THE IMPACT OF USING MOBILE TECHNOLOGY ON DEVELOPING EFL LEARNERS' WRITING SKILL

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ABSTRACT

The purpose of the present study was to determine whether using mobile technology had any impact on developing Iranian EFL learners' writing skill. Moreover, the study intended to find out the type of contribution clues mobile technology could provide in improving the students writing. Two classes of 20 female students were chosen. A Nelson test administered at the beginning of the study showed that the two groups were homogenous in terms of their language proficiency. The design of the study was quasi-experimental. Both experimental and control groups were taught writing using the traditional method, however, the students in the experimental group submitted their assignments through mobile applications (Email or Blog or WhatsApp). They also used mobile for recording, sending, and receiving the writing skill materials. After the treatment, on the 12th session, the two groups were given a post-test of writing in order to measure the improvement of each group. Finally the scores were collected. The result of data analysis demonstrated that using mobile technology had a significant impact on improving learners' writing skill.

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Contribution/ Originality

This study is one of very few studies which have investigated the effect of using mobile technology on the development of EFL learners' writing skill. The paper's essential contribution is its finding that utilizing mobile technology has a significant impact on ameliorating students' writing skill.

1. INTRODUCTION

Technology and technological devices have drastically influenced all aspect of human life in recent decades. A few years are usually regarded as a long period for the world of technology. The powers and features of these technological devices have increased logarithmically with the developments. In parallel with this, the variety and usage of technological devices have been increasing in education as well. Such a great importance attached to

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knowledge and technology and using them in an intensive way in social fields are considered one of the most important factors that require structural changes in the field of education as in other fields (Erişen and Çeliköz, 2007).

Our word today is a rapidly developing and changing world where knowledge is doubled and technology is constantly developing. In line with these developments, new technological devices have gradually emerged. Technological devices have been benefitted throughout the history. Communities and individuals are able to have an access to knowledge, make it available for their own usage and make an addition to it as well as spread it (Warschauer and Meskill, 2000).

Not only our social lives, but also our educational systems have been influenced by technology. According to Al-Ghazo (2008) technology is the best instructional tool to help learners enhance their knowledge of the target language. He also added that technology plays an important role in enhancing the process of language learning and teaching.

According to Al-Ghazo (2008) the use of technology in teaching and learning environment is an important aspect, which has received considerable attention in recent years. Technology can affect teaching methods and students' learning. It can effectively improve the educational system and can function as a tool to facilitate learning. By applying technology in the classroom and involving it in the curriculum, teachers can improve their teaching and also encourage collaboration and cooperation among students. However, to integrate technology in the classroom, teachers need to be proficient enough to employ it in their instructions.

Among various technological devices, mobile or smart phones have gained prominence in educational settings as practiced and versatile instructional tools. Pachler *et al.* (2010) state that mobile devices have increasingly grown toward becoming tools for education and language learning, and all their users such as teachers and students are getting used to this environment to make education as ubiquitous as possible. Moreover, the emergence of the internet made open and distance learning a means of receiving education from all parts of the world. Students do not always have to study a second language in a classroom. They may have the opportunity to learn it using mobile devices when they desire and where they are.

Not so long ago , for example, language teachers would have needed a room to accommodate their language ,laboratory ,desk top, computer ,digital camera ,CD library ,radio ,television ,tape recorder ,microphones ,sound system ,telephone ,text book ,dictionaries and game activates. These –and more-are now covered into a single mobile device. From which our students are inseparable, promoting nomadic or "anytime, anywhere" language learning (Godwin-Jones, 2003; Chinnery, 2006).

1.1. Using Mobile in Language Learning

According to Geddes (2004) mobile learning is a kind of learning which takes place at any time and in any place, that is; it extends teaching and learning outside of the walls of the classroom. An important feature of this type of learning is that students feel responsible for their own learning. Mobile phones are the most widespread devices, all throughout the word and overwhelming majority of students carry a mobile phone with them most of time and make use of various application to aid their learning such as dictionaries on their mobile. It is not surprising then, to see that English language teachers have started to integrate mobile application in their classrooms. A number of studies have focused on how the use of mobile phones affects the developments of vocabulary and grammar

Baki (2010) investigated the effect of using English vocabulary learning program through mobile phones on student's vocabulary achievement. The mixed-method research design with sixty students studying in Turkey was used. The results indicated that using mobile phones as a vocabulary learning tool was more effective than the traditional vocabulary learning tool.

Motallebzadeh and Ganjali (2011) examined the effects of SMS on 40 Iranian EFL learners' performance on vocabulary retention and reading comprehension tests. The result showed that mobile phone users outperformed the control group with regards to both vocabulary and reading comprehension scores.

