Using a Mobile Application (WhatsApp) to Reduce EFL Speaking Anxiety[1]

Uso de la Aplicación Móvil (WhatsApp) para Reducir la Ansiedad al Hablar en Inglés como Lengua Extranjera

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Abstract

Several experimental studies have examined the effect of the use of mobile applications on improving language skills, but little research has explored the impact of using these applications in EFL speaking classes on alleviating foreign language speaking anxiety (FLSA). This study examines the effect of using WhatsApp activities in undergraduate level EFL speaking classes on students' speaking anxiety, and their feelings about the activities conducted. Thirty-nine undergraduate level participants carried out the tasks on WhatsApp in EFL speaking courses for four weeks. The FLCAS was administered at the beginning and end of the study. Participants' views about the mobile application activities were also examined through face-to-face interviews. Results showed that WhatsApp experiences significantly impacted the students' language acquisition by lowering EFL speaking anxiety.

Key words: EFL speaking anxiety, mobile applications, mobile assisted language learning

Resumen

Diferentes estudios experimentales han analizado el efecto del uso de aplicaciones móviles para mejorar las habilidades lingüísticas, pero son pocas las investigaciones acerca del impacto del uso de estas aplicaciones en las clases de conversación en inglés como lengua extranjera para reducir la ansiedad al hablar un idioma extranjero. Este estudio examina el efecto de usar WhatsApp

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en actividades con estudiantes de pregrado que en sus clases de conversación de inglés experimentan ansiedad cuando hablan en una lengua extranjera y sus sentimientos acerca de las actividades realizadas. 39 participantes de pregrado desarrollaron tareas de los cursos de conversación de inglés como lengua extranjera en WhatsApp durante cuatro semanas. Las FLCAS fueron aplicadas al inicio y al final del estudio. Las opiniones sobre las actividades desarrolladas en la aplicación móvil fueron analizadas a través de entrevistas personales. Los resultados mostraron que la experiencia del uso de WhatsApp afecta significativamente la adquisición de un idioma reduciendo la ansiedad al hablar inglés como lengua extranjera.

Palabras clave: Ansiedad al hablar inglés como lengua extranjera, aplicaciones móviles, aprendizaje de idiomas asistido por móvil

Resumo

Diferentes estudos experimentais analisaram o efeito do uso de aplicações móbeis para melhorar as habilidades linguísticas, mas são poucas as pesquisas acerca do impacto do uso destas aplicações nas aulas de conversação em inglês como língua estrangeira para reduzir a ansiedade ao falar um idioma estrangeiro. Este estudo examina o efeito de usar whatsapp em atividades com estudantes de graduação que em suas aulas de conversação de inglês experimentam ansiedade quando falam em uma língua estrangeira e seus sentimentos acerca das atividades realizadas. 39 participantes de graduação desenvolveram tarefas dos cursos de conversação de inglês como língua estrangeira em whatsapp durante quatro semanas. As FLCAS foram aplicadas no começo e no final do estudo. As opiniões sobre as atividades desenvolvidas na aplicação móbil foram analisadas através de entrevistas pessoais. Os resultados mostraram que a experiência do uso de whatsapp afeta significativamente a aquisição de um idioma reduzindo a ansiedade ao falar inglês como língua estrangeira.

Palavras chave: Ansiedade ao falar inglês como língua estrangeira, aplicações móbeis, aprendizagem de idiomas assistido por móbil

Introduction

Using technology is an inevitable part of almost every aspect of life and educational environments are no exception. Computers, used as assisting tools for both teachers and students, have had beneficial uses in EFL classrooms. The use of computers to assist learning, or Computer-Assisted Language Learning (CALL), has gained popularity in language studies, even though, as Warschauer and Healey (1998) mention, this is not something new. However, due to the development of technology and the information era, it is a promising trend for language studies. The rise in popularity has not been in vain. It has been suggested that CALL may have many advantages. For example, CALL-based glossing is more efficient compared to paper-based glossing; moreover, writing is much easier and more success-inclined in terms of accuracy when it is applied on computers (Taylor, 2013; Ulusoy, 2006; Usun, 2003).

