Using Mobile Phone Based Tasks to Improve Jordanian Grade 7 EFL Students' Composition Writing Skills

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Abstract

This study investigated the effectiveness of using mobile phone based tasks to improve the FL composition writing skills of 52 Jordanian grade 7 students. They were divided into two groups; control and experimental groups. The control group included 24 students, while the experimental group included 28 students. Data were collected through a pre-test and a post-test of FL composition writing. The mixed method of quantitative and qualitative analysis was used. Data were analyzed using the Paired-Samples T-Test. In addition, the use of the independent samples T-Test aimed to determine the statistical significance of the two tested groups' performance in FL composition writing. The findings affirmed the effectiveness of using mobile phones in improving the FL composition writing skills of Jordanian grade 7 students.

Keywords: Jordanian grade 7 students, FL composition writing skills, basic schools, mobile phone based tasks

1. Introduction

The use of mobile devices in teaching and learning foreign languages has been the center of a strong debate among scholars and pedagogists since the first decade of our century. In this respect, Kacetl and Klimova (2019) and Klimova (2021) asserted that there is an increasingly growing tendency to use mobile devices, including the mobile phones, for the purposes of language teaching and learning. Other scholars highlighted the advantage of using such devices in learning. For example, Klimova (2018) and (2019) explained that this is attributed to the main advantage of creating an effectively interactive atmosphere for learning. In a sense, mobile learning has been spreading because of its accessibility and immediacy. It is accessible as almost all learners possess mobile phones, and it is immediate since it can be used within the classroom context for the purpose of instant oral or written communication among peers or different groups of students.

Writing skills are among other language skills that can be developed by using mobile devices. This has been highlighted by many scholars despite the fact that some researchers like Durga and Rao (2018) expressed their hesitation to adopt such devices in developing writing skills. They emphasized the importance of developing FL learners' writing skills. They further explained that writing skills help develop FL learners' cognitive, thinking skills, creativity and academic achievement. However, Durga and Rao (2018) recommended the use of a process approach to develop FL learners' writing skills, instead of relying on the electronic devices including smartphones. Durga and Rao (2018) criticized the use of these electronic devices in language learning because such devices made it easier for FL learners to find answers for their tasks.

In the process of FL learning and teaching, writing is classified as a productive skill which FL learners are in need to develop as a tool of written communication. According to Durga and Rao (2018), the complexity of FL writing skill stems from the involvement of different components that affect the development of such an important FL skill, particularly for grade 7 EFL learners. These components are related to sentence structure, spelling, grammar, use of FL vocabulary, achievement of cohesion and coherence, etc. On the other hand, Ahmadi (2018), Klimova and Polakova (2020) and Kohnke (2020) clarified that technology has achieved great strides in the field of FL learning and teaching. It has facilitated the learning of different language skills, changed the classroom learning environment, and developed classroom activity. One of these technological devices is the mobile phone which almost all FL learners possess and use for their daily activities.

Furthermore, most studies focused on highlighting the advantages of using mobile learning devices in FL learning, while neglecting the development of EFL learners' language skills (e.g. Mango, 2015;Zou and Li, 2015; Yurdagul and Oz, 2018; Tanil and Yong, 2020, and Kieu, Anh, Tran; and Nga & Ho, 2021). These advantages include giving FL instruction, interaction among FL learners, and exchange of instructional materials and contents. Therefore, there was a need to examine the effectiveness of using mobile phones for FL instructional purposes in Al-Qasr basic education school for girls. In other words, it was necessary to test the contribution of using mobile phones to the development of Jordanian grade 7 students' skills when writing English composition.

Statement of the problem:

English is studied as a foreign language in Jordan. Therefore, this requires effective means and methods that would facilitate both the teaching and learning processes. Writing is among the complex language skills that require special attention.

