Social networks and their effectiveness in learning foreign language vocabulary: A comparative study using WhatsApp

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Abstract
The present study aimed at exploring the use of a particular social networking (SN) application, i.e. WhatsApp, in instructing new vocabularies in a foreign language and comparing these results with the traditional methods of teaching L2 vocabulary. For this purpose, two groups of EFL learners studying English in an English institute were chosen. The results of a pre-test showed no significant difference between the two groups. One group received all the instruction of new L2 vocabulary from their textbook via WhatsApp while the second were taught through the traditional face-to-face instruction in the classroom. A researcher-made vocabulary test was used to compare the groups. The results of the independent samples t-test showed no significant difference between the technology-based and the traditional groups. Some reasons are discussed for these results. Finally, suggestions are provided for future research as well as teachers interested in utilizing such social media in their language classes.

Keywords: Computer Assisted Language Learning; Social Networking Services; Mobile Assisted Language Learning; L2 Vocabulary Learning

Introduction

The application of Mobile-Assisted Language Learning (MALL) in the area of second language teaching and learning is becoming a popular theme due to the explosion in the industry of mobile phones in recent years. Mobile phones have become the most common communication device these days in comparison to computers and laptops. Learning through the mobile phone or m-learning (m-learning) provides the learners with the opportunity to learn in all times and places they can. Mobile phones have unique features which make them appropriate for different educational objectives, namely, 1) portability, 2) social interactivity, 3) context sensitivity, 4) connectivity, and 5) individuality (Klopfer, Squire, & Jenkins, 2002). From among these features, social interactivity of mobile phones is the feature which particularly helps learners to exchange
different types of content and collaborate with classmates and peers. This is done through many
different applications the most popular of which are social media and networks. These social
networking services (SNS) can provide language learners with a fast and ubiquitous tool in their
learning.

According to Kaplan and Heinlein (2010, p. 61), social media or networks are “a group of Internet-
based applications that build on the ideological and technological foundations of Web 2.0 and
that allow the creation and exchange of user-generated content.” Among these social networks,
WhatsApp is a widely popular application. It operates on nearly all current types of devices and
operating systems. The main purpose of the developers was taking the place of the common short
message system (SMS) which cost nothing for the user except for the internet connection. This
application has many capabilities including sending and receiving text messages, images, audio,
and video files, and links. Technically, WhatsApp can be viewed as a social network that allows
people to communicate with each other rapidly in a very low price. One of the application’s
helpful features is the option to create a group and to communicate with its members separately
from other contacts. Overall, these features make it a suitable device for educational purposes.

The use of many CALL or MALL programs including social networking applications on
language learning has been investigated in much research. Meanwhile, some studies have
focused on the area of vocabulary learning in a foreign language. Some of these studies have
dealt with the presentation of L2 vocabulary using new technologies like short messaging service
(SMS), short video conferences, and online and offline podcasting (Nah, White & Sussex, 2008).
However, this research is significant because of its using a social network, i.e. WhatsApp, in
helping learners develop new vocabulary in a foreign language. Accordingly, the current study
has tried to provide a new outlook towards using technology for language learning by using a
social networking software for the purpose of vocabulary learning among Iranian EFL learners
and to compare it with the traditional ways of L2 vocabulary teaching.