Nevertheless, recent developments in technology have shown that technology assistance is not limited to computers any more. Almost all the capabilities of computers have been fit into mobile devices, such as phones and tablets, which have increased access to technology in many classrooms. Martin and Ertzberger (2013) studied the difference between the use of computers and mobile phones in a classroom setting and found that students show more enthusiasm towards mobile devices. The application of mobile devices in classrooms has been welcomed by both the teachers (Albirini, 2006; Şad & Göktaş, 2014), and the students (Al-Fahad, 2009; Hsu, 2013; Ilter, 2009). In sum, their perceptions towards Mobile-Assisted Language Learning (MALL) have been generally positive. This brief review suggests that using technologies in EFL classrooms has been successful and promising; moreover, using these technologies has been welcomed positively by both teachers and learners (Arnold, 2007; Albirini, 2006; Cui & Wang, 2008; Golonka, Bowles, Frank, Richardson & Freynik, 2014; Hashemi, Azizinezhad, Najafi & Nesari, 2011; Şad & Göktaş, 2014; Tayebinik & Puteh, 2012; Taylor, 2013; Ulusoy, 2006; Usun, 2003).

In the world of mobility, millions of users communicate in seconds with each other, and for this purpose, they use a variety of applications. WhatsApp Messenger is one of the most popular applications, with 30.496.683 downloads on PlayStore, the application supplier for Android users. Other application suppliers do not compare in the number of downloads: iOS has 169978 ratings, and Blackberry has 504772 reviews. WhatsApp "is a cross-platform mobile messaging app which allows you to exchange messages without having to pay for SMS" (WhatsApp official webpage, 2015). Further, WhatsApp allows

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users to communicate by sending text messages, voice messages, videos, and pictures.

Using a familiar application in the classroom environment may help students to overcome some anxiety problems. Anxiety in a number of manifestations is a problem for EFL classrooms (Burgucu, Han, & Engin, 2011; Han, Tanriöver, & Sahan, 2016). Speaking anxiety itself is a recognized and undisputed phenomenon. As effective speaking requires face-to-face interaction, it is reasonable to question whether or not CALL, which could often remove the "face-to-face" aspect of communication, would be helpful for reducing speaking anxiety or not. In response to this question, Arnold (2007) cites multiple studies that show that CALL helps learners reduce or control their anxiety.

Mobile devices have been researched in several aspects in terms of assisting language learning/teaching. Some studies handle the subject from a general effect/impact view (e.g. Jones, Edwards, & Reid, 2009; Miangah & Nezarat, 2012; Ono & Ishihara, 2011; Wang, Shen, Novak, & Pan, 2009), while others focus on skills such as vocabulary (e.g. Alemi, Sarab, & Lari, 2012; Başoğlu & Akdemir, 2010; Çavuş & İbrahim, 2009; Hayati, Jalilifar, & Mashhadi, 2013; Lu, 2008; Stockwell, 2010; Zhang, Song, & Burston, 2011), pronunciation (Saran, Seferoglu, & Çağıltay, 2009), speaking and listening (Tsou, Wang, & Tzeng, 2006), reading (Hsu, Hwang, & Chang, 2013; Tsou, Wang, and Tzeng, 2006), and grammar (Baleghizadeh & Oladrostam, 2010). In addition, others examine perception (Al-Fahad, 2009; Hsu, 2013), motivation (Ilter, 2009) and factors (Liu, Han, & Li, 2010) about MALL. However, there are few to no studies exploring the link between speaking anxiety and MALL. Therefore, this study aims to bridge this gap by examining the effect of using a mobile application (WhatsApp) in reducing EFL speaking anxiety.

Briefly, using WhatsApp activities in EFL/ESL speaking classes has become popular in recent years, as it allows for unique and versatile learning opportunities. While using WhatsApp, students have the chance to individualize their learning, especially the language they have been working on. For example, they can monitor and check their language output for mistakes. Further, students are able to practice their pronunciation (accent, intonation, speed of speech) while rehearsing for the recording, all while exposing themselves more to the language and building positive feelings towards speaking. It is well known that anxiety is "a mental block against learning a foreign language" (Horwitz, Horwitz, & Cope, 1986, p.125) However, even if it is well known that mobile phones ease increased access to information, it is less known how mobiles promote new learning (Valk, Rashid, & Elder, 2010). In this sense, this study also aimed to bridge this research gap

through examining the link between using mobile application activities and reducing EFL students' FLA levels.

