The Effects of Using Digital Game Resources to Enhance EFL Students' English Vocabulary Knowledge at Phimanphitthayasan School, Satun, Thailand

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Abstract

This research aimed to investigate the effects of digital game resources in enhancing EFL students' English vocabulary knowledge, as well as to investigate the opinions of the students about learning vocabulary through digital game resources. The participants consisted of 70 EFL students: 35 students from the Science-Math program and 35 students from the Chinese-English program. The research instruments used in this study included an English vocabulary test, lesson plans, and questionnaires to study students' opinions towards learning vocabulary through digital game resources. The mean scores, standard deviations, and the *t*-test analysis were used to analyze the quantitative data. The results of the study revealed that EFL students improved their vocabulary knowledge. There were statistically significant differences between pre-test and post-test mean scores of both groups, which means that the digital game resources were found to be effective in enhancing EFL students' vocabulary knowledge. In addition, the opinions of the students about learning vocabulary through the digital game resources were at a highly positive level. The students favored digital game resources. This study pointed out that digital game resources can be a good tool to enhance vocabulary knowledge of the EFL students.

Keywords: Vocabulary Knowledge, EFL learning, Digital Game Resources, DGBL, Teaching Vocabulary, Motivation

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1. Introduction

English has played an important role in daily life. It is the medium of communication, which people from different countries around the world can understand. Reddy (2016) claimed that English plays an important role in the modern world. This is because it is the most frequently used language on the World Wide Web (Kumar, 2009). Therefore, English is no longer a mere subject to be learnt in the classroom but also emphasized social and practical use. English language is also a key success factor needed for educational purposes. English is vital for success at school and for further education. As Rani (2014) stated, nowadays, English is a requirement course in most universities and other higher education system.

In Thailand, English language also plays an essential role. The necessity of foreign language learning is also emphasized in the Basic Education Core Curriculum of the year (OBEC, 2008) as "an important tool for communication, education, seeking knowledge, livelihood and creating understanding of cultures and visions of the world community (p.226). This means that Thai students are required to have a significant level of English ability in order to complete their basic education. In addition, English is even more important for Thai high school students, since they have to compete in the English entrance examination and the Ordinary National Education Test (O-NET). Moreover, after the establishment of the ASEAN Community in 2015, English language is considered as one of the most important keys towards the development of the ASEAN community as it is the working language of ASEAN. More importantly, Saenpakdeejit (2014) pointed out that Thai students commonly have difficulties in English learning caused from lacking vocabulary knowledge, which also causes students to struggle with enhancing their English proficiency. Therefore, Thailand needs to prepare and improve human resources in English language proficiency because of the rising competition in the ASEAN community.

Unfortunately, English proficiency of Thai people is at an unsatisfactory level. the result of International ranking called English Proficiency Index, (2012) showed that Thailand is placed 53rd in English proficiency out of 54 participating countries and is ranked 6th among ASEAN member countries (NIETS, 2018). According to the test results of Ordinary National Education Test (O-NET), the average 2015 O-NET score in English subject was 20 percent below standard (National Institute of Educational Testing Services, (2015).

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Vocabulary knowledge is important for every learner in order to succeed in learning a foreign language. Harmer (2001) emphasizes that in order to succeed in the foreign language learning, learners need to focus on their vocabulary knowledge improvement. In addition, Schmitt (2000) stated that vocabulary learning has become one of the most essential parts in second language acquisition. Bromley (2007) stated that it is a principal contributor to comprehension, fluency, and achievement. Hence, vocabulary plays a very crucial role in learning a foreign language.

Several research studies suggested that vocabulary is one of the big obstacles, which English as foreign language (EFL) learners have experienced. In general, learning a foreign language is always difficult for learners since it is not their mother tongue language. Also, EFL learners seldom have exposure to the target language in their daily life. Haddad (2016) supported that EFL students are lack of awareness of the importance of learning vocabulary. They have a very limited experience of practicing target language in daily life. Moreover, motivation to learn English language and providing environment where higher level vocabulary used are challenging parts of EFL education.

A lack of good vocabulary knowledge is one of the major problems of vocabulary learning of EFL students. Ahmadi, Ismail and Abdullah (2012) stated that vocabulary knowledge deficiency is a major obstacle when attempting to communicate in a foreign language. Thai students also face vocabulary problems. Tunchalearnpanih (2013) founded that Thai EFL students have limited English vocabulary knowledge, a problem that effects foreign language communication. Saengpakdeejit (2014) said that the first problem of Thai learners in their English learning is the lack of understanding of words' meaning. The study of Chawwang (2008) also provided evidence that an insufficiency of vocabulary knowledge is a crucial difficulty of Thai learners' reading ability. According to Srimanee and Laohawiriyanon (2010), insufficient vocabulary knowledge of Thai learners resulted from a low level of English language exposure. Therefore, it is essential to support Thai learners' English vocabulary learning.

