The Effectiveness of WhatsApp in Vocabulary Learning

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ABSTRACT

Vocabulary is the backbone and the most prominent feature of language acquisition. Limited vocabulary causes a major breakdown in both written and oral communication, which inflicts inefficiency among Malaysian students despite being exposed to the vocabulary for more or less than 11 years. In order to tackle students' eagerness to acquire vocabulary, teachers are to be creative and aware of the current changes in the teaching and learning process. The mushrooming of technologies, including mobile phones, has provided students with learning mobility in recent years and has had a great influence in the education field. The use of instant messaging mobile applications has become an epidemic among Generation Z (Gen-Z). The current study attempts to explore the effect of WhatsApp in assisting tertiary level students to learn vocabulary. A quasi–experimental study was employed, which lasted for six weeks with the participation of psychology students from a private educational institution. The participants were given a vocabulary pre-test before receiving vocabulary instruction via WhatsApp. Later, they sat for a post-vocabulary test. The t-test results indicated that WhatsApp had a significant role in vocabulary learning. It is clear that WhatsApp has a wide range of possibilities that need further exploration.

Introduction

The deficiency of vocabulary knowledge and size is the cause of the inefficiency among Malaysian students to write and communicate better despite being exposed to vocabulary for more or less than 11 years (Kaur et al., 2017). Thus, students with inadequate vocabulary knowledge will be decelerating in their language process. Also, minimal vocabulary will hamper students' comprehension abilities (Weiser, 2013). In Malaysia, English is considered as a second language, and to most students, specifically those in non-urban areas, it is similar to a foreign language (Musa et al., 2012). Peng and Hui (2012) state that students from rural areas like East Coast Peninsular Malaysia, which includes students from Pahang, Terengganu, and Kelantan, have low proficiency levels compared to students from West Peninsular Malaysia states like Selangor and Kuala Lumpur.

Basically, teaching English to those who are not exposed to the language is quite a battle (Misbah et al., 2017). This is because most of the students are rare users of the language as they only use English in school and specifically in English lessons (Lin & Goh, 2017). Malaysian students prefer to communicate in Bahasa Malaysia, or their native language (Misbah et al., 2017: Lin & Goh, 2017). Various studies did indeed unequivocally examine factors that might have affected students' vocabulary size or knowledge (Naginder, 2013; Hassan & Selamat, 2017) and they ascribed students' poor performance to their limited English atmosphere, bad attitude, and limited exposure to the English language as significant factors influencing Malaysian students' vocabulary knowledge (Kabilan & Zahar, 2016; Naginder, 2013).

One of the most important focuses in teaching and learning has been the difficulty of learning vocabulary for mastery of the English language (Zhou, 2012). One of the challenging tasks faced by the teachers is vocabulary instruction, where, for a student, vocabulary lessons are commonly uninteresting and require a great deal of time (Mediha & Enisa,

2014). Often, students fail to make a sufficient increase in their vocabulary knowledge because most teachers have less consideration for effective ways of teaching vocabulary (Zhou, 2012). For example, a teacher-centred class commonly has no interesting activity that guides students to acquire new vocabulary (Lak et al., 2017). Hence, different strategies and methods are required to promote interest among students in order to acquire and extend their vocabulary successfully. Therefore, teachers should be aware of the current changes in the teaching and learning process.

The mushrooming of technologies, including mobile phones, has provided students with the mobility of learning in recent years and has had a great influence on the education field. Al Hosni (2013) believes that mobile phones have incredible potential for developing the teaching and learning process. WhatsApp is one of the most popular applications in current learning institutions and is used as an instructional tool to develop students' language skills (Bensalem, 2018). Hamad (2017) believes that learning vocabulary using WhatsApp may affect the capability to retain words acquired among students because other approaches manifest some serious problems. For example, short message service (SMS)-based vocabulary instruction has a number of problems, such as the fact that the number of messages sent is restricted due to its limited capacity, which allows only 612 characters per message (Herring et al., 2013). Besides that, social networking sites (SNS) have their drawbacks in that they may not provide an appropriate environment for formal teaching and learning of vocabulary (Bouhami, 2016), and internet-based vocabulary instruction has its limitations in that students need more time to adapt to the changes (Daneshdoust & Hagh, 2012).

