

Learning Technical Vocabulary through a Mobile App: English Language Teachers' Perspectives

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Abstract

Mobile learning or m-learning is essential for a wide range of learning opportunities. Using mobile app such as in the use of VocBlast, which contains ten (10) interesting games enables students at tertiary level to enhance and enrich their technical vocabulary. The specific objective of this study was to examine English language teachers' views concerning the use of VocBlast in assisting students in Universiti Malaysia Pahang to learn technical vocabulary. This study employed a qualitative approach involving four language teachers as its samples. They were interviewed via e-mails, where the questions were uploaded in Google Docs. The interview data were analyzed thematically, and generated four (4) themes; hints given are useful for students, VocBlast enlivens students' learning, VocBlast can serve as a supplementary learning material and VocBlast can act as indirect vocabulary learning tool. An implication of this is the possibility of integrating m-learning into teaching-learning pedagogy especially at tertiary level.

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Keywords: Mobile app; Mobile learning; Technical vocabulary

INTRODUCTION

Evidence suggests that the use of technology, in particular computers, may support the learning of language skills (Shih, 2011; Lopez, 2010; Miyazoe & Anderson, 2010). The history on the use of computers in language learning dated as early as the 60s (Canning, 2004), and the term Computer Assisted Language Learning (CALL) referred to the pursuit and exploration of computer applications in teaching and learning of a language (Levy, 1997). The arrival of personal computers in the 70s promoted their uses for language instructions. The term Computer Assisted Language Instruction (CALI), was later made popular in the United States of America (USA) in the early 1980s. During this decade, the uses of language learning software was common among the language practitioners teaching English as a second or foreign language to teach learners listening, reading, speaking and writing skills. In fact, it was during this decade that educational software was used to support various learning activities using computers (Delcloque, 2000). Their uses also promoted favorable learning environment to learners compared to conventional methods of learning language namely English (Ali, Mukundan, Baki & Ayub, 2012). Stepping one decade further, in the 90s, two innovations of technology namely the multimedia and Internet were introduced. The medium have changed the role of computers in that they supported the learning in the language classes or language labs. In the current millennium, the buzz word, Mobile Assisted Language Learning (MALL), is estimated to replace the use of textbook (Eaton, 2010). Irrefutably, a major area of interest in MALL is the use of smart phones where mobile applications can be downloaded. iPhone or Android phone users from all walks of life have the leverage of choosing suitable apps that may help them in their daily chores (Goodwin-Jones, 2011).

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In education, apps provide opportunity for learning to occur both in and outside the classroom regardless of time and place. A growing body of literature has recognized the importance of using mobile apps in language learning specifically for vocabulary development. Bracke (2013) argued that mobile apps for example Wordreference (a dictionary app), Quizlet (vocabulary flash cards app) and others enable learners to learn vocabulary in English. Therefore, in the section that follows, evaluation of contents of vocabulary apps conducted by previous researchers will be discussed.

LITERATURE REVIEW

A study conducted by Steel (2012) involving 134 students revealed that some students used dictionary app to check and refer to words they did not understand. The dictionary app enabled them to check and refer to words whenever and wherever they found convenience. Vocabulary memorization may also be improved with the use of mobile apps. In a study which was set out to determine the possibility of using mobile apps to improve the memorization of vocabulary, Hong, Hwang, Tai and Chen (2014) found that the use of EVL@S improved students' confident level in storing the vocabulary they have learnt. The app integrated a calibration scheme that helped learners to preview or review their vocabulary learning autonomy. Words were provided in a set of a memory cycle and allowed learners to practice them regularly. In other words, if they were unable to recognize the targeted words when memorizing the words at the first time, they might play the app for the second time. Wu (2015) showed that the use of Word Learning-CET6 by medical school students may assist them to obtain direct and indirect learning of specialized words in medicine in the form of wordlist. The app lessens the burden of having to memorize only the meaning of the words. In fact, it helped them to know spelling, pronunciation and Chinese definitions of the targeted words.