1.2. Using Mobile Technology in Developing Writing Skill

In mobile learning, learners can cross the boundary of the classroom to extend their learning, and continuously learn under suitable and motivated conditions.

Shang (2007) examined the overall effect of using email on the writing performance of Taiwanese students of English. The major findings demonstrated that students made improvements in terms of the syntactic complexity and grammatical accuracy of their writings. The results also revealed that the email writing was a positive strategy that helped improve foreign language learning and developed positive attitudes towards English.

Leppanen and Kalaja (1995) used computer conferencing to introduce writing as a process. They found that students dominated the discussions and gave each other a great deal of different kinds of feedback while the teacher served as a monitor and not a knowledge-giver. Leppanen and Kalaja (1995) also found that engaging students in on-line discussion on their written assignments improved their writing skills.

The purpose of this study is to investigate the effect of mobile technology on Iranian intermediate EFL students' writing skill.

2. RESEARCH QUESTHONS

The ultimate purpose of this study is to provide answers to the following questions:
1. Does the use of mobile technology have any significant impact on developing Iranian EFL learners' writing skill?
2. If yes, which kind of contribution clues the mobile technology provide in improving EFL learners' writing skill?

3. METHODOLOGY

This study attempts to investigate the effect of using mobile technology on developing Iranian EFL learners' writing skill in Tehran city. Actually, the present study intends to find out if using mobile technology as a learning tool could help students improve their writing. Consequently, essential information related to the participants, instruments, procedure of data collection, the general design and procedure taken in this study, and the data analysis will be discussed in the following sections.

3.1. Participants

In this study, the researchers chose 40 female students with an age range between 18 and 22. The participants were all undergraduate students majority in English translation and teaching English as a foreign language at Islamic Azad University (named the branch here) and were all selected based on a convenient non-random sampling. The subject consisted of two homogeneous groups, at the intermediate level. Twenty students were going to be taught as experimental group, and the rest of the students were used as control group. The participants of both group attended the classes once a week, for 12 sessions; with each session lasting for 90 minutes.

3.2. Instruments

For the purpose of data collection in the present study, five instruments were utilized.
1. Nelson English Language Test (Fowler and Coe, 1976) which consisted of 30 items. The test was administered in order to homogenize the participants in terms of their general English proficiency.

2. Pretest/ posttest: Since the time interval between the pretest and posttest was long enough, the same test was used. These consisted of 3 paragraphs according to the course called (Advance Writing).

3.Text book, Advanced Writing Course (Jordan, 1979) :It is paragraph writing course , based on syntactic complexity ,spelling , punctuations , and grammatical accuracy.

4. An Analytic Scoring Rubric: In order to reduce scorer errors and contribute to the reliability and validity of the scores given to each paper, we employed the Roebuck (2001).

5. Mobile Phone: The students in experimental group sent their assignment through mobile (Email or Blog or SMS), also they used mobile for recording, sending, and receiving the writing skill materials.

3.3. Procedure

In order to meet the objectives of the research and to be able to verity the stated hypothesis, the researchers went through the following steps:

1. We chose 40 female BA English major students, at the intermediate level. In order to ensure their homogeneous, the first test administered was Fowler and Coe (1976). It consisted of 30 items of General English Language.

Then, the participants were assigned into two equal groups in different classes. The first class, consisted of 20 students was the experimental group (receiving treatment), and the second class, the control group received no special treatment.

2. Both groups had pretest for measuring their writing performance. It consisted of 3 paragraphs related to the course called '' Advanced Writing Course''. For writing correction the Roebuck (2001) was used.

3. In the next stage, both groups went on for 11 sessions of 90 minutes each before administrating the posttest. Students participated in paragraph writing course called (Advanced Writing Course) based on syntactic complexity, spelling, punctuations, and grammatical accuracy.

4. Treatment: In the experimental students had discussed according to the topic chosen, then, each student recorded her voice on her mobile phone. The task assigned to students was to analyze their speech and the researcher detected their grammatical errors and commented on them and then corrected them the next session that they came to the class.

The other part of the treatment was that each student played her voice for other students in the class so that any type of errors unnoticed by the individual students herself should be mentioned by other classmates. Their classmates helped her to identify them. They sent their assignment through (E-mail, Blog, SMS or Viber, WhatsApp).They received their teachers' comments and correction by the mobile.

5. The second group (the control) had a conventional class and an assignment was handed in paper and pencil. The teacher checked every student's assignment and gave her comments and correction.