Literature Review

Social networks and language learning

The use of different Internet-based social networks and communication tools such as email, SMS,
Facebook, Twitter, and recently LinkedIn, Telegram and WhatsApp for educational purposes has
become popular during recent years (Fewkes & McCabe, 2012; Fischer, 2013). Each of these
tools has different characteristics that influence their suitability for learning purposes (Calvo,
Arbiol & Iglesias, 2014).
The positive effects of different digital communication tools in education have been investigated in different studies and from different aspects such as their potentials for enhancing learning (Smit, 2012; Cifuentes & Lents, 2011), increasing informal communication among students (Cifuentes & Lents, 2011; Smit, 2012), increasing interpersonal interaction between students and teachers about course content and personal issues (Cifuentes & Lents, 2011), creating a sense of belonging and community (Doering, Lewis, Veletsianos, & Nichols-Besel, 2008; Sweeny, 2010), breaking down traditional teacher-student (Doering et al., 2008), and enhancing students’ motivation and seriousness when their assignments are public (Sweeny, 2010). On the other hand, some other studies have reported that teachers had concerns about the non-academic environment of these applications (Church & de Olivia, 2013; Doering et al. 2008). Some studies have also pointed out that new digital technologies could have a negative impact on academic writing as students begin to ignore punctuation especially in using vowels (Scornavacca, Huff, & Marshall, 2009; Sweeny, 2010).

Over the past years, the amazing development in the industry of social networking applications has helped teachers to create and administer groups for their students that operate as types of “simple social networks” for the class (Fischer, 2013). WhatsApp is among the applications which has gained great popularity for this purpose. The reasons why teachers adopted WhatsApp as their main communication channel in the classroom are summarized by Church and de Oliveira (2013): the low cost of the application along with the capability to send a limitless number of messages, immediacy and ubiquity, students’ willingness to become part of a new trend since their peers are already using the application, the capacity to have an ongoing conversation with many individuals at once, the capacity to form different groups of contacts, and a sense of privacy compared to other social networks. Meanwhile, Church and de Olivia (2013) refer to some disadvantages mentioned by the participants of their studies such as the overflow of irrelevant or senseless messages and the feeling that the application is not a suitable channel for formal communication. These drawbacks cause people to use the regular text message system whenever they need to send an important, formal, or unidirectional message.

Since WhatsApp is a relatively new technology, little research exists regarding its effectiveness in second language education in general and in teaching and learning language skills or content in particular. Overall, WhatsApp has become a shared platform that enhances user-friendliness, encourages cooperation, and increases motivation to take an active part in academic assignments (Bere, 2013; Rambe & Chipunza, 2013). Some studies, therefore, have been conducted on its application in language teaching and learning. A study conducted among students in Spain examined the use of WhatsApp on learning English as a foreign language. Using self-report questionnaires, the students reported a rise in motivation and a greater enthusiasm for reading in a foreign language (Plana, Escofet, Figueras, Gimeno, Appel, & Hopkins, 2013). However, not
all views are positive. A study conducted in Kuwait, showed a negative effect on the students’ ability to develop writing skills in English as a foreign language (Salem, 2013). Their writing was worse after using WhatsApp probably due to the reduced forms of texting common in this software.

There are different strategies for learning vocabulary through mobile phones. Learners can be provided with modified vocabulary practices based on activities performed in the classroom. They are, then, asked to complete them on their mobile phones and send them back to their teachers. Learning vocabulary can also be performed along with the pictorial annotation shown on learners' mobile devices for a better understanding of the new words. In a study conducted by Chen, Hsieh & Kinshuk (2008), learners were provided with verbal as well as pictorial annotation for learning English vocabulary. Results of the post test showed that the pictorial annotation helped learners with lower verbal and higher visual ability to retain vocabulary. In another study, Kennedy and Levy (2008) sent, through SMS, messages containing already known vocabulary used in new contexts to the students. The number of items was nine or ten messages per week. The results indicated that the messages were very helpful for learning vocabulary. Similarly, Thornton and Houser (2005) sent short mini-lessons for learning vocabulary through email to mobile phones of the students three times a day. They used new words in multiple contexts for the learners to infer the meaning. The results showed a significant increase in the scores on the post tests.

The present research aims at studying the development of vocabulary knowledge of EFL students using the mobile application of WhatsApp and a traditional method of the direct presentation of explanations, definitions, synonyms and antonyms to the students and comparing these two approaches in teaching L2 vocabulary. In other words, the effect of the mobile-supported language learning environment on the vocabulary learning of students is examined in this study.