In Malaysia, a mobile app namely I-MMAPS for learning Iban language was developed to help users speak a basic level of the language. Chachil, Engkamat, Sarkawi and Shuib (2015) surveyed 30 non-native speakers of Iban after they went through three learning contexts: vocabulary, basic phrases, and conversation using the app. Their findings proposed that the app promoted positive interest among the participants in learning the language. This is true when audio using the voice of a native speaker and samples of graphic, are integrated in the app. Wylie (2013) analyzed data obtained from a study funded by the Department of Education in the United States of America concerning young learners using an educational gaming app. The app called Martha Speaks Dog Party, improved approximately 31 percent of young learners' vocabulary development. The respondents who were between three to seven years old were required to use the app every day for two weeks. It was also reported that games and quizzes were integrated in the app to assist the young learners in learning new vocabulary. Meanwhile, Shih, Lee and Cheng (2015) identified that college students demonstrated a positive learning attitudes toward vocabulary, in particular spelling, using LINE APP. In their study, the vocabulary list contained in the app was derived from the Test of English for International Communication (TOEIC). Using the app, they reported that students' level of confidence has increased to a certain degree. In learning English vocabulary, the app provided listening aid in which they were able to listen to the correct use of vowels, consonants and syllables.

It seems that the relative use of vocabulary mobile apps in the literature, thus far, has focused on students as the tool's main users. Applicability of the use of a particular app has not been investigated from language teachers' point of views when in fact they are the instructional decision makers of a particular educational material (Walker, 2011). Their opinions are crucial to identify whether one app meets their learners' learning needs or otherwise. Moreover, it seems that far too little attention has been paid to find out how language teachers evaluate an app in helping students to learn vocabulary. This paper, therefore, reports the findings of part of a research with the aim to obtain perspectives of English language teachers on the use of VocBlast, a vocabulary app specifically developed to assist learners in learning technical vocabulary.

METHODOLOGY

3.1 Participants

Four female English language teachers were involved in the study. Their teaching experiences ranges from a year up to 15 years. They were chosen to participate in the study due to their familiarity in using smartphones and mobile apps. When asked about their frequent use of mobile apps, majority of them use communication apps (e.g. Whatsapp and Wechat), social network apps (Facebook, Twitter and LinkedIn), navigation apps (e.g. Garmin and Waze), dictionary apps (Oxford Online Dictionary and Merriam-Webster Online), utility apps (CIMB Clicks and Maybank2U) and productivity apps (Dropbox, OneDrive and Google Drive) in their daily activities and for teaching and learning. To ensure confidentiality, the language teachers are identified by the alphanumerical codes (T1 to T4) in this paper.

In the current study, the four teachers played their roles by using the student-centered approach in assisting students to learn vocabulary using VocBlast (Sung, Chang, & Liu, 2016). In the class, students were assigned to play VocBlast in group. Students were also given the opportunity to play the app outside the class if they were not able to complete all the games. Besides that, the teachers were also required to play all the games in VocBlast for a few days in order to obtain their opinions based not only of their teaching and learning experience but also of using the app.

3.2 Instrument

Only one research instrument was used in the study, which is an interview protocol. The interview protocol included questions on the language teachers' demographic information, and three open-ended interview questions about the use of VocBlast. The first question inquires about the features of VocBlast, the second question asks the possibility of VocBlast in helping students to learn technical vocabulary, and the final question is about the appropriateness of using VocBlast for the teaching of English for Specific Purposes (ESP) to second language learners (L2). To ensure validity of the data obtained, the language teachers were asked to check the data and its interpretation were presented to them (Merriam, 1998). In addition, to ensure reliability of the findings, an audit trail was performed (Merriam, 1998). It requires the researcher to explain in detail the collection of data, occurrence of categories and decisions made from the inquiry.