6. At the end of the treatment period, on the 12sessions, two groups (experimental and control) were going to take the posttest of writing skill for measuring the improvement of each of the group. It consisted of 3 paragraphs, according to the course called ''Advanced Writing Course''. For writing correction, the Roebuck (2001) was used.

3.4. Design

The design of the present quantitative study was quasi -experimental. The two groups of female BA English major students were homogenized by Fowler and Coe (1976) at Azad University in Tehran, Iran. At the beginning the two groups (experimental and control) were to be given a pretest, and after the treatment, at the 12th session, both groups were given posttest of writing skill for measuring the improvement of each of writing performance in groups.

3.5. Data Analysis

The present study intended to investigate the effect of mobile technology on developing writing skill proficiency of Iranian EFL students. The study consisted of two variables, (One independent variable and one dependent variable). The independent variable of the study was mobile assisted as strategy of teaching and the dependent variable was writing skill. In order to answer the research question, the descriptive statistic regarding the experimental and control groups calculated, and the scores written production test were collected. The computer software of SPSS, for further data analysis was utilized.

4. RESULTS and DISCUSSION

4.1. Reliability Statistics

Nelson Test was administered to 40 participants in order to select homogeneity intermediate participants.

Table-1. Reliability Statistics of Nelson Test

Nelson Test	Number of Participants	Number of Items	Reliability Index	Reliability Method
General English Language	40	30	.85	Cronbach's Alpha

SPSS

The results of this analysis in Table 1 clarifies that the Nelson Test with 30 items was administered to 40 students, and its reliability was estimated .85 through Cronbach's Alpha Method.

4.3. Testing the Null Hypothesis

The null hypothesis of this study assumed that (Using mobile technology does not have any significant impact on developing EFL learner's writing). In order to analyze the data to investigate the null hypothesis, first the descriptive statistics of pretest and posttest scores of both groups were computed. The related descriptive statistics are shown in Table 2 and 3 below. Table 2 shows the measurement that was adopted to clarify the level of the statement.

Table-2. Scale of Statement Levels Depending on the Means Scores

Level 1	Level 2	Level 3
Weak	Medium	Strong
Beneath 3	3-4	Above 5

SPSS

Table-3. Descriptive Statistics for Writing Pretest in Control and Experimental

Group	N	Range	Min	Max	Mean	Median	Mode	SD	Degree
Control	20	5	1.5	6.5	3.70	3.5	3.5	1.46	Medium
Experimental	20	4.5	1.5	6	3.80	3.5	3.5	1.42	Medium

SPSS

According to the table, the mean score for the control group was 3.70 with the standard deviation of 1.46 and the mean score for the experimental group was 3.80 with the standard deviation 1.42. The range, degree and mean writing pretests of the two groups are not far from each other.

Figure 5.1 demonstrates the two experimental and control groups' writing scores and their frequencies on pretest.
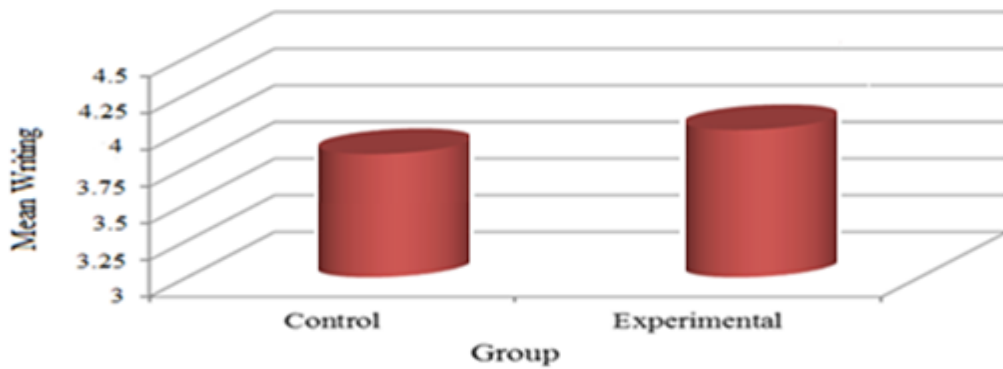
Figure-1. Means Writing Pre-test in Control and Experimental Groups.

SPSS

T-test results revealed that there was no significant difference in the writing performance of the control and experimental groups on the pretest. For that reason, it can be concluded that the two groups have almost similar writing performance prior to the treatment. When the treatment was over, (the 12th session), the participants of both groups took the writing posttest; then their writing posttests were compared. The descriptive statistics for the writing posttest scores of the two groups are presented in Table 4below.