WhatsApp speaking activities are aimed at reducing the language anxiety of learners. The activities were applied in a classroom context for four weeks. The impact of these activities on the students' anxiety levels was examined. Further, the students' feelings regarding the link between these activities and their anxieties were qualitatively analyzed. The main research question that guided this study was if applying WhatsApp activities in EFL speaking classes would reduce the students' anxiety levels and positively impact their perceptions. More specifically, the research questions of this study are the following:

1.   To what extent do the WhatsApp activities impact the students' FLA?

2.   Are there any significant differences between male and female students in terms of FLA before and after the application of WhatsApp activities?

3.   How do the students feel about the WhatsApp experience?

Results indicate that the application has a significant impact on lowering students' level of speaking anxiety.

Literature Review

While the use of mobile devices in the language classroom is not a new topic for researchers, the rapid changes and advancements in technology continuously extend the list of unanswered questions. Opinions towards MALL seem generally positive in the existing literature. Many studies point out how advantageous MALL is and how it positively affects learners (Jones et al., 2009; Miangah & Nezarat, 2012; Ono & Ishihara, 2011; Wang et al., 2009). Further, several studies have investigated the use of the MALL in classroom atmosphere to teach language skills, and have pointed to its advantages (e.g. Başoğlu & Akdemir, 2010; Lu, 2008; Zhang et al., 2008). For example, Başoğlu and Akdemir (2010) investigated mobile assisted vocabulary learning and the use of flashcards using mobile phones in a Turkish EFL context. Lu (2008) compared the efficacy of mobile-assisted vocabulary learning with paper-based methods of vocabulary learning. Alemi et al. (2012) and Çavuş and İbrahim, (2009) examined mobile-assisted vocabulary learning methods in EFL classrooms.

Regarding pronunciation, Saran et al. (2009) found that there were positive effects of the use of mobile devices on pronunciation. Tsou et

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al. (2006) found that online story telling contributed to the improvement in multiple skills. Regarding reading skills, it seems that teaching this skill via mobile devices is quite new. In a study, Hsu et al. (2013) the groups that used mobile devices were successful and they had very high positive perception of mobile learning. There have also been studies analyzing the effect of MALL on grammar learning. Baleghizadeh and Oladrostam (2010) examined the possible development of their grammatical abilities when using MALL in Iranian EFL context. It was found that the use of mobile devices also helps learners improve their grammar, in addition to other language skills.

Although existing research demonstrates advantages to mobile-assisted vocabulary learning, there may be some disadvantages to this method. For example, Zhang et al., (2011) demonstrated that the disadvantages include mobile phones possibly causing distractions and forgetting. Similarly, Hayati et al. (2013) indicated using mobile devices may lead teachers to take a passive role in the classroom, and teacher-based interaction is better and more effective than mobile devices. Stockwell (2010) identifies similar results in his research favoring previous studies.

As previously indicated, utilizing mobile technology, especially mobile phones, in classrooms is widespread. However, bringing technology into the classroom is not an automatic key to success. According to Liu et al. (2010), important factors to consider when implementing MALL include: (1) being a technology user versus being an m-learner, (2) m-learners' consumer role, and (3) perceptions of m-learners. Liu et al. (2010) indicated that students' success does not depend only on having the necessary tools, but also on understanding the concerns and willingness of the learners.

To interpret learners' concerns and willingness, two concepts are particularly important to understand: perception and motivation. Hsu (2013) emphasized that the concept of perception depends on the student profile and the affordability of the devices. This may be a problem as students' family economic profiles may be too low to afford technological devices in the aforementioned study. Hsu's (2013) study demonstrated that such devices could not replace teachers. Al-Fahad (2009) culminated positive perception results in the study including 186 students replying questionnaires. However, the latter of the two studies took place in a single country, whilst the former contained an international sampling. Therefore, as this issue is culture-based, perceptions may depend on the country and living conditions.

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As a second learner-based variable, motivation plays a significant role for learners to adapt or to use m-learning. Ilter (2009) conducted a study of 350 university students to analyze the effects of MALL on their motivation. The results indicated that using technology enhances learners' motivations. Interestingly, another result of the study was that female students showed more enthusiasm for using technology in language classrooms than male students. However, to the best of our knowledge, no experimental research has investigated how to reduce foreign language anxiety, using MALL. Therefore, this study aimed to investigate the impact of WhatsApp speaking activities on reducing the language anxiety of students in speaking classes. Given the fact that language anxiety is a challenging issue in teaching and learning in both EFL and ESL contexts, this study aimed to examine anxiety-alleviating WhatsApp activities and their capacity to create a less-anxiety producing learning atmosphere in speaking classes. The reason that WhatsApp was the chosen mobile application is that it is a tool that students use on a daily basis. They know how to use it. Second, voice recording on WhatsApp is less embarrassing than using a video recording, where a student's image is associated with their audio.