**Method**

**Participants**

The present study was performed on 32 teenaged students in an Iranian language institute ranged from 13-16. The significant criterion for choosing these participants was their background experience in English classes. They all had been studying English for about 3 months in teenaged level of the book *Connect 1*. Randomly divided, 16 students were in experimental group and 16 students in the control group. One group used the WhatsApp and the other one received the
traditional instruction. More information is provided in the data collection part. The two groups were compared regarding their levels of vocabulary knowledge using a pre-test. Independent samples t-test showed no significant difference between the two groups before the study (t=0.754, p<0.5).

**Materials and instruments**

The material used in the present study were *Connect 1* English book for young adolescents and a vocabulary list extracted from the book (lessons 12-19) with definitions, synonyms, antonyms and examples of each vocabulary entry. This list (see the appendix) was chosen and developed by the researchers. A researcher-made, multiple-choice test (see the appendix) was developed which consisted of the 18 items (chosen from the vocabulary list). In addition, the smartphone software WhatsApp was also used as the medium of instruction in the experimental group. Both groups were taught by one of the researchers.

**Data collection and analysis procedures**

In the first session, the WhatsApp group received a brief explanation about the purpose of the study by one of the researchers. Then, the students were asked to install the software, WhatsApp, on their smart phones. Then, the researcher created a group and added all the students and taught them how to use the software for the purpose of vocabulary learning. The researcher sent them the vocabulary files via the software. These vocabulary files included new items of each lesson. Each word entry contained the meaning or definition as well as synonyms, antonyms, explanations and examples (both textual and pictorial when needed). They, then, discussed the new words and added extra information with their teacher and other members in the group. This added information included what they had searched and found in dictionaries including pronunciation, expressions, and special uses. The teacher guided the discussions and clarified any misunderstanding.

Students in the control group, on the other hand, received instruction on the same items through the context of their textbooks. After asking students to identify the new words, they were asked to follow the steps in order to learn the new words. After isolating the new words from the context, the students repeated the words and were provided with more explanations (synonym, antonym, etc.) about them. Finally, the students reviewed the list of vocabulary and tried to explain each word by providing more examples. Both groups were instructed the new items over 9 unconnected sessions.
After the instruction sessions, the students in both groups were given a multiple-choice vocabulary test. The results of the two groups were compared using independent samples t-test.

**Results**

The result of the independent samples t-test for the pre-test is presented in Table 1. Table 1 depicts the descriptive statistics of the post-test and Table 2 indicates the results of the independent samples t-test after the treatment.

<table>
<thead>
<tr>
<th>medium of instruction</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learners' score</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WhatsApp</td>
<td>16</td>
<td>13.3125</td>
<td>3.23973</td>
</tr>
<tr>
<td>Traditional</td>
<td>16</td>
<td>13.9375</td>
<td>2.08066</td>
</tr>
</tbody>
</table>

Table 1. The descriptive statistics of the test after the treatment given to students

Table 2: Independent samples t-test for the experimental and control groups

<table>
<thead>
<tr>
<th>Learners' score</th>
<th>Levene's Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>3.043</td>
<td>.091</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td>-.649</td>
<td>25.575</td>
</tr>
</tbody>
</table>

As indicated in Table 1, the mean score of the traditional group (X = 13.9375) is higher than the mean score of the WhatsApp group (X = 13.3125). As shown in Table 2, the t value (.522) revealed that there is no meaningful distinction between the means of the two groups in the test after the treatment. The results of the t-test showed that the performance of mobile software group was not higher than the performance of the traditional method group.

**Discussion**
The present study aimed at finding out the differences between the vocabulary knowledge of the students who learned L2 vocabulary either through a mobile networking software (WhatsApp) or via a traditional method (including the repetition of a list of words and asking students to memorize them). The findings of the study indicated that WhatsApp group did not have a better performance than that of the traditional group. The result of this study was in conflict with the findings of previous studies which emphasize the positive role of social networks in language learning in general (Chartrand, 2013; Clark & Gruba, 2010; Jafari & Chalak, 2016; Liu, et al., 2013; McBride, 2009) and L2 vocabulary learning in particular (Fu, 2002; Levine, Frenz & Reves, 2000).

