

The Effect of Mobile Apps on Vocabulary Acquisition in EFL Classroom

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Abstract

This study's purpose is to examine the effects of mobile apps on learners' vocabulary acquisition and to analyze students' perceptions and opinions about the vocabulary app. To this end, this study set up a control group, which was given explicit instructions in the classroom by the instructor and an experimental group, which used a vocabulary app. The vocabulary acquisition test results suggested that the difference between the two groups was insignificant. However, user satisfaction with regard to the mobile app was high, and the reasons given were the following: convenience, efficiency of memorizing, having fun while learning, and the app's interface. Based on these results, this study suggests that teachers should use mobile apps much more actively in classroom instruction, and encourage students to let apps play a more active role in their language studies.

Keywords: *Mobile App, Mobile Devices, Vocabulary Acquisition, EFL(English as a Foreign Language) Classroom*

1. INTRODUCTION

For most modern people, it is no exaggeration to say that mobile devices are now ubiquitous and have become an inherent part of life. Indeed, they are nearly a necessity now. For those living through the Fourth Industrial Revolution, mobile devices are widely used, not only as an informational tool but also for communicating. Notably, such information tools play an important role in education and have revolutionized both language learning and classroom instruction.

Indeed, mobile devices have empowered students to access individually tailored content that matches their language acquisition level outside the classroom. In fact, apps offer language students flexible, practical, and even personalized opportunities for learning. In particular, app development itself has changed the pre-existing, typical teaching methods in language studies and practices. Efforts to continue developing and improving mobile apps for foreign language learning are robust.

Mobile apps are used extensively, both to teach and to learn a foreign language, such as language skills, vocabulary, grammatical structures, pronunciation, and so on. Studies show that most apps focus on vocabulary learning [1]. This study evaluated the top 50 apps designed for language learning and found that 84% focus on practicing vocabulary words.

In a globalized world, learning a foreign language is often taken for granted, but it is not actually easy to expand one's vocabulary, which is the foundation of language acquisition. However, mobile apps can make this process easy, practical, and even, at times, fun. Therefore, one must seriously evaluate the efficacy of

vocabulary apps. Therefore, this study examines the efficacy of mobile apps on students increasing their vocabulary in the EFL environment; this study also analyzes learners' perceptions and opinions about vocabulary mobile apps.

2. THEORETICAL BACKGROUND

In a study by Reima, which analyzed the mobile app use in EFL university classes, the app selection criteria and instructor's role for EFL learners were presented [2]. According to this study, an app selected for classroom use should have both sufficient material and enough practice questions. Additionally, apps for teaching should focus on only one language skill so they can reinforce one among many skills. This study argues that the instructor's role should be that of facilitator in the classroom that has chosen to use an app.

Furthermore, instructors should help students discover English apps that will meet their needs and align with their purposes; teachers also need to encourage students to participate actively with the app. This study suggests that app activity must be included in evaluation scores to motivate students to take app usage seriously. In this regard, there is another study, by Kohnke, that demonstrates that students with strong motivation to acquire L2 vocabulary prefer mobile apps that have incorporated gamified features [3]. In this context, yet another study, published by Goz and Ozcan, argues that memorizing vocabulary words should be fun; it also emphasized the advantages of apps' practicality, portability and dynamic platforms [4].

What is more, additional studies pertaining to mobile apps for teaching and learning vocabulary in the EFL environment are being actively conducted [5–7]. For example, one study examined students' perceptions of vocabulary-learning mobile apps revealed that learners perceive apps as facilitative for learning [8]. In fact, learners even reported that mobile apps are useful because they can be accessed anytime, anywhere, provide immediate corrective feedback, and offer opportunities for test preparation. However, learners also reported that the selected app did not include communication practice or encouraging teacher notifications. To address this crucial gap, this study argues that instructors should clarify the purpose of using mobile apps when using them for language learning. In a study on the use of mobile devices for vocabulary learning for 986 participants, Mahdi reported that apps are efficacious in all aspects of vocabulary learning [9]. Finally, Mahdi's research reported that mobile apps have only a moderate effect on productive and receptive vocabulary learning.

