar was based on English File Textbook which was being thought in the language institute. The questions of the test were related to English conditional statements which had been thought by the researcher in the 8 sessions. At the end of the project, all of the participants of both groups participated in post-test to compare the achieved scores. They should have answered the questions in a limited time (15

minutes). The format of the post-test was similar to the pre- test. Eventually, the papers were corrected and the scores were written next to the pre-test scores for analyzing and identifying the possible differences between the two groups (CG and EG). Additionally, post-questionnaires were given to the experimental group to investigate the effectiveness of students' grammar self-efficacy through using mobile device. The students of the experimental group had to respond to all questions carefully without any time limitation. Then, all the questionnaire were gathered for analyzing and interpreting the data.

Data Analysis Method

In the process of the present study, the comparison of students' performance in grammar tests was investigated. As noted in the previous part, in the data collection stage, the scores of all tests were taken for analyzing. After running pre and post-questionnaires and also pre and post-test, the scores were collected by the researcher. SPSS software version 24 was used for analyzing data. Frequency, mean, and percentage reported to recognize the effect of M-learning on grammar achievement. It should be noted that paired sample t-tests were used to compare the students' answers and scores of the questionnaires and tests.

RESULTS

Quantitative method was applied in conducting this research. In fact, the data were collected through pre and post-tests' scores and the related questionnaires and the following tables present the result.

Data Analysis of Students' Scores

The following table, displays mean and standard deviation of all the students' scores of the two groups, control and experimental. According to careful analysis, in both groups, the mean score has increased in the post-tests. However, the difference between the means of the pre and post-test in the experimental group is remarkable. In fact, the mean of the post-test in the experimental group has increased more than the mean score of the control group.

Table 1. Descriptive Statistics of T-Test

Tests	Group	Control		Experimental	
		Mean	Std. Deviation	Mean	Std. Deviation
Pre-test	Learners' Grammar Achievement	15.35	2.40	15.70	2.55
Post-test	Learners' Grammar Achievement	15.45	2.39	16.25	2.33

Regarding the result of pre-test, mean and standard deviation of learners' grammar in the control group is 15.35 and 2.40 ($M = 15.35, SD = 2.40$), in the experimental group mean and SD reported 15.70 and 2.55 respectively ($M = 15.70, SD = 2.55$). However, considering the results of the post-test, mean and standard deviation of learners' grammar in control group is 15.45 and 2.39 ($M = 15.45, SD = 2.39$), and in the experimental group is 16.25 and 2.33 respectively ($M = 16.25, SD = 2.33$).

Table 2. Paired Sample T-test

		Paired Differences					df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference			
					Lower	Upper		
Con. Group	Pretest - Posttest	-0.10	1.25	0.21	-0.79	0.19	14	0.10
Exp. Group	Pretest - Posttest	-0.55	1.35	0.28	-2.36	-1.03	14	0.00

After the treatment, the students' scores of the two groups indicated the different means. In other words, the mean scores of pre-test and post-test in the control group are 15.35 and 15.45 respectively (Table 1). The difference between the mean scores of the pre test scores is 0.10, which indicates a slight difference between two mean scores (Table 2). However, the difference between the mean scores of the experimental group is more than control group. Based on the careful analysis, the mean of the pre-test in experimental group is 15.70 and the mean of the post-test is 16.25. According to received data, the difference between the mean scores of the experimental group is more than control group ($0.10 < 0.55$).

Results of Pre and Post-Questionnaire of Grammar Self-efficacy

The following table displays mean and standard deviation of the items of pre and post questionnaires. According to careful analysis, the mean score has increased in the post-questionnaire. However, the difference between the means of the pre and post-questionnaire is remarkable ($M1=6.00 < M2=9.00$).

Table 3. Paired Samples Statistics

		Paired Samples Statistics		
		Mean	N	Std. Deviation
Test	Pre-Test	6.00	15	3.86350
	Post-Test	9.00	15	2.97739

Table 4. Paired Samples Statistics of Pre and Post-Questionnaire

		Paired Samples Test				t	df	Sig. (2-tailed)
		Paired Differences						
Test	Pre-Test & Post-Test	Mean	Std. Deviation	95% Confidence Interval of the Difference				
				Lower	Upper			
Test	Pre-Test & Post-Test	3.00	-0.886	0.299	2.245	3.042	14	0.03

According to the received data, Sig is 0.03 and t value is 3.042 which is more than 0.05. Therefore, it can be concluded that there is a significant difference between the two samples (pre and post-questionnaire). Additionally, in this part correlation test was used for examining the possible relationship between the students' views in the pre and post- questionnaire. In table 5, the significance level or sig is less than 0.05, (Sig= 0.01<0.05). Also, the amount of correlation is 0.72, which shows the correlation between the two variables is significant.

Table 5. Correlation Test

		Paired Samples Correlations		
		N	Correlation	Sig.
Test	Pre-Test & Post-Test	15	0.72	0.01

DISCUSSION

This part presents the achieved results as well as examining the research questions. As mentioned in the previous part, the purpose of this research was examining of EFL Learners' grammar self-efficacy by M-learning. The data were gathered and the findings are discussed.

Evaluating the Research Questions

The questions guiding the research are presented here:

1. What is the effect of mobile learning on the EFL Learners' grammar self-efficacy?

In Stahl's (2005) view M-learning method enhances students' academic skills through motivating them to interact, ask, and answer questions, make decisions, and solve problems. On top of that, the students would have great opportunities to interact with each other.