Methodology

Research Design

This mixed-research study followed the one group pretest-posttest design as a pre-experimental research model in which the FLA of the learners before and after the application of WhatsApp activities was compared. In this research design, the quantitative data included responses in the FLCAS scale while the qualitative data included face-to-face interviews with a randomly selected sub-sample of volunteer students from the participants.

Data for this study was collected in four phases. First, 39 volunteer students responded to the 33 items in the scale prior to the study (e.g. pre-course scale). The data obtained from the participants at the beginning of the study was used to examine their FLCA levels.

Second, volunteer students were invited to participate in the experiment. They were informed on how to use the WhatsApp dialogue activities in the new classroom context instead of the traditional classroom teaching context (e.g. classrooms without IWBs and teacher-based interactions) because using WhatsApp can turn a classroom into a non-traditional teaching context. How to use the activities was modeled for the students. The students attended WhatsApp activity

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classes for four weeks. First, student pairs had to write mini-dialogues using something they had learned that day. As they finished writing the dialogue, they were instructed to call their teacher to have a quick look for simple corrections for grammatical mistakes (5 mins). Then, they practiced and recorded it within their WhatsApp group. They listened to their dialogues to see if they were clear and also listened to dialogues by student pairs in the rest of the classroom. The speaking/recording activity was conducted every other class or even at the end of every class. Mini-dialogues (about 5 lines) were proposed; these took about 10 minutes. Five minutes were spent creating dialogues, and another five spent practicing and recording. The study took three weeks.

During the mini-dialogue task, students were put in pairs or small groups of three to write down the dialogue. As soon as they finished, they could call their course teachers to have a look at the most serious mistakes that should be corrected. All the students were required to be added in a WhatsApp group. They met with their WhatsApp groups in class and recorded the dialogues using the application. The dialogues were shared, so that apart from learning from their own dialogues they could learn from each other.

Then, the students completed the same scale at the end of the experiment (e.g. post-course scale). The aim of collecting this data was to compare students FLCA before and after the experience.

Finally, face-to-face interviews were conducted with a random sub-sample of five students from among the participants. Semi-structured interview questions were predetermined and directed to them after they took the same scale. They were interviewed about the feelings they experienced during the activities. The interview was conducted in Turkish, the students' native language, to ensure the results were accurate and complete. These interviews were recorded and then transcribed.

Participants

The target population of the study is all students receiving undergraduate level EFL students in a state university in Turkey. The study participants were 39 volunteer students who were receiving intermediate level foundation courses at the time of the study. Although more students participated in the pre-course and post-course scale, some of them failed to attend some classes; therefore, they were excluded from the analyses. These students were attending several language skill-based courses in English at the time of the study. The

medium of instruction and exams was English. Their ages ranged from 18 to 24. They were taking intensive English foundation courses in the preparatory program before starting courses related to their major. The students were assigned to the preparation-class based on a test in a criterion-referenced framework designed by the School of Foreign Languages of the university. The test included two sections: one testing their speaking and writing skills, and the other testing their listening, reading, grammar, and vocabulary skills. All the participants could not pass this exam based on criterion-referenced assessment. If they had passed this test, they could have been accepted as first year students and started their degree programs.

Data Collection Instruments

First, a Turkish version of the Horwitz's Foreign Language Classroom Anxiety Scale (Horwitz, Horwitz, & Cope, 1986) was implemented before and after the experiment to compare the students' level of speaking anxiety. It is a tool extensively used in classroom research. The FLCAS includes five levels of FLA in the classroom: (a) degree of anxiety, (b) extent of understanding others when speaking the foreign language, (c) fear of making mistakes in the foreign language, (d) feelings of one's own competence, and (e) divergence from general communication apprehension. The reliability coefficient (Cronbach alpha) for the Turkish version of the FLCAS by Dalkılıç (2001) was .90 (n = 126). Permission to use the scale was obtained for this study. Further, face-to-face interviews were conducted with a sub-sample of the volunteer participants to examine their feelings about the link between the use of the mobile application in EFL speaking classes and their FLA. Next, WhatsApp was used to carry out the dialogue activities. Finally, semi-structured interview questions were applied to examine the students' feelings about the use of WhatsApp speaking activities and their level of anxiety.