This study investigated the effectiveness of using mobile phone basedtasks to improve the FL composition writing skills of 52 Jordanian grade 7 students. The effectiveness was measured in terms of developing the skills of writing English composition among the experimental group participants in comparison to their counterparts in the control group. Whereas the experimental group participants were taught writing English composition by using mobile phone basedtasks, the control group participants were taught by using a traditional method. Therefore, the present study tested three null hypotheses. First, the participants' skills of writing English composition were equal in the pretest. Second, the participants' achievement in writing English composition did not differ in the post-test. Third, the use of mobile phone tasks was equal to that of a traditional method in developing the experimental group's achievement in writing FL composition.

1.1 Questions

The present study aimed to answer the following questions:

1. What is the performance level of participants of both tested groups in writing FL composition in the pre-test?

2. What is the difference between the control and experimental groups' participants in writing FL composition in the post-test?

3. Is the use of mobile phone basedtasks effective in improving the achievement of EFL learners when writing FL composition?

1.2 Objectives

The present study aimed to:

1. Know the achievement of both control and experimental groups' participants in writing FL composition in the pre-test.

2. Determine the difference between the achievements of both tested groups in writing FL composition.

3. Investigate the effectiveness of using mobile phones-based tasks to improve the Jordanian grade 7 students' achievement when writing FL composition.

1.3 Significance of the Study

The present study comes in line with the goals of the Ministry of Education to improve the Jordanian grade 7 students' FL skills. The study is of a special significance to the development of FL teaching and learning in Al-Qasr basic education school for girls, Al-Kark governorate. It sheds light on the importance of using mobile phone basedtasks to enhance FL teaching process in Al-Qasr basic education school for girls. It also makes language teachers in Al-Qasr basic education school for girls aware of the difficulties which their students may encounter when writing English composition. The expected findings can be usefully applied in other basic education schools in Jordan to develop the TEFL process in Jordan. Syllabus designers can also benefit from the present study in designing mobile-based learning activities which would help improve the Jordanian grade 7 students' FL skills, including writing composition.

1.4 Research Limits

The findings of the present study are restricted to improving the writing skills of FL composition for the Jordanian grade 7 students in Al-Qasr basic education school for girls, Al-Kark governorate. Much importantly, other basic education schools, whether in Al-Kark governorate or other Jordanian governorates, can also benefit from the expected findings whenever they are applicable.

2. Literature Review

Ahmadi (2018) reviewed studies on the necessity of integrating technology into FL curriculum. He asserted the importance of using technology in FL classrooms. His study attributed the technology's important role to its contribution to facilitate and improve FL learners' learning outcomes. Indeed, the appropriate use of technology has several advantages for FL teachers and learners. It helps teachers to effectively apply selected teaching methods. Besides, it helps language teachers to carry out various learning activities. Much importantly, technology ensures FL learners' meaningful learning since it increases their collaboration in performing learning activities. The study also emphasized that the use of technology helps FL learners to find solutions for the FL learning problems and provide opportunities for effective practice of language skills. The findings revealed that technology supports teachers-learners interaction due to the comprehensible input which it provides for the process of FL teaching and learning. Furthermore, the advantages of using technology in FL teaching are not only related to developing learners' language skills, but also improving their cognitive skills, creativity, and motivation towards FL learning.

Braga and Queroda (2020) examined the FL composition writing of 150 grade 8 Filipino high school students. The examination was conducted in terms of five independent variables, namely gender, religion, latest mark in English, home-reading materials, and daily exposure to media. The participants formed two groups; students and teachers. The first group included 150 grade 8 high school students. They were randomly selected by using the stratified sampling procedure. Furthermore, the second group included six language teachers who were selected by using the purposive sampling procedure. Data were collected through three instruments, namely a questionnaire survey, composition writing tasks and rubrics. The researchers found that gender and then daily exposure to electronic media are the most significant contributors to participants' achievement in writing FL composition. Moreover, there were no significant differences among participants' skills of writing FL composition in terms of their religion. The researchers recommended further use of electronic media as a

means of developing the participants' FL skills in general and writing skills in particular. There was an emphasis on the pre-writing stage as teachers should rely on the collaborative brainstorming method.