3.3 Research Material: VocBlast

The research material is a technical-based vocabulary app. VocBlast consists of ten (10) different vocabulary games that are arranged according to the level of difficulty: Game 1, Game 2, Game 3, Game 4, Game 5, Game 6, Game 7, Game 8, Game 9 and Game 10. The first three games are considered easy while Game 5 is at a moderate level in terms of its difficulty. Game 6 to Game 10 are somewhat challenging. The words used in the vocabulary mobile app are taken from engineering textbooks commonly used by the engineering faculties at the university namely AutoCad, Ordinary Differential Equations, Circuit Analysis and Thermodynamics. The words were selected because they are high frequency vocabulary and usefulness (Chitravelu, Sithamparam & Choon, 2005). The app uses iOS as a platform to play the game.

Game 1

This game tests learners' spelling knowledge, in which they have to answer the questions correctly within thirty (30) seconds. There are two levels in this game. Each level consists of fifteen (15) words. In order for learners to proceed to Level 2, they must score a perfect 15/15. The questions are structured as multiple choice questions (MCQ), and learners are required to choose the one with the correct spelling. For example, for the choices of A) TAB, B) TRIMME, and C) FOCRE, learners who choose TAB as the answer are awarded a point.

Game 2

After completing Game 1, the second game entails learners to match definitions with the correct word. The game has three (3) levels and each level contains six (6) words and definitions to match. The game is simple but learners are required to pay close attention when matching the definition to its word. For each of the definition, for example, “The absence of heat; a temperature considerably below normal”; four (4) options are provided; A) COLD, B) COMPOUND, C) COMMON, and D) COURSE. Once the correct answer is given, the next question will appear automatically. For each level, learners must answer at least five (5) correct questions. If they fail to do so, the level will be repeated but the order of the questions and its answers will be shuffled randomly.

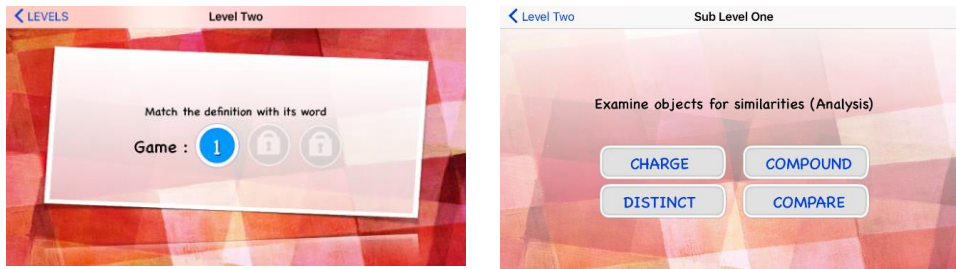


Figure 1. Screenshots of Game 2

Game 3

Acquiring both the vocabulary and spelling knowledge is the focus of Game 3, where learners need to arrange unscrambled letters into its correct spelling based on its definition. Similar with Game 2, this game has three (3) levels and for each level, learners will be prompted with six (6) questions. In this game, the unscrambled letters appear at the top of the page followed by a space for the answer and lastly, the definition. In Game 3, hint is provided to help learners. Only one hint is given for each of the question. Learners must at least get five (5) correct answers in order for them to proceed to Level 2 and Level 3. If they fail to achieve the score, another six (6) more words will be randomly chosen for learners to replay the level. Learners are given sixty (60) seconds to answer each question, and the time will automatically restart for every new question.

Game 4

Game 4 requires learners to drag letters into boxes to form a word based on the definition given. Sixty (60) seconds are given as a time limit for each word, and there is no specific score that learners have to achieve. Instead, when they arrange the letters wrongly the boxes will blink in red. A pop-up will appear and inform learners that the answer is wrong and they are required to retry and get the correct answer. If they fail to complete the game within the time limit, the next word will automatically appear.