3. METHODOLOGY

3.1 Participants

This study was conducted 15 times between early March 2021 and early June 2021. The subjects were first-year university students enrolled in a Liberal Arts class at OO University in Seoul. This study's purpose is to understand the effect that using mobile apps for vocabulary acquisition has on learners. Two separate classes of Liberal Arts English classes were selected; one was arbitrarily set as the control group (Group A) and the other as the experimental group (Group B). For both groups, the class schedule, composition, and content were identical, with the only difference being that Group B used a mobile app. The control group consisted of 35 students majoring in Global Management Information, and the experimental group consisted of 37 students enrolled in the university's software department.

First-year students taking this course must also take the Test of English for International Communication (TOEIC) test before admission. Comparing the TOEIC scores of the two classes, learners' average level was intermediate. A pre-vocabulary test consisting of 25 questions was given on the first day of class to ascertain the two groups' English vocabulary capacity. Paragraphs given as reading comprehension exercises from the certified TOEIC was provided as context, and students were instructed to identify the meaning of specific

vocabulary words in the paragraphs. This study uses the SPSS independent sample *t*-test to compare the two groups' pre-test results, which showed that the mean difference between the two groups was insignificant ($p = .269$). This study concluded that the English vocabulary skills of the control group and the experimental group were at a similar level.

3.2 Procedure

This study used the English Central App, and although this app is related to the textbook, *Media Matters* (Seed Learning, 2021), it can be paired with another textbook because its content is based on a YouTube video. A total of 20 videos from lesson one to lesson 10 were selected and used among dozens of videos that had been created to work alongside the English Central App. In this study, a section of The English Central App, called “Learn the Words” that is linked to the videos, was used. In “Learn the Words”, the full script is provided first, and then a few words are introduced for students to learn that day, along with their meanings and definitions.

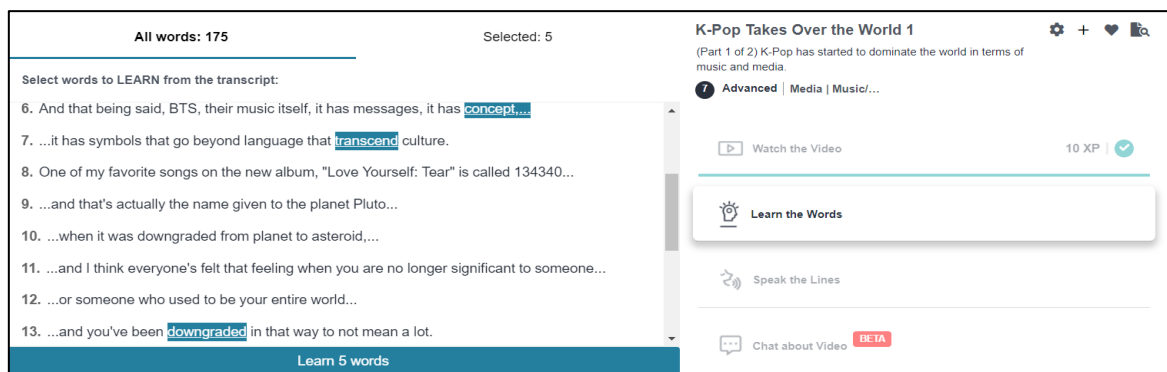


Figure 1. All Words and Selected Words in English Central App

When students click on “Learn the Words”, the related video plays and a script of the video is presented. Additionally, that day's vocabulary is displayed in a blank square box, and learners must enter the correct spelling, in order from among the randomly mixed letters at the screen's bottom. Afterward, learners are then instructed to take a vocabulary quiz. The quiz comes with a short video and is presented as a question with four possible answers to correctly identify a word's meaning.