Bin-Hady and Al-Tamimi (2021) discussed the development of 110 Yemeni tertiary education students' English language skills by using technology-based strategies in informal learning settings. Data were collected through an interview and a questionnaire-based task. Data analysis was based on mixed methods of quantitative and qualitative approaches. The researchers found that the participants relied on technology-based strategies in developing their FL skills. These strategies include inspiration, accessibility to social media, networks and websites. In other words, these technology-based strategies helped the participants to enhance their FL vocabulary, knowledge of grammar rules, and improvement of pronunciation. Consequently, the participants developed their listening, speaking, reading, and writing skills due to the reliance on these technology-based strategies. Thus, the study emphasized the importance of integrating technology with the formal learning setting of English in Yemen.

Kieu, Anh, Tran, Nga and Ho (2021) analyzed the effectiveness of using technology in FL learning among 288 third-majoring in English students at Van Lang University. Data were collected through a 19-item questionnaire and a 10-question interview. Both the questionnaire and the interview revolved around the types of technological tools which the participants used to learn English and the positive learning outcomes which they realized due to the use of these technological devices. The researchers found that technology is an influentially effective tool in learning English, and this is evident in the participants' positive responses to the study instruments. Smartphones and tablets are the most commonly used devices among the participants for learning English. Moreover, the participants varied in judging the improvement of their language skills. Some indicated that listening and speaking are the most improved skills, while others claimed that technology had enhanced their reading and writing skills.

Polakova and Klimova (2022) explored the perception of FL learners about using mobile applications to enhance learning of FL vocabulary. The 36 Slovak participants were undergraduates at the Department of Applied Linguistics, University of Hradec Kralove, Hradec Kralove, Czechia. Data were collected through a questionnaire, minute papers, virtual interviews, and FL proficiency pre and post-tests. Both quantitative and qualitative techniques of data analysis were adopted. The findings indicated better learning, memorizing, and retaining of FL vocabulary on the part of the experimental group that were taught by using mobile applications in contrast to their control group counterparts who were taught by using face-to-face traditional methods. The questionnaire's results showed that the participants were highly satisfied with the use of mobile applications in learning FL vocabulary. The participants' satisfaction was attributed to the improvement of their FL vocabulary knowledge and their increased motivation towards FL learning.

3. Methods

The research design was based on the mixed method. That is, the quantitative and qualitative approach of data analysis was used (e.g. Klimova, 2019;Bin-Hady and Al-Tamimi, Marghany, 2022; Polakova and Klimova 2022). The quantitative approach provides descriptive statistical analysis such as mean scores, standards deviations and minimum and maximum marks of the participants' achievement in the pretest and the post-test. Data were analyzed by using the Paired-Samples T-Test. In addition, the use of the Independent Samples T-Test aimed to determine the statistical significance of the two tested groups' performance in FL composition writing. Furthermore, the qualitative approach provides examples of the participants' performance in writing FL composition in terms of capitalization, sentence structure, vocabulary, spelling and grammar.

3.1 Participants

The participants were 52 Jordanian grade 7 students. They were enrolled in Al-Qasr basic education school for girls, Al-Kark governorate. They were divided into two groups; control and experimental groups. The control group included 24 students, while the experimental group included 28 students.

3.2 Procedure

Participants set at the beginning of the second term of the school year 2021-2022 for a pretest in writing English composition. They were asked to write a 100-word paragraph on one of three different topics. The topics were selected on the basis of their suitability for the participants' interest in order to ensure their ability of generating ideas. Moreover, the participants were divided into a control group and an experimental group. Both groups were taught writing English composition as part of their FL syllabus. Whereas the control group was taught using the traditional method, the experimental group participants were required to do all activities of writing FL composition by using their mobile phones. They held discussions, exchanged ideas, and used internet-based language learning applications that assisted them to avoid grammar, spelling and sentence structure mistakes. Towards the end of the second term, both control and experimental groups took the post-test of writing FL composition. The total score of each test was twenty marks.