Table-4. Descriptive Statistics for Control and Experimental on Writing Posttest

Group	N	Range	Min	Max	Mean	Median	Mode	SD	Degree
Control	20	5	1.75	7	4.25	4	4	1.39	Medium
Experimental	20	4.5	3.5	8	5.43	5.5	6	1.29	Strong

SPSS

The above table shows that the mean writing posttest scores of the control group was 4.25 with the standard deviation of 1.39 while the mean score of the experimental group was 5.43 with the standard deviation of 1.29.the participants in the experimental groups outperformed those in the control group.

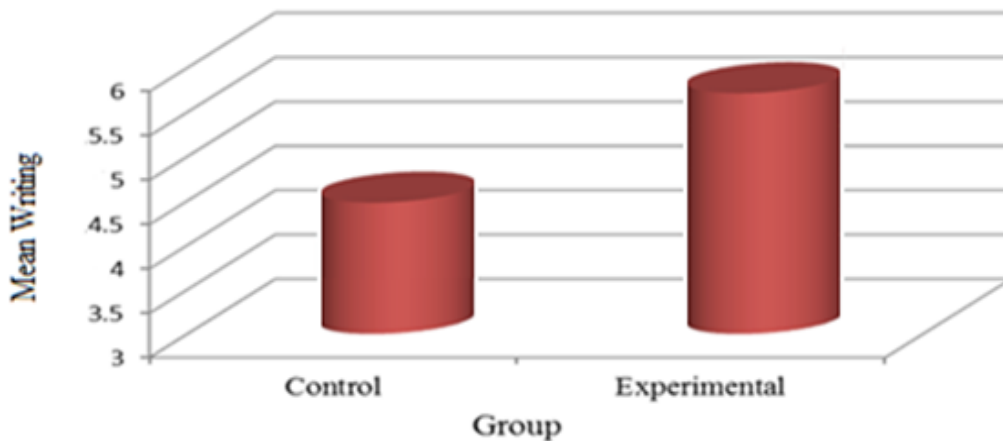Figure 2 illustrates the graphical representation of the results.

Figure-2. Means Writing Posttest in Control and Experimental Groups

SPSS

Figure 2 demonstrates the two experimental and control groups' writing posttest scores and their frequencies. In order to find out whether the mean difference between the posttest scores of the two groups were significant or not, an independent samples t-test indicated that a significant difference existed between the mean of two groups.

Therefore, the null hypothesis of this study was rejected. Since the experimental group had obtained a higher mean score (5.43compared to 4.25), it could be concluded that using mobile technology had a significant impact on EFL learners, writing improvement.

4.4. Testing the Second Question

The purpose of the second research question was to find out which aspects of the learners' writing performance were influenced more by the treatment (i.e., using mobile technology).

In order to answer the second question, means scores and standard deviations of the participants' responses on writing were carried out. The comparing mean score of writing showed significant difference (5.43≥ 4.25).

This means that there was a distinct positive influence of using mobile technology on improving writing skills. Then, descriptive statistic regarding the experimental group calculated, and the scores for written production test were collected.

The score of each sub skill (i.e. content, organization, vocabulary, spelling, grammar and punctuation) in each writing sample was the mean of the raters' score.
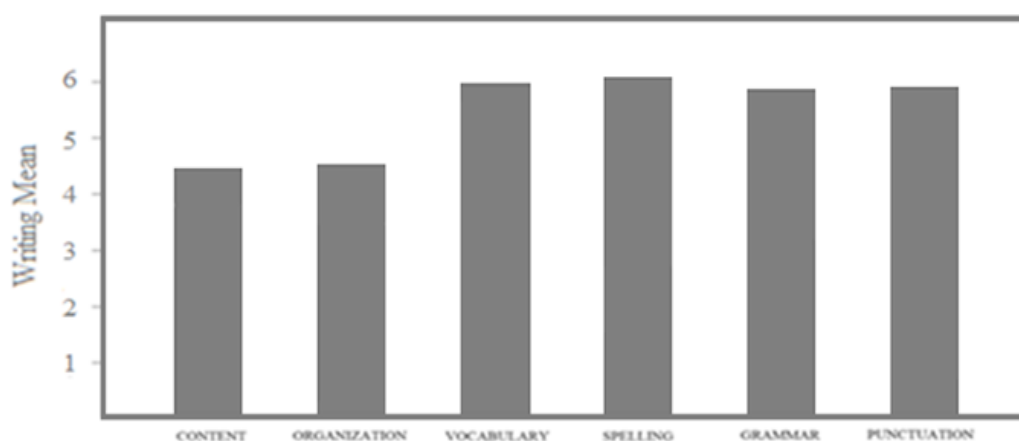

Figure 3. The Typology of Contribution of Mobile Technology to Writing Skills

SPSS

The results indicate that the students paid more attention to style of mobile writing (e.g. spelling, punctuation marks, and capitalization) than to their choice of words and idiomatic expressions. This could be attributed to the fact that most of the students loved using mobile devices in learning English writing (See Appendix 1).These results of the questions were in line with those of Shang (2007) and Liu (2003) who provided evidence in their studies for the significant effect of mobile application on the participants' writing performance.