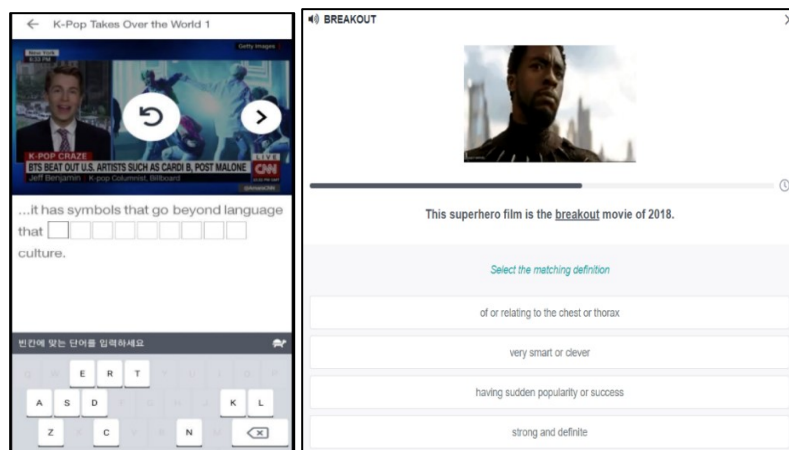


Figure 2. “Learn the Words” Exercise and Quiz in English Central App

In the experimental group, learners were encouraged to do “Learn the Words” exercises on the mobile app. Furthermore, the teacher either provided additional explanations related to the video or offered explanations about culture or background, so that students could more readily understand any difficult content. For the control group, the vocabulary acquisition process was given as a lecture without using a mobile app. After teachers watched the video, “Learn the Words” format was provided as a PowerPoint presentation (PPT) by transferring the app’s vocabulary learning screen from the app to PPT. Teachers would then encourage their students to engage with the vocabulary activities by playing a quick guessing game with PPT or having students write their answers down on paper. For the control group, all scripts from the mobile app, which had been given to the experimental group, had also been uploaded to the virtual university beforehand so that students could print them out. In the class’ final stage, teachers gave students a quiz, and they used both the context and expressions from the mobile app, but without the related video.

3.3 Data Collection

This study’s purpose is to understand more fully how mobile app use is linked to class efficacy regarding learners’ vocabulary acquisition. As such, a vocabulary test was conducted twice, the first on in the sixth week of class, and the second during the twelfth week. The first test focused on the vocabulary from Lessons 1 through 5; the second was on the vocabulary from lessons six to 10.

The test used the script of the video’s content, and the entire context was provided. Further, the test consisted of 15 questions, which asked students to write an English word’s meaning in Korean, and 15 questions for which students had to write down the English vocabulary word for a definition written in Korean. Both the test period and questions were applied identically for both groups; The results were then compared using SPSS.

To ascertain the learners’ thoughts and opinions regarding their use of mobile apps, an open-ended questionnaire was conducted in the thirteenth week for those in the experimental group. The questionnaire inquired about students’ level of satisfaction with the app, and they were also asked to state their reasons; the results were analyzed, focusing on satisfied and dissatisfied opinions.

4. RESULTS AND DISCUSSION

4.1 The Result of First and Second Test

This study conducted both primary and secondary tests with the aim of understanding the effect of using the mobile app on learners’ vocabulary acquisition. The first test gave 30 questions from lessons one through five, and the second test had 30 questions in the range of lessons six to 10 of the table of contents. Because the class content was the same for both the control and experimental groups, the test content, questions, and date were also all the same. To compare both groups’ test results, an SPSS independent sample *t*-test was conducted. The results are presented below.

Table 1. Test Results for the Control and Experimental Groups

Test	Group	N	M	M.D.	<i>t</i>	<i>p</i>
1st	Control	35	20.76	-1.33	-1.716	.091
	Experimental	37	22.09			
2nd	Control	35	21.13	-1.62	-1.853	.068
	Experimental	37	22.75			

$p < .05$ / M.D. = Mean Difference

For the first test, the result of the experimental group ($M=22.09$) showed 1.33 points higher than that of the control group ($M=20.76$), indicating that the difference between the results of two groups was insignificant ($p= .091$). One can infer that there is no significant difference between the vocabulary learned from the instructor's PPT and that of the mobile app.