3.3 Data Collection Instruments

For the purpose of data collection, the present study elicited written data through the pre and post-tests of writing English composition. In the pre and post-test, the participants were asked to write a 100-word English composition on one of three topics. These topics were suitable for students' interest. The topics were 'mid-term vacation, proper use of technology applications in daily life activities, and favorite sportsman/sportswoman'. Data were collected in the second term of the school year 2021-2022.

4. Data Analysis

The qualitative analysis of the participants' achievement in the pretest revealed that all participants of the two groups had common errors when writing FL composition. They made similar mistakes related to capitalization (particularly in writing the first pronoun I), subject-verb agreement, punctuation (particularly the full stop deletion to mark the end of the sentence), the plural's' (e.g. two bottle instead of bottles), and sentence fragment errors.

On the other hand, the quantitative analysis was represented in conducting the Paired-Samples T-Test which aimed to compare the achievement of each group of participants in the pretest and post-test. In other words, the descriptive statistics of the groups' achievement in the two tests was compared. Table 1 indicated that the control and experimental groups had almost similar achievements in the pretest. There was a slight difference between the mean scores of the two groups (12.43 for the control group vs. 12.98 for the experimental group). The minimum and maximum scores for the former were (6-16) compared to (7-17) for the latter. The standard deviations for the two groups slightly differed from each other (5.54 for the control group vs. 5.67 for the experimental group). This indicated that there was a slight difference and variance in the two groups' achievements in the pretest.

Table 1. Paired-SamplesT-Test Statistics

	N	Mean	Std. Deviation	Std. Error Mean	Minimum	Maximum
Post test control score	24	18.5381	4.83719	.58461	9.00	17.00
Post-test experimental score	28	23.7942	8.23615	.87843	15.00	18.00
Pretest control score	24	12.43050	5.540332	.64302	6.00	16.00
Pretest experimental score	28	12.98531	5.672120	.63221	7.00	17.00

The qualitative analysis of both groups' achievements in the post-test showed better improvement in their skills of writing FL composition. The two groups made less errors compared to their achievement in the pretest. The errors of capitalization, subject-verb agreement, sentence structure, punctuation and the plural marking's' were reduced in the two groups' post-test achievement. However, the avoidance of making these errors was noticeably visible in the experimental group participants, compared to their control counterparts. This is attributed to the use of the mobile phone applications that enhanced their skills and knowledge of many grammar rules, thus leading to having higher improvement in writing FL composition, compared to the control group participants.

Table 2 indicated that there was an improvement in the control group's achievement in the post-test, compared to their achievement in the pretest. This is evident in the fact that their post-test mean score was higher than that of pretest (18.53 vs.12.43) and their post-test standard deviation (4.83) was less than their pretest standard deviation (5.54). This means that the control group participants had less variance in their post-test achievement, compared to their achievement in the pretest. Similarly, the experimental group's achievement in the post-test marked an improvement in writing FL composition, compared to their pretest achievement. This piece of evidence is based on the experimental group participants' mean scores of the post-test and pretest (23.79 vs. 12.98) and their standard deviations in the two tests (5.67 vs. 8.23). The finding accepts the null hypothesis that control and experimental groups participants' achievement in writing FL composition did not differ in the pretest. However, the improvement of experimental group participants in the post-test was extremely higher than that of their control group counterparts. The experiment group participants' post-test mean score (23.97) was largely higher than their control group participants in the same test (18.53). Furthermore, the minimum and maximum scores of the experimental group participants' post-test achievement (15-18) were higher than that of their control group counterparts (9-17). The finding rejects the null hypothesis that the achievement of both control and experimental groups participants did not differ in the post-test. Moreover, this finding is consistent with those reported by Braga and Queroda (2020), and Bin-Hady and Al-Tamimi (2021).