The global educational system is under pressure to use new Information and Communication Technologies (ICT) to educate students on the knowledge and abilities they will need in the twenty-first century. Therefore, integrating these tools is vital to encourage students to engage in an interactive learning environment (Premadasa & Meegama, 2016). Sayan (2016) also emphasises that social media and instant messaging applications are changing the communication platform rapidly. This digital media has significant effects on students' learning and the methods used by teachers (Griesemer, 2014). Mobile phones are commonly used by students since there are about 5 million people around the world using them (Saidouni & Bahloul, 2016).

Furthermore, Jafari and Chalak (2016) point out that the deficiency of powerful educational mobile messaging applications for the use of educational institutions is quite common in this century. It reveals that the exertion that people spend on using these applications is not efficiently steered to teaching and learning. They believe that by efficiently integrating mobile messaging applications like WhatsApp into language learning curriculam, they will increase the number of students learning at home. Instant messaging applications have been employed to enhance students' improvement in learning different language skills and sub-skills consisting of vocabulary, pronunciation, and grammar (Alsaleem, 2014). Different instant messaging applications have been employed with learners, but the influence of WhatsApp on vocabulary learning has not been extensively explored (Ashiyan, 2016).

The use of WhatsApp may solve vocabulary problems among language learners (Jafari & Chalak, 2016). Hence, incorporating WhatsApp in students' language skills learning is considered a smart way whereby, WhatsApp has been exploited to enhance students' growth in learning various language skills (Jafari & Chalak 2016). In fact, students who received vocabulary materials through WhatsApp performed better because they had easy access to materials and the capability to practice anytime and anywhere (Amry, 2014; Alsaleem, 2014; Gooniband et al., 2013; Shambare, 2014). Therefore, the current study explores the effects of WhatsApp in assisting tertiary level students to learn vocabulary by answering the research question, "Is there a significant difference in students' vocabulary knowledge between pre-test and post-test after being exposed to WhatsApp instruction in vocabulary learning?"

Literature Review

WhatsApp Messenger is a copyrighted, cross-platform instant messaging service for mobile phones that uses the internet for communication, whereby users can send messages, images, video, and audio media as well as their location (Arani, 2017; Minhas et al., 2016). The company WhatsApp Inc. was founded in 2009 by Brian Acton and Jan Koum, who were both former employees at Yahoo, and by October 2014, over 600 million users had started to use WhatsApp (Ahmed, 2017; Minhas et al., 2016). WhatsApp is one of the revolutions which has been frequently used on precise mobile phones and computers (Hashemifardnia et al., 2018). Using the internet connection, WhatsApp permits its users to send free messages that include various types of messages, such as text, images, audio, and video files, as well as the location using maps (Mefolere, 2016).

Nowadays, social media has gained eminence rapidly, and WhatsApp is evolving as a device that can be used in education (Ashiyan & Salehi, 2016). According to Arani (2017), WhatsApp can be a great communication platform

for teachers to teach their students faster and easier. It can uplift the interaction among students and build another form of learning as well as a device for exchanging educational materials (Mistar & Embi, 2016). Hashemifardnia et al. (2018) claim that WhatsApp has been used to teach vocabulary, exchange common information and links for language learning.

Vocabulary serves as the pillar of language. Susanto (2017) believes that one needs a sufficient amount of vocabulary in order to function in a social context. A high proficiency individual needs to have approximately 17,000 base words, and this is the suggested vocabulary size for tertiary level students in order for them to be at the same level as a native speaker (Tschirner, 2018). Regrettably, though vocabulary is essential, vocabulary instruction does not seem to be given importance in second language learning (Patahuddin et al., 2017). In addition, the significance of vocabulary is revealed daily in and out of the classroom, and proficient students possess the most adequate vocabulary (Alqahtani, 2015).