Data Analyses and Interpretation

A series of descriptive statistical analyses (e.g. the mean and standard deviation) and inferential statistical analyses were performed on the quantitative data. The purpose of conducting these statistical analyses was to examine the participants' FLCA before and after the experience.

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A coding and classifying approach was used for the qualitative data analysis. First, the students' responses pertinent to the research

questions were arranged together, categorized, and finally, analyzed according to the recurring themes (Gay, Mills & Airasian, 2009)

Results

The quantitative results are presented first, followed by the qualitative results. The quantitative analyses included descriptive statistics (e.g. mean and standard deviations of scores by female and male students in pre-course and post-course scale) and inferential statistics (e.g. paired and independent sample t-test results for the comparison between the scores by female and male students in pre-course and post-course scale). Table 4.1 provides the descriptive statistics while Table 2, Table 3, and Table 4 present inferential statistical results for the data obtained from responses used in the analysis. Following quantitative analyses, the qualitative analysis, including the focus group interviews, is presented.

Quantitative Data Analysis

Descriptive results. The descriptive data analysis was used to answer the following first research question: To what extent do the WhatsApp activities impact the students' FLA?

Table 1. Descriptive statistics for the students' pretest and posts tests

	Gender	n	m	Mean score difference	sd
Pre-course	female	12	89.5833		24.05092
				-2.1204	
scale	male	27	91.7037		15.74756
Post-course	female	12	84.0000		22.93469
				-3.963	
scale	male	27	87.9630		15.39351

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Table 1 provides the detailed descriptive statistics regarding the participants' anxiety level before and after the WhatsApp experience. First, the mean score difference between females and males increased in the post-course scale (e.g. after the WhatsApp experience) compared to pre-course scale (e.g. before WhatsApp experience). However, the mean score difference of the females between pre-course and post-

course scale was higher than the males' score, indicating that males were experiencing higher levels of anxiety than females, yet the females lowered their anxiety after the four-week WhatsApp course. The standard deviations in both pre-course and post-course are very similar, but the deviations between males and females are quite different, indicating that males and females had different levels of foreign language anxiety.

Inferential statistical results. The inferential statistics including independent and paired sample t-test were used to answer the second research question: Are there any significant differences between male and female students in terms of FLA before and after the application of WhatsApp activities?

Table 2. Independent sample t-test results for the comparison between female and male students FLCA levels in the pre-course scale

Gender	n	m	Sd.	t	df	P
female	12	89.5833	24.05092	-.328	37	.744*
male	27	91.7037	15.74756			

* p > 0.05

Table 2 shows the independent sample t-test results for the comparison of male and female students before the WhatsApp experience. The results proved that there was no significant difference between males and females in terms of FLA ($p > 0.05$), indicating that female and male students had similar levels of FLA before the experiment.

Table 3. T-test results for the comparison between female and male students' FLCA levels in the post-course scale

Gender	n	m	Sd.	t	df	P
Female	12	84.0000	22.93469	-.636	37	.529*
male	27	87.9630	15.39351			

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Table 3 shows the independent sample t-test results for the comparison between male and female students after the WhatsApp experience. The results demonstrate that there was no significant

difference between males and females in terms of FLA (p > 0.05), indicating that female and male students had a similar level of FLA after the experiment.

Table 4. Paired sample t-test results for the comparison between female and male students' FLCA levels in the posttest

	n	m	Sd.	t	df	P
Pre-course scale	39	91.0513	18.38757	2.342	38	.025*
Post-course scale	39	86.7436	17.82771			

*p > 0.05

Table 4 shows the paired sample t-test results for the comparison of the students' FLA before and after the experience. The results indicate that there was a significant difference between the FLA levels of the students before and after the experience (p > 0.05) and the mean score decreased after the experience. This result indicates that the WhatsApp experience impacted the students' FLA levels and they were able to alleviate their anxiety to some extent.