This lack of better performance in the social networking group in terms of L2 vocabulary achievement can be attributed to several reasons. The students could not control their learning during the implementation of the method due to the nature of the mentioned software for flooding of irrelevant or nonsensical messages, posts, and links. According to Lee (2000), mobile-learning can be an individualized learning tool that can promote motivation among students. However, as the results of our study showed, while using their mobile phones, language learners are attracted to a large number of distracters including chatting with friends, irrelevant games, listening to music, watching clips and movies and many other irrelevant issues distracting learners from what they actually do.

A second reason about the results obtained in this study could be related to the reputation of social networking services as educational or entertaining devices. As was mentioned earlier, this has also been referred to by some previous research (Church & de Olivia, 2013; Doering, et al. 2008). These studies have reported that social networks are assumed by many teachers and students as informal communication devices which are not suitable for formal communication needed in educational settings. As Lomicka and Lord (2016) maintain, the teacher must determine rules or codes of conduct in order for the learners to know the principles of behaving in social networking sites. In this way, the teacher can consider the guidelines provided by the institute or organization for students’ conduct in social networks. Students must become aware of the pedagogical value of the social network being utilized. This way, learners take into account the possibility of these networks as learning devices than fun and entertainment tools. As well as the need to familiarize students with the technical aspects of these media, it is also necessary for them to receive rules of conduct in their uses of them. Meanwhile, as McDermott (2013, p. 154) asserts, social networking language learning tools are “most effective when there was a direct incentive (i.e. a grade)”. In other words, the use of these applications and sites must be controlled and directed in a way that leads learners to the desired objectives. Otherwise, it will result in beating around the bush due to great number of attractive distracters associated with them.
Finally, it should be noted that this study had the limitation of its small scope, which may have been the reason of insignificant results observed. The number of learners and the number of items included in the test were limited which may have caused the learners to perform similarly in both groups and less variance be observable between them. However, the contribution of the results of this study lies in terms of both the methodology applied and the identification of a probable “myth” regarding the superiority of technology-based instruction over regular face-to-face instructions of one aspect of language. Further studies can involve more participants in the groups as well as longer word lists in order to gain more comprehensive results. Future studies can also be conducted using different types of applications and even different research designs to see how different types of research designs using mobile applications can help language learners develop different skills and sub-skills in a foreign language. It should also be taken into account that such results are also important in encouraging researchers to examine different aspects of using effects of using new media on language teaching as a context in which interpersonal interaction plays an important role. This idea has been examined in some research (Church & de Olivia, 2013; Doering et al. 2008; Scornavacca, Huff, & Marshall, 2009; Sweeney, 2010), the results of which can be helpful in making new technologies as efficient as possible and in predict problems and have strategies to deal with them.

Accordingly, language teachers must be cautious about the application of such SN services in teaching different aspects of a foreign language in their classrooms. Students need to change their perception of these services as mere entertaining and fun tools and develop the awareness of their new uses as pedagogical tools. Research has indicated that learners’ perceptions and attitudes are important in the use and implementation of social networking services in their language learning practices (Khani & Monfared, 2013; Warschauer, 2002). As a result, it is necessary for teachers to devise rules of conduct about the use of SN services in educational settings before applying them in their classes. One implication of these results could be for teachers to provide these rules and regulations before utilizing any type of mobile-assisted language learning application in their classrooms.