Table 2. Paired-Samples Test

Test	M	SD	N	DF	t-value	Sig.
Pretest control group score	12.43050	5.540332	24	23	2.080	.031
Post-test control group score	18.5381	4.83719	24	23		
Pretest experimental group score	12.98531	5.672120	28	27	24.153	.000
Post-test experimental group score	23.7942	8.23611	28	27		

Table 3 clarified that there was a statistically significant difference in the experimental group's post-test achievement in writing FL composition, compared to their control group's achievement. This finding is based on the p-value which was <0.05. It proves that the use of mobile phones in teaching FL composition writing yields further improvement, compared to that which might be realized due to the use of a traditional method. The finding rejects the null hypothesis that mobile phone based tasks and traditional methods can equally improve the FL learners' writing skills. This finding is compatible with those reported by Ahmadi (2018), Klimova and Polakova (2020), Kohnke (2020) and Polakova and Klimova (2022). However, it contradicted those reported by Durga and Rao(2018).

Table 3. Independent Samples T-Test

	N	M Gain score	SD	DF	t-value	Sig.
Control	24	6.10	0.70	23	22.07	0.000
Experimental	28	10.80	2.56	27		

5. Conclusion, Discussion and Teaching Implications

The present study concluded that the Jordanian grade 7 students had almost the same level of achievement in writing FL composition at the beginning of the second term of the school year 2021-2022. Their common errors of writing FL composition were related to capitalization, sentence structure, grammar, spelling, subject-verb agreement, punctuation and the plural marking 's'. This finding led to the acceptance of the null hypothesis that there is no difference in the Jordanian grade 7 students' achievement in writing English composition in the pretest. Even though the two groups of the study had better improvement in their skills of writing FL composition, the experimental group participants had higher achievement, compared to that of their control group counterparts.

The finding led to the rejection of the null hypothesis that there is no difference in the achievement of both tested groups in writing FL composition in the post-test. This finding is consistent with those reported by Braga and Queroda (2020), and Bin-Hady and Al-Tamimi (2021). The largely higher achievement for the experimental group participants was attributed to the use of mobile phone basedtasks in comparison to their control group counterparts who were taught by using a traditional method.

The mobile phone basedtasks were found to be more effective in teaching FL composition writing among the Jordanian grade 7, in contrast to the participants who were taught by using a traditional method. This finding rejects the null hypothesis that there is no difference in using mobile phone basedtasks and traditional methods for improving the Jordanian grade 7 students' writing skills. This finding is consistent with those reported by Ahmadi (2018), Klimova and Polakova (2020), Kohnke (2020) and Kieu, Anh, Tran, Nga and Ho (2021), Polakova and Klimova (2022). However, it contradicts those reported by Durga and Rao (2018).

At present, the use of mobile phone tasks has become more prominent in FL classrooms along with other traditional method-based tasks. It has become a necessary tool to improve the process of learning and teaching English as a foreign language. It provides various advantages to FL teachers to improve the learning environment and motivate their students to learn English language skills effectively. Therefore, it is important for FL teachers in Al-Qasr basic education school for girls, Al-Kark governorate, to be familiar with using the most advanced technology offered by mobile phones before starting classroom practices. When using mobile phone basedtasks, FL teachers in Al-Qasr basic education school for girls should set clear learning objectives to avoid the distraction of their students with other social activities which mobile phones may offer. They need to develop their creativity in finding different mobile-phone activities to develop their students' FL skills. They also need to encourage their students to use mobile phone basedactivities for purposes of informal learning outside the classroom.

The use of mobile phone basedtasks in the classroom requires FL teachers to control, observe and assess the way in which these tasks are conducted. The FL teachers should divide students into small groups after stating the topic of composition writing. For example, in the pre-writing stage, students can respond by typing their answers to the teachers' questions about phones. The groups can exchange their answers and hold a typed discussion. Then, teachers can similarly conduct the two other stages of writing; while writing and post-writing. In assessing students' writing, FL teachers can summarize different writing errors and give corrective feedback by using different mobile phone applications. Therefore, it is important that syllabus design should take into consideration the necessity of devising learning activities that develop FL writing skills by using technological devices, including the mobile phones. In this regard, the emphasis is laid on the mobile phones due to their availability with almost all language learners.