Language readers heavily depend on vocabulary, and the lack of that knowledge is the main and biggest hurdle for them to overcome (Susanto, 2017). Students need a decent amount of vocabulary to express their concepts or meanings, as they do not carry a grammar book or dictionary when they travel (Alqahtani, 2015). Thus, researchers claim that vocabulary is the foremost element that needs to be included in all language curriculums (Castello, 2015; Alqahtani, 2015; Eshghinejad, 2016). But vocabulary has been known as the utmost single-source problem for students (Susanto, 2017; Alqahtani, 2015). Students spend a great deal of time in memorizing and rely on the dictionary as a basic communicative resource because vocabulary is the heart of language acquisition (Susanto, 2017; Alqahtani, 2015). However, these learning strategies seem to be ineffective, and therefore, language teachers nowadays are exploring ways of promoting the vocabulary teaching more effectively (Easterbrook, 2013). Social networks have become so popular in society, and this has captured the attention of the institution (Icha & Agwu, 2015). Due to the positive educational effects revealed on students' performance, teachers took the initiative to use popular social networks like WhatsApp in teaching and learning (Yin, 2016).

Looking into the past studies, researchers used WhatsApp as primary research material to determine the effectiveness of the application as an instructional tool in teaching and learning languages (Jafari & Chalak, 2016; Mistar & Embi, 2016). Most studies concluded that WhatsApp is an effective tool for vocabulary learning because of its versatility, even though it has some flaws (Bensalem, 2018; Hashemifardnia et al., 2018). Man (2014) conducted a study with 35 students to increase their consciousness on academic words through WhatsApp, and the findings revealed that students started to appreciate the use of WhatsApp because this application guided them to be more alert to academic words. Thus, it is proven that WhatsApp is a perfect tool for consciousness-raising due to the application's flexibility and versatility. Mistar and Embi (2016) collected information from 20 university students through a set of questionnaires, and the outcomes revealed that the usage of WhatsApp was essential in helping the students learn the language better and improve their ability to use the English language. Therefore, the WhatsApp application could be beneficial in helping students improve their learning based on how they view themselves (Yin, 2016).

Moreover, the use of WhatsApp produced significant effects on students' writing skills, and this was evident in the study conducted by Fattah (2015). He conducted a study with 30 college students who used WhatsApp to develop their writing skills, and the results showed that the students' writing skills improved after using WhatsApp. The extreme development of technologies in recent years has transformed language learning from conventional to instrumental instruction (Smeda et al., 2014). Taking this into account, Ashiyan and Salehi (2016) conducted a study on 80 students to examine the use and impact of WhatsApp on schoolwork and outside of schoolwork and found that students who used the WhatsApp application for learning collaboration performed better than the other group. It can be concluded that the use of the WhatsApp application in learning can strengthen and improve the process of acquisition. In addition, WhatsApp is considered a potentially valuable learning tool due to its pervasiveness, and students need to understand the benefits of WhatsApp in improving academic performance (Yin, 2016). Till today, there is insufficient practical data related to the use of WhatsApp in vocabulary learning that focuses on tertiary-level students. Therefore, the current study focuses on utilizing WhatsApp to guide tertiary-level students in their vocabulary learning.

Methods

A quasi-experimental research design was employed with the available intact group to gather data because the researcher did not have full control over the class timetable and the number of students placed in the classroom was decided by the administrator of the institution. A pre- and post-test was used to determine the effects of the WhatsApp instructions, and purposive sampling was used to select 20 second semester psychology students to participate in the

current study. The students that were chosen represented the tertiary-level students and thus provided the required data. In order to ensure the confidentiality of the research, students signed a consent form before the study.

Prior to the experiment, students took a pre-test in the form of a vocabulary test that was adapted from Schmitt and Schmitt (2001), which consisted of 36 words and used a word-definition matching format that required students to choose the right answer. A vocabulary test was used in this study to measure the effectiveness of WhatsApp on vocabulary learning. After the treatment, the post-test was given to the students, which supplied a similar test to the pre-test to find out the students' improvement. A total of six weeks was used to carry out this study, and six words were posted through WhatsApp. In fact, all the teaching and learning processes were carried out after a WhatsApp group was created.