One can also conclude similarly based on the second test result. The result for the experimental group ($M=22.75$) was 1.62 points higher than that of the control group ($M=21.13$), thus the difference here was also insignificant ($p= .068$). This study did not find any significant difference between vocabulary acquisition gained by the instructor's direct explanation in the control group and that of the mobile app usage in the experimental group. Thus, one can infer that the variables — the instructor's teaching and mobile apps — are not considered to be large in the context of vocabulary acquisition.

4.2 The Results of Questionnaire

An open-ended questionnaire was conducted for the experimental group to collect learners' opinions and responses regarding their use of the app. Two questions were given to each student in the experimental group:

1. How satisfied are you with using the English Central App?
2. Why did you indicate the satisfaction level you chose in question one?

Question one was presented based on a 5-point Likert scale ("5-Very Satisfied, 4-Satisfied, 3-Normal, 2-Dissatisfied, 1-Very Dissatisfied") and question two asked students to write their opinions or thoughts using informal language. First, the results for answers to question one are given below.

Learners' satisfaction with using the mobile app was high (70.3%). Regarding students' level of satisfaction with the English Central App, 40.5% ($n=15$) answered "Very Satisfied" and 29.8% ($n=11$) answered "Satisfied". The results also showed that learners were generally satisfied with using the English Central App for vocabulary acquisition.

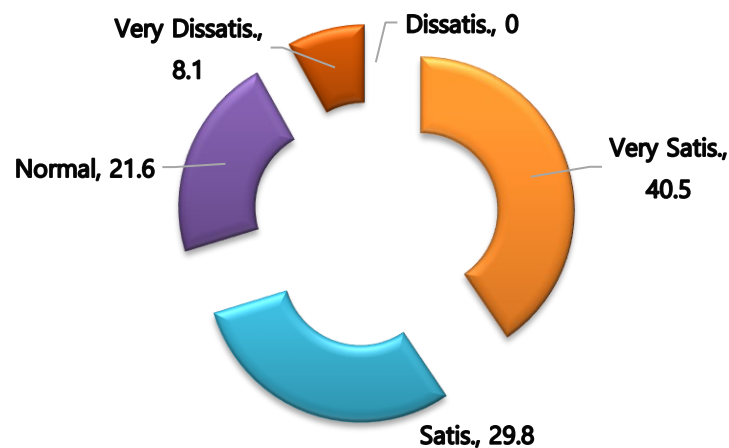


Figure 3. Satisfaction Levels with the Mobile App

Next, to analyze the reasons for stated levels of satisfaction, the students' responses to question two were divided into five different categories. First, the reasons stated for high satisfaction were convenience, efficiency, fun, the app's user interface, and "others". Specific learners' opinions are provided below.

Table 2. Learner Reasons for Satisfaction with the Mobile App

Reasons	Specific opinions of learners
Convenience	<ul style="list-style-type: none"> -Using the app makes it so easy to study vocabulary. -I don't have to write a word several times on paper, and I can study just by touching the screen. - It was very convenient to be able to watch it over and over again. - It was convenient to know the right answer right away if the answer is wrong.
Efficiency of Memorizing	<ul style="list-style-type: none"> -I remember words much better because I get to watch a video and learn vocabulary within that context. -I think this app is very efficient for memorizing words. -The YouTube video was provided so I was able to memorize the vocabulary in a very fun way.
Fun	<ul style="list-style-type: none"> -It was fun to be able to study words like I was playing a game. -Memorizing words was originally boring, but doing it through the app was not boring. -It was good because I didn't feel like I was studying when I used the app. - Because I used the app, it was not difficult to memorize the words and I was able to have fun while studying.
The App's Interface	<ul style="list-style-type: none"> -It was nice to warm up by watching the video and to review it by taking quizzes. -It was nice to see the entire script and to understand the meaning of each word in the context. -I like the overall composition of analyzing each word and taking a quiz after watching the video. -The vocabulary learning section is really well organized and the content is very good.
Others	<ul style="list-style-type: none"> -All the videos were interesting. -It was a voluntary activity, so there was no burden. -It was an activity that I could do comfortably without stress.