One of the contributions of this study was to assess EFL learners' grammar self-efficacy after the implementation of using mobile devices in learning grammar. Most of the participants could understand grammar told in English, do their homework alone, and

download English grammar on the Internet. Also, most of them could use the grammar thought, write a text in English and guess the meaning of unknown words when they read an English text. Besides, they could form new sentences from new grammar and ask their questions in English. Descriptive analysis of the students of the experimental group revealed that a high percentage of them could introduce themselves and leave a note for another student in English. Furthermore, most of the participants could write an essay, understand new reading materials and TV program in English. Additionally, they could describe their class, understand English dialogues and discuss with their classmates in English. The results of the questionnaire, hence, indicates the mobile learning had positive effect on EFL learners' grammar self-efficacy. In other words, it has been proved that the EFL learners' grammar self-efficacy of M-learning was improved.

2. What is the effect of mobile learning on EFL learners' grammar achievement?

The other contribution of this study was to identify the impact of M-learning on EFL learners' grammar achievement. In the previous chapter, descriptive statistics indicated the students' improvement in grammar by using a mobile application. Based on the related table (1) in the control group, the means of students' scores reported as 15.35 and 15.45 in the pre-test and post-test respectively. However, in the experimental group, the mean score of pre-test was 15.70, and the post-test obtained as 16.25. In other words, the difference between the mean scores of the pre test scores is 0.10, which indicates a slight difference between the two means. However, the difference between the mean scores of the experimental group is more than control group. According to received data, the difference between the mean scores of the experimental group is more than control group ($0.10 < 0.55$), therefore the EFL students had better performance in grammar in post-test. Findings of the study indicated that there was a moderate difference between the mean scores of the experimental group in the pre and post-test. Due to the careful analysis, it can be concluded that mobile learning had positive effect on EFL Learners' grammar achievement.

CONCLUSIONS AND IMPLICATIONS

As mentioned before, the results of this study were obtained from the quantitative method which included the students' response to the questionnaires, and participating in the grammar tests. The findings of the study indicated that M-learning had impact on the students' levels of grammar in the experimental group, who were taught by the M-learning method, compared with the control group which was taught according to the traditional method. Returning to the

research questions, the statistical analysis of the data obtained from the students' performance proved that there is a relatively amount of achievement in grammar. Besides, the findings of the post-questionnaire showed that M-learning created a friendly environment for the students that they interacted with each other. As the students had very limited time in the class, it can give them extra time to practice English skills out of the classroom. Furthermore, the learners did not regard any barriers to using it in the class as they felt it is easy to use and did not mention the possible difficulties with using it. These findings are in line with the previous studies which proved that m-learning helps to improve students' skills e.g. Emekci (2016); Pratama (2015); and Komara (2014). They indicated the positive effect of using this method on students' achievement. Besides, the outcomes supported the previous studies in that the m-learning project can increase students' learning participations in the learning tasks (Attewell, 2005). Additionally, there is an agreement with some studies that illustrated positive attitudes and self-efficacy among students of elementary school (Tsai et al., 2010), high school (Wang & Wang, 2008; Poll, 2014), as well as among college students (Yang, 2012; Mnaath et al., 2013, Sung et al., 2016). There is also an agreement with these studies regarding the remarkable relationship between EFL learners' views and their self-efficacy in using mobile devices. More importantly, this new method proves to be a key feature of effective teaching and learning. Thus, teachers are invited to shift from the traditional methods and adopt new ones that depend on support and assistance. Providing help and assistance to students by instructional innovative method enhance student learning. It can be one of the principles of effective instruction that enables teachers to accommodate individual students' needs, and it would be supportive, encouraging, and fascinating for students who like the idea of being active participants. On top of that, this method develops the cooperative learning among the students. Group work techniques can help students to share their ideas, support each other, and motivate them towards an independent practice of the English language. Eventually, the current study came to the conclusion that the students' grammar self-efficacy and attitudes were core factors which affected the success of M-learning.

As a part of the study, the researcher gathered information about the impact of m-learning on EFL learners' grammar achievement and also the effect of self-efficacy by M-learning at the language institute. These outcomes may be used to redesign the grammar activities at language institutes, primary and high school, and other educational environments. Furthermore, the findings may be used to suggest teachers in using classroom management applications in their classes since participants' attitudes were positive towards working with

mobile. The researcher's willingness and experience about the further use of this method in spite of the possible problems may serve as an important example for other teachers in an educational setting. Moreover, M-learning can help the English language teachers to benefit from the suggested technique and its content when teaching English skills. Teachers must often rethink the new ways of teaching English and this new method of learning can contribute to improve the process of teaching English. Also, the curriculum should be suited to the students' needs, interests, abilities, and etc. To gain student confidence in learning English, the teacher must build on the student's prior experience, knowledge, attitudes, and ideas. All these findings may encourage teachers to implement new methods of teaching as M-learning in their teaching instruction. According to Açıkgöz (2002), students easily forget what they have learned during lectures in which traditional methods such as lecture and dictation are used. In classes where the traditional whole class methodology is used, the teacher is the leader and decision maker, while students are passive listeners and note-takers. Generally, students just memorize the presented materials by the teacher and then forget them after the examination. However, in classes where a new method as M-learning is used, teachers are facilitators, and students are investigators and discoverers. They ask questions, make predictions, discuss, analyze, identify their strengths and weaknesses, and attempt to learn. For Iranian teachers and students, which the traditional methods have been used for a number of years, altering these roles might be challengeable. Informing about the possible challenges related to adopting the new roles, may help teachers who plan to use mobile activities in their instruction. In order to avoid some problems which may result from the difficulties in adopting new roles, both teachers and students need to train on new methods of teaching. In these training sessions, they may be aware of how to work effectively, and how they can overcome some possible difficulties.

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