Students were given a pre-test to measure their vocabulary knowledge specifically on the word list extracted from the textbook before receiving the vocabulary instruction via WhatsApp. After the pre-test, all the students were gathered in a WhatsApp group that was created by the teacher. The lesson began when the teacher posted the first word. The teacher and students discussed the words collaboratively by providing meaning, sharing pronunciation, exchanging sentences, and completing the vocabulary exercises. Everyone participated and commented on each other's performance. Once all the students were confident with the meaning of the word, the teacher moved on to the next word. The students received six words per week, and they were required to provide reviews that include meaning and sample sentences for every three words that they learned in each session. Once they have discussed all six words, the teacher shares worksheets for the students to answer.

All 36 words were randomly chosen from the psychology students' core textbook, "Health Psychology." Students pursuing a Bachelor of Psychology will take this subject in their third semester. This textbook was selected because the researcher would like to give early exposure to the words that the students will encounter in semester 3 since "Health Psychology" is one of the core subjects in that semester. The researcher believes that through early exposure to the specific vocabulary, students will comprehend the content of the subject better if they are familiar with the words that they find in the textbook. In week six, students took a post-test to find out the improvement in their vocabulary knowledge.

Data Analysis

The data gathered from all of the tests was evaluated and analyzed using the Statistical Program for Social Sciences (SPSS) for Windows version 22 software. In the current study, inferential statistics were used to analyze quantitative data, and a paired sample t-test was used to compare the mean scores of two tests (Xu et al., 2017). The paired-sample t-test was used to compare the mean scores received by each participant before and after participating in treatment to verify the intervention and whether a substantial difference was present in the scores, as indicated through the intervention and paired-test outcomes (Gerald, 2018). In the current study, the students' vocabulary test scores were analyzed to determine whether an actual mean difference or change was present between pre-test and post-test scores with the use of WhatsApp for vocabulary learning.

Results

In interpreting the results of the research question, a t-test was used to determine whether there was a significant difference in students' vocabulary knowledge between the pre-test and post-test after being exposed to WhatsApp instruction in vocabulary among tertiary-level students. Table 1 shows that the students scored significantly higher scores in their post-test, with a mean score of 27.80 and SD of 6.76. The t-value for 20 students was -6.03 with a p value of.000. Meanwhile, the mean pre-test score is low at only 13.85. The results indicated that students showed higher performance after using WhatsApp as a tool for learning vocabulary. Therefore, it was indicated that WhatsApp is an effective tool for assisting tertiary-level students to learn vocabulary.

Table 1. Paired Sample t-test result before and after using WhatsApp

	N	Mean	SD	t	df	p
Pre –test	20	13.85	6.76	*-6.03*	19	.000
Post-test	20	27.80				

Discussions

In accordance with the present results, the Bensalem (2018) study demonstrated a similar outcome when it investigated the growth of academic vocabulary proficiency for 40 Arabic English as a Foreign Language (EFL) students at a basic level at a public university through WhatsApp compared to the traditional way of teaching vocabulary. The quasi-experimental study was divided into two equal groups: the experimental group and the control group. The students took vocabulary pre- and post-tests, and the experimental group students answered a set of questionnaires to gauge their perceptions of acquiring vocabulary through WhatsApp. The t-test analysis showed that the experimental group performed better where students learned more new words compared to the control group.

Further, the findings of the current study are parallel with the findings of Jafari and Chalak (2016), who examined the effect of WhatsApp on enhancing vocabulary learning among 60 Iranian junior high school EFL students. They employed a mixed-methods research design in which the 60 students were divided into two groups, each with 30 female and male students. The vocabulary instructions were given to the students through WhatsApp. Similar to the current study, the students in each group took a pre-test, and after four weeks, they sat for a post-test in the form of a vocabulary test. The independent-sample t-test analysis exposed that employing WhatsApp had a significant effect on vocabulary learning among students.