In the Twenty-First Century, the modernized society with advanced technology, widely known as the information-based society, digital technology is acknowledged to have a potential in engaging learners and encouraging interaction to the target language (Reinders & Wattana, 2012). Learning vocabulary is exceptionally challenging. Moreover, when it comes to a foreign language, it requires much effort from the learners especially high school learners, the digital generation. Thus using digital game might be an alternative method to help EFL learners to be interested in language learning by providing them with game-like meaningful contexts. In addition, digital games help to increase intrinsic motivation to learn due to the elements of competition and victory which can also create a good learning environment and promote more user engagement. (Goehle, 2013). With advances in digital game resources, the aim of this research was to examine the effects of using digital game resources on EFL students' vocabulary knowledge and collect opinions of the students towards learning vocabulary through the digital game resources.

Vocabulary Knowledge

Vocabulary has been acknowledged as a main element for the students in the process of learning and using language. According to Hornby (1995), vocabulary was defined as "the total number of words in a language; vocabulary is a list of words with their meanings." In addition, Hiebert (2005) mentioned that vocabulary is the knowledge of the meanings of words. In learning vocabulary, students have to know the meaning of words and use vocabulary in making sentences. Furthermore, Neuman and Dwyer (2009) defined vocabulary as "words students must know to communicate effectively" (p. 385). In summary, vocabulary knowledge refers to the knowledge of word meanings, word forms, and word used in the contexts appropriately.

Many linguists such as Stewick (1972), Thornbury (2002) and Nunan (2003) asserted that vocabulary learning is important because it helps creating a connection to the language with understanding when learning a foreign language. Ghadessy (1998) and Zimmerman (1997) stated that learning vocabulary is more significant than learning structure because vocabulary is the basis of language learning because people use vocabulary as a tool to carry knowledge and ideas between individuals in a community. It also serves as a useful tool for communicating one's point of view and conveying an understanding. Cameron (2001)

claimed that vocabulary is one of the knowledge areas in language that play a great role for learners in acquiring language skills.

Many scholars have various aspect of learning vocabulary. The learning of vocabulary items means gaining and understanding the definition and other relevant aspects of words (Lin, 2015, & He 2010). Additionally, Gu (2003) argued that learning vocabulary means one can gain knowledge of a word and able to use it in an appropriate contexts. Similarly, Miller (1999) proposed that knowledge of a word involves knowing the words' meaning and knowing its contexts of use. Cronbach (1942) proposed five different aspects of learning new vocabulary: the ability to define its meaning, the ability to recognize contexts for using it, knowledge of its multiple meanings, the ability to recognize appropriate usage of the word, and the availability of the word to use in daily life. Additionally, Nation (2001) claimed that learning new vocabulary has three main aspects: meaning, form, and use. First, those studying a foreign language should learn the meaning of a word and understand it in their first language. Second, students should be able to speak, spell, write, and identify the word. Finally, they should learn how to use the word. Once they can accomplish all three stages, they will be able to utilize the word in many correct patterns and contexts, in both spoken and written forms.

In summary, vocabulary learning is developing the competence to know and use words. It involves learning word meaning, word form and word usage in a context. This learning process is deeper and more complex and requires a significant process of teaching and effective instruction.

Many researchers in the field of vocabulary instruction have researched methods to effectively motivate students' vocabulary learning. Various methods have been found to be beneficial to enhance vocabulary knowledge teaching. Cross (1991) suggested a process to teach vocabulary. His procedure was divided into three stages: presentation, practice, and production. Instructors should carefully select a variety of techniques to present new words in the first stage. Then, teachers should have students practice using newly learned vocabulary items. Many types of exercises are provided for teachers to utilize in this stage, such as doing word classifications, matching, or sentence completions. In the production stage, students are required to use the new word using techniques that they have learned earlier.

Huang (1993) also offered another method of vocabulary instruction. First, clearly explain the purpose of each lesson to the students. The target words and degree of difficulty should be appropriate for students' language skill levels. Second, present clearly the vocabulary items in a sentence, context or real situation. Students have to know how to use words in addition to becoming familiar with and memorizing them. Teachers should then assign students to do exercises. This is a good way to encourage students to speak, read and write the target words. Students should repeat the words' meanings and pronunciations. Last, ask students to guess the meanings of words from context.