The present study recommended the use of mobile phones in teaching and learning English in Al-Qasr basic education school for girls. This recommendation is based on the several advantages that mobile phones can contribute to the improvement of teaching and learning English among the Jordanian grade 7 students in Al-Qasr basic education school for girls. The mobile phones had higher contribution to the development of the Jordanian grade 7 students' skills of FL composition writing, compared to other traditional methods. Noticeably, the experimental group students became more focused when using the mobile phone basedtasks, compared to the control group participants who were taught by using a traditional method. This advantage can be used to develop other language skills of grade 7 students like listening, speaking, and reading in Al-Qasr basic education school for girls. The use of mobile phone basedtasks can increase the Jordanian students' motivation and develop their positive attitudes towards learning English. Much importantly, the use of mobile phones does not only help Jordanian grade 7 students to improve language skills, but it also helps them assess their language abilities to determine their weaknesses.

In addition, the Jordanian grade 7 students will be able to determine which language aspects they need to develop by using the mobile phones. By doing so, the Jordanian grade 7 students will develop high self-esteem and self-confidence in learning English. The benefits of using mobile phones in teaching and learning English are not only applicable to Jordanian grade 7 independent students but also to all EFL learners. Thus, it can enhance an amicable and collaborative learning environment of English as a foreign language in Al-Qasr basic education school for girls. This is because the use of mobile phones can reduce formality of learning experience among the Jordanian grade 7 students and encourage the engagement of those students who had difficulties in learning English.

6. Recommendations for Further Research

The present study recommended the following topics for further research:

1. A study may investigate the Jordanian grade 7 students' learning strategies to learn FL writing skills.

2. The current study can be replicable by using a sample of male participants.

3. Another possible study can examine the effect of using mobile phone basedtasks on learning other FL skills among Jordanian grade 7 students.

4. A study can discuss factors affecting the development of FL writing skills among Jordanian grade 7 students.

5. A study might discuss the Jordanian FL teachers' attitudes towards teaching English in the Jordanian context.

6. A study can be conducted to investigate the possible disadvantage of using technology for teaching FL skills to Jordanian grade 7 students.

7. A study may explore the effect of using mobile phone basedtasks on planning FL lessons effectively.

References

Ahmadi, M. R. (2018). The Use of Technology in English Language Learning. *International Journal of Research in English Education (IJREE), 3*(2), 115-125. https://doi.org/10.29252/ijree.3.2.115

Al-Amad, T., & Almawadeh, N. S. (2022). The Degree to which Faculty Members in Private Jordanian Universities Possess the Skill of Crisis Management as they See (Case Study: Jerash University). *International Journal of Early Childhood Special Education, 14*(1). https://doi.org/10.9756/INT-JECSE/V14I1.221088

Almawadeh, N. S. (2022). The effect of using an educational program based on the use of electronic games on the acquisition of English language vocabulary for fourth-grade students in the schools of Karak Governorate in. *Journal of Positive Psychology and Wellbeing, 6(*1), 382-396.

Almawadeh, N. S., & Al-Amad, T. (2021). Evaluating the implementation of the distance learning courses activities from the students of the Faculty of Educational Sciences' point of view at the University of Jerash. *Journal of Positive Psychology and Wellbeing, 5*(4), 1038-1053.

Bin-Hady, W.R. A., & Al-Tamimi, N. O. M. (2021). The use of technology in informal English language learning: evidence from Yemeni undergraduate students. *Learning and Teaching in Higher Education: Gulf Perspectives*, *17*(2), 107-120. https://doi.org/10.1108/LTHE-09-2020-0037

Braga, T. L. S., & Queroda, P. G. (2020). Composition writing skills of grade 8 students.*Asean Multidisciplinary Research Journal, 4*(1), 68-84. Retrieved from https://www.researchgate.net/publication/341160858_Composition_Writing_Skills_of_Grade_8_Students

Durga, V. S. S., & Rao, C. S. (2018). Developing students' writing skills in English: A Process approach. *Journal for Research Scholars and Professionals of English Language Teaching, 6*(2), 1-5. Retrieved from http://www.jrspelt.com

Hashemifardnia, A., Namaziandost, E., &Esfahani, F. (2018). The Effects of Using WhatsApp on Iranian EFL Learners' Vocabulary Learning. *Journal of Applied Linguistics and Language Research*, *5,* 257-267.