It is encouraging to compare this figure with that found by Hashemifardnia et al. (2018), who conducted a study to explore the effects of using WhatsApp on Iranian students' vocabulary learning. In their study, 50 female students were divided into experimental and control groups, with 25 students in each group, where they took a pre-test and post-test after receiving words through WhatsApp for the experimental group, and the control group received instruction the traditional way. The results of the paired and independent samples t-tests revealed a significant difference between the experimental and control groups on the post-test, with the experimental group outperforming the control group students, demonstrating that WhatsApp has improved the vocabulary knowledge of Iranian students.

Furthermore, the findings of Cetinkaya and Sütçü (2018) appeared to be similar to those of the current study. They conducted a study to investigate the effects of Facebook and WhatsApp on English vocabulary instruction, and the findings revealed that WhatsApp was an effective tool for acquiring vocabulary, as evidenced by students' willingness to use WhatsApp for vocabulary learning in the future. Even though WhatsApp has positive effects on language learning, Ahad and Lim (2014) conducted a study to examine the domestication of WhatsApp among undergraduates at the University and found that WhatsApp was a convenient tool for students. However, they also highlighted a few serious issues, such as distractions and exposure to unregulated messages or information.

Conclusion

The study was pursued to explore the use of WhatsApp in assisting tertiary level students to learn vocabulary. The study revealed that there was an improvement in students' vocabulary knowledge after using WhatsApp to assist in vocabulary learning. Thus, it can be concluded that WhatsApp is an effective and useful learning tool to be implemented in the classroom (Jafari & Chalak, 2016; Bensalem, 2018; Hamad, 2017).

Taking the findings into consideration, it is suggested that language teachers should consider employing WhatsApp in teaching vocabulary and integrating it into the curriculum. This is because WhatsApp permits teachers to teach more vocabulary to groups of students since they may not have had sufficient time in the classroom. Likewise, through WhatsApp, students are exposed to more comprehensible and real-time inputs that eventually make them learn more vocabulary items. With the use of this application, students get more excited, which makes them actively participate in vocabulary learning. Moreover, the flexibility and availability of WhatsApp provide teachers and students with a platform to teach and learn anytime or anywhere (Hashemifardnia et al., 2018; Man, 2014). Still, to ensure the success of learning through WhatsApp, teachers need to set up some ground rules to keep students focused. Thus, it is important that teachers observe students to increase the benefits of mobile learning.

WhatsApp is a useful and efficient app that has become popular among language teachers who think it helps their students learn languages. Malaysia's Ministry of Education wants to make sure teachers are ready for learning in the 21st century. One way they do this is by encouraging schools to use mobile technology. The future studies on

WhatsApp need to focus on how certain skills can be improved through the app. The number of research studies on vocabulary knowledge in Malaysia is also limited, and there should be more studies conducted focusing on primary, secondary, and adult students as well as gender. Besides that, more research is required to investigate the effects of WhatsApp on vocabulary learning across a larger group of students with different proficiency levels and compare WhatsApp with other instructional tools.

Limitations and Future Studies

The scope of the current study included students from a single tertiary private institution in the state of Pahang. Approximately 20 students from the Bachelor of Psychology programme at Widad University College (WUC) participated in the study. The limited number of these participants was attributed to their availability when the study was conducted at WUC. Moreover, all the students who participated in the study were selected from the existing intact group and studied in the same class and programme. For this reason, the results of the study could not be generalised to a larger population outside of the WUC.

Despite the positive outcomes of the current study, several other aspects require further investigation. The current study identified ways to improve vocabulary knowledge among tertiary students at one private university. Therefore, research in multiple locations was strongly recommended to investigate the use of WhatsApp and accomplish additional insights on the effects of WhatsApp on reading, writing, speaking, and listening to further perceive the scope of WhatsApp in the English language in general. Besides that, the current study was focused on one instant messaging application, specifically WhatsApp, and future research was suggested to examine the effect of other instant messaging applications on students' vocabulary knowledge. Future research could also focus on the comparison between the use of WhatsApp and other instant messaging applications such as Telegram, WeChat, Line, and Facebook Messenger, among others.

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