**Conclusion**

This study aimed at exploring the use of a particular social networking application, i.e. WhatsApp in learning new vocabulary items in a foreign language and comparing these results with a traditional method of L2 vocabulary learning. Though the learners were positive about using new technologies like social networking apps in their language learning, the results did not show a significant difference between the technology-induced and the traditional groups. This finding can be attributed to two reasons. In the first place the learners may have been distracted
by many irrelevant factors like chats, messages, links, etc. Secondly, students need to receive rules or codes of conduct regarding the use of this application for a pedagogical purpose in order not to consider it as merely an entertainment device. Finally, the limitations of the study including the limited number of participants as well as the limited items may have influenced the results. It is undeniable that new technologies including mobile phones can provide helpful opportunities for teaching a foreign language. However, they should not always be regarded as being superior to classroom instruction. Taking into account the face-to-face interpersonal nature of language and the communicative approaches of language teaching, it is necessary to examine the extent to which these devices are helpful in reconstructing the interactive nature of teaching language in a classroom context in future research.

References


Appendix 1

Words from lessons 12-19 of Connect 1 presented in the 9 sessions

1- in-under- next to- on- desk- wastebasket- late- fan- board- classmate- coach- actor- model - wall- favorite- bed- chair- dresser- wall
2- neighborhood - movies- newsstand- internet café- restaurant- bus stop- movie theater- shoe store- soccer field-
3- downtown- drugstore- parking lot- department store- bank- subway station- park- in front of- behind- across from- between
4- mall- skating rink- music store- bowling alley- candy store- bookstore- video arcade
5- suggestion- go swimming- play volleyball- go to café- have a sandwich- sit down- have a soda- beach 
   tired- thirsty- hungry- hot- bored- fun- cool- interesting- great
6- family- sister- brother- mother- father- cousin- uncle- aunt- parents- grandparents-
   grandmother- grandfather
7- friendly- crazy- funny- short- handsome- tall- thin- pretty- smart- shy- what’s s/he like?
8- city- noisy- quiet- big- really- happy- nice- sad- new- old- interesting
9- home- bedroom- kitchen- yard- dining room- garage- living room-bathroom

Appendix 2

Vocabulary test

1. David’s books are on the ……………
   a. mall b. wall c. desk d. board
2. It is 4:15 pm. Tim and Katie are …… for their classroom.
   a. favorite b. late c. nice d. interesting
3. “Are you a soccer …………?”
   “No I’m not. I like tennis.”
   a. fan b. model c. actor d. coach
4. In my ……………., there are a mall and a park.
   a. skating rink b. bowling alley c. neighborhood d. video arcade
5. “I am …………….”
   “You can go to a café and have a soda.”
   a. hungry b. bored c. thirsty d. tired

12
6. I have a sister. She has two children, Ann and Sara. I am their ........ .
   a. brother       b. grandmother       c. cousin       d. uncle

7. They are my friends. They are playing volleyball on the ........... .
   a. restaurant  b. beach    c. movie theatre    d. newsstand

8. Sally’s sister is very ........ . She is only 30 kilos.
   a. thin       b. pretty       c. smart       d. friendly

9. She doesn’t have many friends because she is ............ .
   a. happy     b. friendly        c. tall      d. shy

10. “What’s Jack’s brother ...........?”
    “Well, he is thin and tall?
   a. have       b. like         c. know       d. is

11. My school is really nice. I love my ........... because they are very friendly.
    a. classmates    b. neighbors  c. grandparents  d. cousins

12. My apartment is very small. It has only one ........... .
    a. family        b. beach    c. bedroom      d. country

13. My city is not noisy. It is small and ........... .
    a. short        b. big       c. smart        d. quiet

14. “Where is my backpack?”
    “It is in the ............, on the table.”
   a. mall       b. kitchen       c. city       d. wastebasket

15. I have a very ........... family. There are 10 cousins, 3 aunts and two uncles.
    a. shy         b. big       c. thin      d. handsome

16. I am hungry. Let’s have a ........... .
    a. newsstand    b. sandwich   c. parking lot    d. restaurant

17. Is the bank in front of the school? No it is ........ the school and the park.
    a. next to    b. in front    c. across       d. between

18. I am bored. We can go to the soccer ........ and play.
    a. field     b. store       c. mall       d. fan