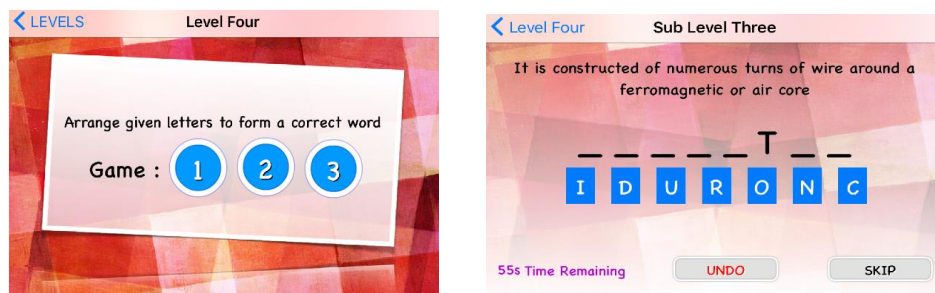


Figure 2. Screenshots of Game 4

Game 5

For this game, learners will have to guess the word based on the given definition. They are given two (2) options of completing the task, either by dragging the letter to its correct box or by clicking the letter and the box that they want to place it. If the answer given is correct, the letters will turn into green, but they will turn into red for the incorrect answer. Hints are also provided but with restrictions, where throughout the level, learner can only use the hints for ten (10) times. So, if learners use all the hints in level 1, they will not have any more hints in the other levels. Each time learners click on the HINT button, one (1) letter will be revealed. A “shuffle” option is introduced in this game, and there is no limit in using the “shuffle” option. In addition to that, learners are allowed to skip the question and go to the next one. Learners can click the two arrows that are located on the bottom left of the page. In other words, they have the freedom to choose which question to answer first.

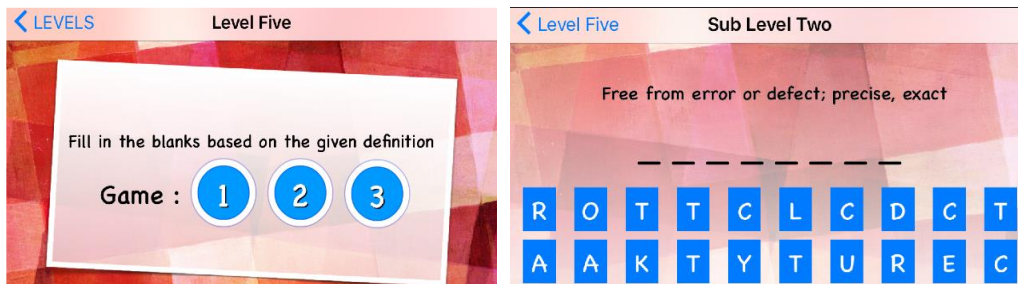


Figure 3. Screenshots of Game 5

Game 6

To play Game 6, learners will have to guess the correct letters to be filled in the blanks. This game is about making connection between an image and learners’ background knowledge of the vocabulary. Similar to the previous games, it has three (3) different levels where each level will have ten (10) questions. Time limit of sixty (60) seconds is given. Once the time ends, the next picture will appear indicating that learners fail to complete the game. While playing, the image will appear one by one, reducing the distraction. At the end of the game, the score and time will be revealed to identify their performance in answering the items in the game.

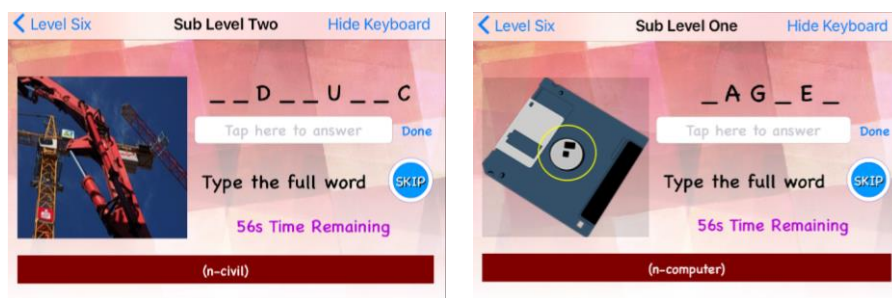


Figure 4. Screenshots of Game 6

Game 7

Game 7 requires learners to complete a puzzle by referring to the clues that are provided. Unlike any typical crossword puzzle, the clue will not be listed on any side of the puzzle. In order for learners to get a clue, they have to click the question number that they are attempting to answer, and immediately a small pop-up will appear and the clue is revealed. Learners are given twenty (20) minutes to complete the puzzle which has twenty (20) questions in total.