Overall, both the descriptive and inferential statistics showed that although female and male students had different levels of anxiety before and after the WhatsApp experience, females were able to alleviate their anxieties more than males. Furthermore, using WhatsApp in speaking classes significantly impacted their FLA levels, indicating that they experienced less anxiety after the experience.

Qualitative Data Analysis Results

This section includes analysis of the focus group interviews conducted with the sub-sample of five interviewees in Turkish. First, the voice-recorded interviews were transcribed by one of the researchers. Then, the researcher translated the students' responses from Turkish to English. The other researcher of this study double-checked both the transcriptions and translations. The aim of conducting the interview in the learners' native language (e.g. Turkish) was to encourage more detailed responses. Finally, the analysis was made based on recurring themes following Gay, Mills and Airasian's (2009) coding and classifying approach. These analyses were used to answer the following research question: How do the students feel about the WhatsApp experience?

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The analysis of the students' feelings about the WhatsApp activity experience indicated that they mostly liked the idea of using WhatsApp in the classroom and they felt that it contributed to their language performance. However, Student A did not have positive feelings about the experience. Some excerpts from the interviews are below:

> Actually I do not think it made me gain some experience. I was just a part of it because you want me to do it. I do not think it contributed anything to me. I try to pronounce words accurately and clearly. [Student A]

> I think it was very helpful. Listening my own voice afterwards over and over again helped me improve myself. [Student B]

> I think it improved our writing, speaking, and pronunciation. It made us see and understand ourselves in a better way. [Student C]

> I think this study was really good. I improved my pronunciation, and I speeded up making sentences. Now I think I can make conversations with my friends in English. I think it is a good activity. I recommend this. I liked it. [Student D]

> I have very positive opinion about it. Using such social application in education is really good. You had mentioned us that it may help us improve our speaking and make us gain more self-confidence. I already do not have such problems but I can see, and I hear some of my friends talking how they overcame such problems thanks to this activity. [Student E]

Next, students were asked to indicate the thing that affected them most during the experience. The students gave different answers to this question. Three students reported that it created an opportunity for listening to their voice-recordings themselves and this enabled them to find their mistakes. Furthermore, they felt they had more freedom in creating sentences while writing and speaking. Another student reported that feeling being able to speak and being listened to by other students affected him/her most.

> I was just wondering how my voice was on the recording. It was the only thing I cared. [Student A]

> Listening to my own voice afterwards over and over again, and the fact that other people listen the way I speak affected me most. [Student B]

> It helped me write well, and it made me understand my mistakes as I listen to myself. [Student C]

> Firstly, my pronunciation gets faster and improved. Instead of thinking, I speeded up making sentences not only in writing but also and speaking sentences. I liked it. [Student D]

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> I had pronunciation problems. Before we recorded our speaking, we had help of our teacher to correct us. Then, we recorded ourselves after we practiced those pronunciations. Therefore, it helped me correct my pronunciation [Student E]

Finally, students indicated if they are eager to continue using WhatsApp for improving their language skills as a part of classroom activity for the future. Two students responded negatively; one student felt that the experience was boring and the other student was reluctant. However, other students reported that they could continue using WhatsApp either in classroom atmosphere or by making groups.

> If you want me to I will otherwise I won't because I think it is boring. [Student A]

> I don't think I will because 3 weeks was enough for me to improve myself. [Student B]

> It is hard to go on outside but if it went on in the classroom yes I want to continue. If the necessary conditions were present, I would continue. [Student C]

> Yes, I think maintaining this in the school. Especially with my foreign friends. [Student D]

> Yes, because when we do such group work, we improve ourselves as we both speak and listen others speaking. [Student E]

Conclusions

The quantitative data analysis suggests that even though males were experiencing higher level of anxiety than females, the females could lower their speaking anxiety more than males after the WhatsApp experience. Furthermore, the WhatsApp experience significantly impacted the students' FLA levels and they were able to lessen their anxieties somewhat and therefore they experienced less anxiety after the experience. The qualitative data analyses explained how this effect occurred. First, interview data analyses showed that the students mostly liked the WhatsApp activity experience and they felt that it could improve their language performance.

Second, the students reported that the experience gave them a chance to listen to their voice-recordings themselves and have their recordings evaluated by an audience, thus enabling them to self-evaluate by questioning their mistakes. In addition, the experience fostered their creativity in constructing new sentences in speech and writing.