The descriptive statistics for the typology of contribution of mobile technology to writing skill is presented in Table 5.

Table 5. the Typology of Contribution of Mobile Technology to Writing Skills

Writing Sub Skills	Mean
Content	4.42
Organization	4.45
Vocabulary	5.98
Spelling	6.14
Grammar	5.79
Punctuation	5.81
Total grads	5.43

SPSS

The results listed in Table 5 show that there were statistically significant differences in the domains of spelling, vocabulary and phrases, punctuation and grammar of mobile writing, but not in content and organization of ideas.

5. CONCLUSION

The result of this study showed statistically significant difference in the mean score of writing performance between the two groups on the posttest with (5.43), so it is very high while comparing the number (5.43≥ 4.25);this means that there was a distinct positive influence of using Mobile technology on improving writing skills. Therefore the null hypothesis of this study is rejected.

Also, these results reveal that the students paid the most attention to forming well sentences with use of adequate spelling, vocabulary, punctuation and grammar. But the content and the organization of their writing were the least influenced aspects of their writing. By using mobile phones devices the students did not only improved their writing achievement, but also improved their collaborative activities in learning English language. Mobile devices could encourage them to learn English writing. Moreover, the students enjoyed the classroom activities during the implementation of mobile technology.

Accordingly the null hypothesis was rejected, and with high degree of confidence it can be claimed that using mobile technology affects English writing learning of Iranian EFL learners positively. The result of the questions were in line with the findings of Shang (2007) and Liu (2003) whose results provided evidence for the effectiveness of mobile devices in writing skill.

The overall findings indicated that students made improvements on grammatical accuracy, spelling, punctuations, and a significant difference was found in writing sentences and short paragraphs. These improvements were brought about by the communicative and corrective nature of the mobile activity. However, further research is required to investigate what technological devices can be implemented to enhance EFL learners' writing organization and content.

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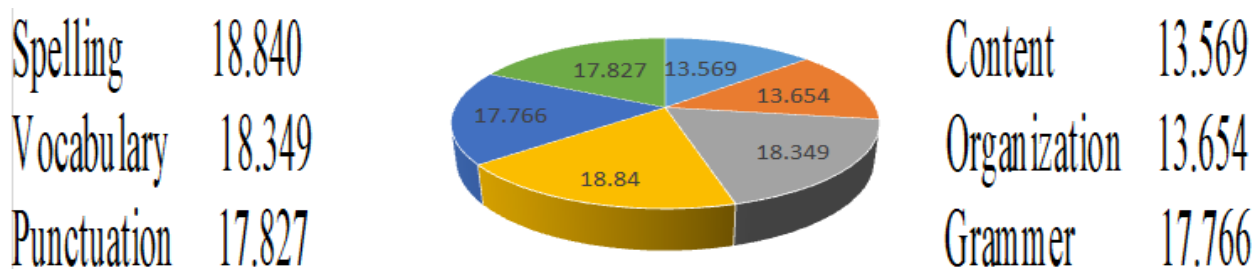
APPENDIX-1.

Spelling	18.840		Content	13.569
Vocabulary	18.349		Organization	13.654
Punctuation	17.827		Grammer	17.766

Figure-4. The Participants' Performance English Writing Sub Skill

APPENDIX- 2.

Student-generated Rubric

Name _____			Date _____
	Level 1	Level 2	Level 3
CONTENT & IDEAS	Writing does not clearly communicate knowledge. The reader is left with questions.	Writes related, quality paragraphs, with little or no details.	Writing is purposeful and focused. It holds the reader's attention.
ORGANIZATION	Poor organization of ideas. No paragraphs and sentence marker errors.	Little organization of ideas. Paragraphs and sentence markers were used, but with some errors.	Good organization of ideas. Good use of paragraphs and sentence markers.
VOCABULARY & SPELLING	Poor use or range of vocabulary. Many spelling errors.	Adequate (fair) use of vocabulary. Some spelling errors persist.	Good use of vocabulary. A few spelling errors.
GRAMMAR & PUNCTUATUION	Poor use of grammar and punctuation. Many errors.	Adequate (fair) use of grammar and punctuation. Some errors still present	Good use of grammar and punctuation. A few errors still present.
Total Score ____			