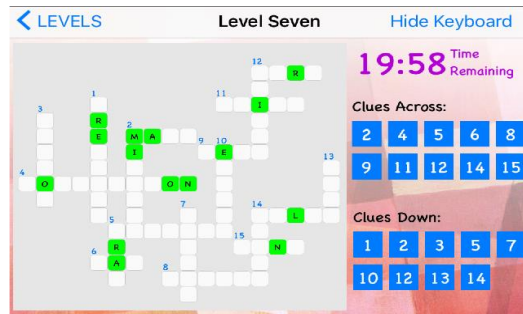


Figure 5. Screenshot of Game 7

Game 8

If in the previous games such as Game 4 and 5 definitions are given as clues, Game 8 goes one notch higher. This game requires learners to define the word. Still employing the same concept where there are three (3) levels that learners have to pass, and six (6) words will be randomly chosen from the database. Out of six (6), learners must answer five (5) correct questions in order for them to move to the next level. Not only that, they need to finish answering each of the questions within the period of sixty (60) seconds. If the time limit is exceeded, learners will be considered as fail, once they fail, another six (6) words will be randomly chosen from the database. On the page, the word will be located on the left side while three (3) choices of the definitions will be on the right side.



Figure 6. Screenshots of Game 8

Game 9

Game 9 uses the multiple choice questions (MCQ) structure. There are fifteen (15) questions that learners have to answer and complete the task, and they must at least score ten (10) questions. Since it adopts MCQ, five possible answers are available. For example, the choices of answers for the questions, “An infra-red __ pick-up signals from a hand-held remote control unit,” are: SENSORS, SPHERE, MAGNET, TOOL and BOX. When learners click on the correct answer, which in this case is SENSORS, it will turn to blue, indicating that learners have answered it correctly. Immediately, next question will appear.

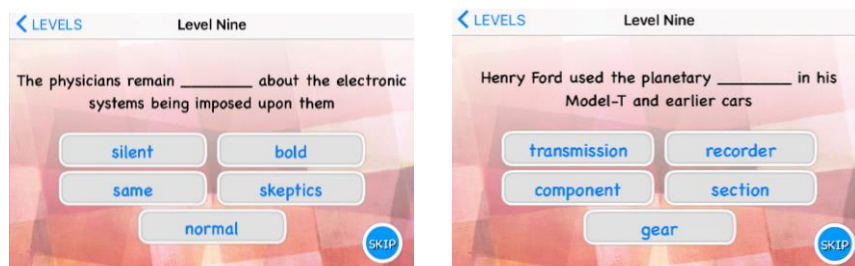


Figure 7. Screenshots of Game 9

Game 10

The last game, Game 10 employs the concept of Word Search, where learners have to identify words based on the given definition. It is similar to Game 5 and 6, but the choices of answer would not be given for this game. It solely depends on their understanding of the definition and later search for the word. Instead of time limit, a little modification is given to Game 10. Learners will be able to see the time that they have spent on completing the Word Search. At the end of the game, a pop-up will appear, congratulating learners for the completion of the task and informing the time they have spent.