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Lastly, students were not sure about continuing to use WhatsApp for improving their language skills in a classroom atmosphere, but there is still a possibility to use it during in-class activities.

There are two major limitations that need to be addressed regarding this study. First, the interview data examined the situation from only students' perspectives; this might have limited the qualitative results of the study. Additionally, observations for student-student and student-teacher-interaction may be a viable alternative to interviews. Second, this study collected data only from English major students. Participants from different fields and from different proficiency levels in English may lead to different results.

In light of the limitations mentioned above, the following suggestions are proposed. First, the students were mostly enthusiastic toward the idea of using WhatsApp in classroom based on the interviews; this enthusiasm can foster language development. This result was supported by some previous literature (e.g. Al-Fahad, 2009; Hsu, 2013; Ilter, 2009). Even though this study did not examine the experience from the teachers' perspectives, several previous studies again confirmed that both teachers and students like using mobile devices in EFL classrooms (e.g. Arnold, 2007; Albirini, 2006; Cui & Wang, 2008; Golonka et al., 2014; Hashemi et al., 2011; Şad & Göktaş, 2014; Tayebinik & Puteh, 2012; Taylor, 2013; Ulusoy, 2006; Usun, 2003). Therefore, this study aligns with prior work (Ilter, 2009) that demonstrates that students can be motivated toward foreign language learning using such mobile technologies. Krashen's Affective Filter Hypothesis states that if learners have low motivation and high anxiety, such affective variables will act as obstacles for the delivery of input to the language acquisition device (McLaughlin, 1987).

Second, the students in this study reported that the WhatsApp experience offered them a chance to listen to their voice-recordings themselves and be evaluated by an audience. This made them feel good; therefore, they could become positively self-aware in self-evaluation by questioning their mistakes. Learner characteristics such as "inability to comprehend, self-perceived low level of anxiety, competitiveness, perfectionism, self-awareness, speaking activities, test anxiety, fluent speakers' presence, students' beliefs about language learning, lack of group membership with peers, fear of negative evaluation, negative classroom experiences, etc." (Nimat, 2013, p.23) cause anxiety. It can be suggested that the motivation and positive self-awareness levels of students can be increased by such a tool, and then they could develop a lower level affective filtering toward input.

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Third, the students reported that they could see improvement in their pronunciation and other language skills. This result aligns with previous research (Alemi, et al., 2012; Çavuş & İbrahim, 2009¸ Lu, 2008). Therefore, EFL students should be trained to use this mobile application by forming groups with their classmates to improve language skills. Students could even be trained on how to use WhatsApp as a vocabulary learning strategy tool. For example, sharing new vocabulary they learnt after each class. Training students to use strategies plays an important role in fostering learner autonomy; learners become more autonomous as they take responsibility of their own learning (Ellis, 2008).

In addition, some students reported that it is not a good idea to use WhatsApp as an out-class activity. This may be because they are accustomed to teacher-based interaction in a conventional classroom setting. Some studies supported this finding (Hayati et al., 2013; Liu et al., 2010; Stockwell, 2010) as they suggested that such tools cannot replace teacher roles. Therefore, it can be suggested that teachers can develop new WhatsApp activities for pronunciation and vocabulary learning as in-class or out-of-class activities because some studies have found positive effects on improvement of pronunciation and vocabulary (Alemi, et al., 2012; Başoğlu & Akdemir, 2010; Lu, 2008; Saran, et al., 2009)

Lastly, the quantitative results of this study showed that there were greater decreases in anxiety among females after the WhatsApp experience. As reported by previous research (Ilter, 2009), females have more enthusiasm for using technology in language classrooms. This may explain why their anxiety levels decreased more than the levels of anxiety in the males.

In conclusion, from the perspective of educational practice, this paper provides new experimental data on the topic of MALL. It also gives evidence the use of mobile phones contribute to improvement of educational outcomes specifically promoting new learning (Valk, Rashid & Elder, 2014). As such, it helped students to individualize their learning. These research results might be included in the materials for teachers' continuing professional development (CPD) programs, language learning and teaching materials (Hayati et al., 2013) and might be taken into account within foreign language course planning procedure, particularly in course syllabi. Finally, this study did not examine the link between anxiety and students with different EFL proficiency levels and furthermore, teacher perspectives are not within the scope of this study. Further research should include participants with varying EFL proficiency levels and language teaching professionals.

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