Learners' reasons for satisfaction with the app ranged from the convenience of a screen touch to repetitive learning to corrective feedback. In addition, some students said that it is convenient to study by touching the screen without writing on paper. In fact, these reasons seem to indicate the overall convenience of using a mobile app in general, rather than being limited to using the English Central App specifically.

Next, many students expressed the opinion that learning words via a mobile app is effective for memorization. Some learners commented that watching a video and providing context helped them acquire vocabulary, while others suggested that using the app improves vocabulary memorization. Based on this student feedback, this study concludes that some learners found that the mobile app activities are effective in vocabulary acquisition. Another opinion was that using the mobile app was fun; in fact, some students reported that the app was great because it made them feel like they were playing a game rather than studying. There were also some opinions given that learning vocabulary was not boring at all. From this, this study suggests that the primary advantage of mobile apps is that they can create fun while learning.

Finally, learners were also appreciative in the app's interface. The students felt that the way the app encouraged learning vocabulary, such as by watching videos, matching words, taking quizzes, reading full scripts, and presenting the meaning of words in context, was effective. This indicates that learners are aware of the purpose behind the mobile app, had closely examined the app's content, and assessed how effective it

is in achieving their learning objectives.

Next, the reasons given for student dissatisfaction with the app were twofold: system errors and complaints related to mobile devices. The specific opinions of learners are given below.

Table 3. Learner Reasons for Dissatisfaction with the Mobile App

Reasons	Specific opinions of learners
System Error	-There was a system error in the middle of using the app, so all of the word learning performance and word quiz scores I had done so far disappeared. I was very embarrassed. -When watching a video, the video screen is cut off frequently, so it is not cool to use the app.
Complaints of Mobile Machines	-The app's size is too large to install on my mobile phone. -My eyes were tired from having to look at and touch a small cell phone screen. -After the app is active, the battery drains too quickly.

Learners presented opinions of low satisfaction based on inconveniences due to system errors, excessive app size, and battery exhaustion. Although the above comments are inconveniences experienced with the English Central App specifically, they also correspond to the disadvantages of mobile apps more generally.

As the stability of mobile apps continues to improve, and as various types of mobile apps are continuously being developed, these fundamental inconveniences related to mobile app usage are expected to improve gradually. In case of system failure or machine-induced inconveniences, instructors should always prepare a vocabulary learning plan as a replacement.

5. CONCLUSION

This study's purpose was to examine how mobile apps affect learners' vocabulary acquisition. To this end, both a control and an experimental group were created, constituted of first-year university students at OO University in Seoul, South Korea. For the control group, the instructor guided vocabulary learning with direct teaching and PPT presentations; for the experimental group, vocabulary learning was preformed using a mobile app. To understand the impact of mobile apps on vocabulary acquisition, primary and secondary vocabulary tests were conducted, and a questionnaire was given at the end to understand learners' responses to mobile app use. The results from the two vocabulary tests showed no significant difference between the control and experimental groups. Neither was there a significant difference between an instructor giving explicit explanations in class and learners voluntarily learning vocabulary through a mobile app.

However, the questionnaire results regarding students' mobile app use (from the experimental group) are noteworthy. The questions surveyed students' levels of satisfaction with using the mobile app and also solicited their reasons for the answers they gave. The results showed that students held the opinion that they were generally very satisfied with using the mobile app. The reasons for their satisfaction varied, and included the following: convenience, efficiency in terms of memorization, fun, and the app's interface. Reasons for dissatisfaction with using the mobile app include system errors, excessive app size, and battery exhaustion.

This study concludes that by using mobile apps, learners can more easily access learning content, engage voluntarily in learning, and enjoy the convenience of learning. To maximize these benefits, instructors must choose effective mobile apps that make learning easy for students. Because there is already a surfeit of mobile apps for English learning, teachers need to know how to select an effective app, as well as come up with ways to induce students to use such apps voluntarily and effectively.

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