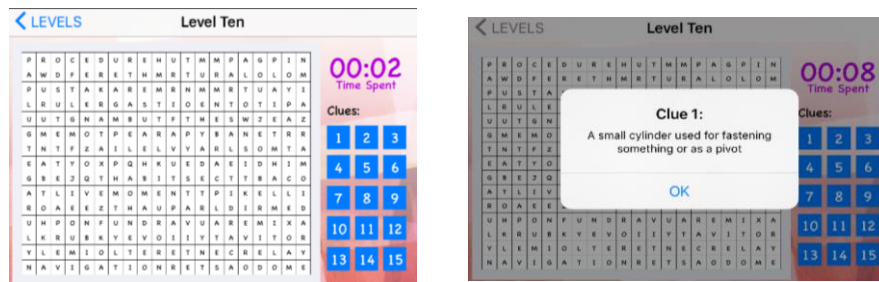


Figure 8. Screenshots of Game 10

3.4 Procedures

The current study employed electronic mail (e-mail) in collecting the data. The medium was chosen since studies have shown that respondents tend to be more attentive when interview items were asked to them online, and therefore, enabled them to respond in depth compared to a face-to-face interview (Meho & Tibbo, 2003). The interview questions were uploaded in Google Docs, and e-mails were sent to the respective English teachers after they have used VocBlast with their students and after they have played it themselves. In the e-mail, they were invited to participate in the interview by clicking the link to the URL. It was also stated in the e-mail that feedback needed to be submitted in about a week. To ensure they could respond to the e-mail interview, mobile messaging was sent to them via WhatsApp requesting their cooperation to participate in the study. The questions were answered by all of them in less than a week.

FINDINGS

In order to assess the language teachers' perceptions towards the use of VocBlast in assisting students to learn technical vocabulary, all their e-mail responses were analyzed. Four themes were generated from the transcriptions of the interviews; 1) hints are helpful to students, 2) VocBlast enlivens students' learning, 3) VocBlast can serve as a supplementary learning material, and 4) VocBlast can be an indirect vocabulary learning tool.

4.1 The Hints are Helpful to Students

The first theme that can be analyzed from the interview transcripts is the use of hints in VocBlast. The language teachers stated that VocBlast is able to help students learn technical vocabulary since hints are provided to them to ease the learning process when they are playing the game. T1 put it:

I think the content is good enough with questions and all the hints given. The hints might help the users to answer the questions within the time given (not spending a lot of time at a certain question which might lead to negative consequences like giving up, bored/ lost interest, even stop playing).

Meanwhile T3 stated that using pictures as clues helped learners in guessing the answer for a question. She commented, "Some of the games include pictures and that would help the players to get the

clue [to a question]". This indicates that hints are an important element which can function like a guide for learners.

4.2 VocBlast Enlivens Students' Learning

Imposing the time limit ensures learners' the ability to respond at a specific time leading them to play VocBlast with excitement. Furthermore, players can be more determined to go to the next level when they have completed the game at hands. T3 reported:

... most of the games set the time limit for the players to complete the task for each game, thus making them more excited and feel the urgency to complete the game within the time given.

Setting time seems to promote excitement when playing VocBlast. Students need to challenge their knowledge of the words with the time that is provided to them in answering each of the item. A duration of 60 seconds or one minute is allocated to the students making them excited in their attempt to answer the items in the game.

4.3 VocBlast Can Serve as a Supplementary Learning Material

The language teachers also agreed that since VocBlast is a technical-based vocabulary app, it may assist students in learning specific technical vocabulary. Because of this, this mobile app can be a supplementary learning material especially for English teachers focusing on English for Specific Purposes (ESP). T3 believed that VocBlast certainly helped students, in particular engineering students, to learn ESP as she remarked:

Yes, I think VocBlast is suitable to be used in the teaching of English for Specific Purposes (ESP), especially the engineering students.

However, T4 commented that it might help students in learning ESP only when language teachers were creative in using VocBlast. She said, "Yes [VocBlast is suitable to be used in the teaching of ESP but] with language teachers creativity on how to use it". Though T1 agreed that VocBlast may serve as a supplementary tool for teaching, she, however, responded that not all the contents in the app can be used for ESP. Therefore, it could not be the core material for language teachers to teach ESP.