Kacetl, J., & Klimova, B. (2019). Use of smartphone applications in English language learning: a challenge for foreign language education. *Educ. Sci., 9,* 179. https://doi.org/10.3390/educsci9030179

Kieu, V. L., Anh, D. T., Tran, P. D. B., Nga, V. T. N., & Ho, P. V. P. (2021). The effectiveness of using technology in learning English. *AsiaCALL Online Journal*, 24-40. Retrieved from https://asiacall.info/acoj

Kim, D., Rueckert, D., Kim, D. J., &Seo, D. (2013). Students' perceptions and experiences of mobile learning. *Language Learning & Technology, 17*(3), 52-73.

Klimova, B. (2018). Mobile phones and/or smartphones and their apps for teaching English as a foreign language. *Educ. Inf. Technol., 23*(3) 1-191. https://doi.org/10.1007/s10639-017-9655-5

Klímova, B. (2019). Impact of mobile learning on students' achievement results. *Educ. Sci., 9,* 90. https://doi.org/10.3390/educsci9020090

Klimova, B. (2021). Evaluating impact of mobile applications on EFL university learners' vocabulary learning: a review study. *Procedia Comput. Sci., 184,* 859-864. https://doi.org/10.1016/j.procs.2021.03.108

Klimova, B., & Polakova, P. (2020). Students' perception of an EFL vocabulary learning mobile application: a case study. *Educ. Sci., 10,* 37. https://doi.org/10.3390/educsci10020037

Kohnke, L. (2020). Exploring learner perception, experience and motivation of using a mobile app in L2 vocabulary acquisition. *IJCALLT, 10,* 15-26. https://doi.org/10.4018/IJCALLT.2020010102

Mango, O. (2015). *iPad use and student engagement in the classroom. The Turkish Online Journal of Educational Technology, 14*(1), 53-57. Retrieved from http://www.tojet.net/articles/v14i1/1417.pdf

Marghany, M. M. (2022). Gender differences in perceiving FL culture teaching: The case of Egyptian EFL pre-service teachers. *Research in Language Teaching, 3*(18), 340-379. https://doi.org/10.21608/ssl.2021.95030.1101

Parvin, R. H., & Salam, S. F. (2015). The effectiveness of using technology in English language classrooms in government primary schools in Bangladesh. Fire: *Forum for International Research in Education*, *2*(1), 47-59. https://doi.org/10.18275/fire201502011049

Polakova, P., & Klimova, B. (2022). Vocabulary Mobile Learning Application in Blended English Language Learning.*Frontiers in

Psychology, *13,* 1-10. https://doi.org/10.3389/fpsyg.2022.869055

Stockwell, G. (2010). Using mobile phones for vocabulary activities: examining the effect of the platform. *Language Learning and Teaching, 14*(2), 95-110.

Sweeney, P., & Moore, C. (2012). Mobile apps for learning vocabulary: categories, evaluation and design criteria for teachers and developers. *International Journal of Computer-Assisted Language Learning and Teaching, 2*(4), 1-16. https://doi.org/10.4018/ijcallt.2012100101

Tanil, C. T., & Yong, M. H. (2020). Mobile phones: The effect of its presence on learning and memory. *Plos One*, 1-12. https://doi.org/10.1371/journal.pone.0219233

Yurdagul, C., & Oz, S. (2018). Attitude towards mobile learning in English language education. *Education Sciences*, *8,* 142. https://doi.org/10.3390/educsci8030142

Zou, B., & Li, J. (2015). Exploring mobile apps for English language teaching and learning. In F. Helm, L. Bradley, M. Guarda, & S. Thouesny (Eds.), *Critical CALL – Proceedings of the 2015 EUROCALL Conference, Padova, Italy* (pp. 564-568). Dublin: Research-publishing.net. https://doi.org/10.14705/rpnet.2015.000394