4.4 VocBlast Can be an Indirect Vocabulary Learning Tool

The final theme suggests that VocBlast helped players to use their deductive and inductive thinking figuring out answers for each game. Talking about this issue T1 opined: "*... In my opinion, it can be used to develop the users' technical vocabulary indirectly through guessing and interpreting skills which required to be used when playing the games.*"

The learning of vocabulary in VocBlast can be an indirect one since students, at times, are required to guess meaning from context in answering the items in the game. For instance, Game 10 requires students to use their meta-cognitive strategies in answering this item: "An infra-red _____ pick-up signals from the hand-held remote control units". They need to choose one answer from these options: "magnet", "box", "sphere", "tool" and "sensors". For those are familiar with most of the vocabulary in the sentence, they may be able to guess the correct option, "sensor" to be filled-in the blank space.

DISCUSSION

The current study found that clues led players to guess the answer for an item in VocBlast. Bracke (2013) argued that clues or hints may help students in learning vocabulary. According to him, in learning grammar hints may help students to learn irregular verbs in the mobile app. In addition, Agca and Özdemir's (2013) found that the use of pictures as clues or hints helped students in learning vocabulary in

mobile learning environment. Almost half percentage of the students in their study believed that pictures supported their learning of the targeted vocabulary.

It is interesting to note that a mobile app like VocBlast makes students' learning to be more exciting. Shvebish (2014) argued that a particular mobile app excites players when they keep on repeating and spending time to play the game. One of the features of VocBlast is the time limit that is set for players to complete a game. Such finding can be associated with motivation theory in that a player is motivated to play a particular game when they are able to satisfy their needs. Yet, it appears that it is relative to identify that a mobile app is interesting or otherwise. The 'Quizlet' flashcard is interesting as it has an auto-define function whenever a player insert a new item answering a question (Godwin-Jones, 2011). Concurrently, other players are able to see or choose definition that other Quizlet users have entered for that term.

Another finding from the study is the possibility that VocBlast can be used to supplement students' learning material for English for Specific Purposes (ESP). In other words, VocBlast may serve as an additional material for students to understand the contents in their course books. Subramanya (2014) argued that learners can be more motivated when apps are used as course supplements. He further argued that they act as catalysts for education and learning due to several reasons: empowering the conventional content of teaching and learning, promoting independent learning, encouraging multiple types of learning styles and elevating the stagnant content of conventional teaching and learning methods. In VocBlast, learners may not only learn the target vocabulary by having only one element of multimedia that is text. In fact, the vocabulary mobile app integrates graphics or still images as well in enhancing students' learning. Such elements promote intrinsic motivation among players (Moos & Marroquin, 2010).

The use of VocBlast may help students to learn vocabulary indirectly. Oxford (1990) defines indirect learning of vocabulary as strategies a learner uses in learning a word without a particular intention. In the study, the learning of vocabulary in VocBlast that requires students to guess meaning of words and interpret the words using prior knowledge are examples of strategies employed using indirect vocabulary learning. However, Waring (1995) argues that such learning can only occur at a later stage when he/she has basic vocabulary as well as sufficient vocabulary knowledge. Therefore, one of the ways a learner can be successful in guessing from context is to look for clues near the target words to help him/her identify their meanings (Ali, Mukundan & Ayub, 2012).

CONCLUSION

This study sets out to determine the language teachers' perceptions on the use of VocBlast for learning technical vocabulary. The study confirmed that the language teachers accepted the integration of m-learning in their teaching. Zuraina Ali and Mohd Amir Izuddin Mohamad Ghazali (2015) argued that VocBlast is able to benefit both; language teachers and learners, in the teaching and learning processes. In m-learning, the teachers in particular, believed that VocBlast may be a promising tool to assist learners in enhancing the vocabulary they read in their core textbooks. While for the learners, in general sense, it can be estimated that VocBlast may enhance the learning of the technical vocabulary among the students. Thus, an implication of this is the possibility that VocBlast may facilitate and assist students who are taking engineering courses to manage their learning of specialized vocabulary provided that they are willing to upload the mobile app and learn at their own pace. Last but not least, this work contributes to the existing knowledge in the field of mobile learning especially in language learning.

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