Furthermore, Diana (2012) presented five steps in teaching vocabulary. First, teachers should locate and activate students' background knowledge. Then, they should ask students to connect new words to their background knowledge. Third, teachers need to ensure that students have opportunities to use vocabulary. Fourth, they should also provide learners with many types of exposure to a new vocabulary, and to use it in different ways. Finally, teachers need to concentrate on higher-level knowledge.

In summary, many educators have attempted to create effective vocabulary instruction, and they share some similarities. First, activating students' background knowledge and the teacher draws students' attention to the lesson. Second, teacher presents clearly the vocabulary items in a sentence, context or real situation. Students have to know how to use words in addition from becoming familiar with and memorizing them. Third, practices can be used to stimulate memorization and understanding. Fourth, production, students should be assigned to use vocabulary items. Finally, the teacher and students should participate in reviewing the productivity of the lesson.

Digital Game Resources

Many scholars support that games can be a good tool to improve language learning. This is because games encourage fun, relaxation, and competitive environment that can emphasize high motivation to succeed in learning. According to Huyen and Nga (2003), using games in class can help motivate students. Games promote fun for students in class. Furthermore, using games in class can create a friendly learning

environment (Rityothi, 1997). Games also increase intrinsic motivation by linking the goals of winning the game to learning the material (Lepper, Corpus, & Iyengar, 2005). This leads to students' high motivation to succeed with their learning (Alemi, 2010; Kumar and Lighter, 2007). In other words, games raise the efficiency of learning.

Nowadays, the advance of technology leads to the development of games. Digital game is an electronic stimulation for educational or entertainment purposes. The expansion of digital technology in this age, learners can easily extent the development of learning tools which was integrated with digital technologies. Coffey (2009), stated that the advancement of digital technology in the Twenty-First Century can develop the learning tool that integrated in digital games. Prensky (2007) stated that the advancement and popularity of digital technologies also have encouraged researchers to develop systems for learning and applying digital game-based learning to teach in classroom. According to Prensky (2001), digital game-based learning refers to the development and use of computer games for educational purposes- not only computers, but also digital music, video players, cell phones, video games, and a host of other gadgets that requires technology. Coffey, (2009) commented that DGBL can integrate content or learning principles into digital games with the goal of engaging learners. Prensky (2007) DGBL can be implemented in forms of digital-based learning tool as it integrates education with entertainment and enhances student involvement. Deancy et al, (2007) indicated that the interactive records of digital game-based learning could allow teachers to reflect and improve the curriculum design, as well as tracking students' academic skills individually. Most importantly, digital game-based learning is a popular method among educators and researchers.

Digital game resources are increasingly developing for education. Digital game resources are digital game-based learning platforms, used as educational technology in classroom which provide users an opportunity to easily conduct online quizzes, surveys and discussions (Dellos, 2015). They are available learning technologies to enhance and facilitate the teacher in education. In addition, students could learn knowledgeable content in a competitive game play format.

There are an increasing number of digital game resources which can be used in learning a foreign language, such as Edpuzzle, Menmrise, Socrative or Kahoot! (Montaner-Villalba, 2018). Montaner-Villalba, (2018) proposed that digital game resources are an excellent tool for teaching students at school, especially in the language learning classroom. Students are keen to use their technological gadgets, namely mobile phone or tablet to implement into the classroom. These resources can be used to create a good environment in the classroom, increase students' energy and add more fun atmosphere to the class. In the activities, students participate in a friendly competition and cooperative education, resulting in an increase of students' motivation. (Malamed, 2012). The digital game resources which are frequently used in the classroom activities included Kahoot!, Quizizz, and Triventy.

Kahoot! is a game-based learning platform, used as educational technology in schools and other educational institutions, and it can be accessed via electronic device such as computer, smartphone, and tablet (Pede, 2017). Teachers can design quizzes using multiple choice questions and present in a game-based format to students. Kahoot! can be utilized to review students' knowledge for formative assessment or as a break from traditional classroom tasks. In addition, Kahoot! can be used to enhance social learning, because students gather around a common screen such as an interactive whiteboard, projector or computer monitor (Pede, 2017).

According to Basuki and Hidayati (2019) Quizizz is a fun multiplayer quiz-game application for classroom activity. Quizizz allows anyone to conduct student-paced formative assessments in a fun and engaging way for students of all ages (Help Center: What is Quizizz, 2017). Students can become a controller of their pace on a game classroom activity. Moreover, it has some features that can provide students' answer pace, so they can answer questions at their own pace and review their answer at the end. It also helps to create class appreciation, learning effort, learning motivation, activities involvement and academic achievement (Help Center: What is Quizizz, 2017).

According to Byrne (2015), Triventy is a free online quiz game platform that is similar to Kahoot! and Socrative. Students are able to download a history of responses to quiz questions. In addition, they can ask for a hint or to have an answer choice eliminated. They are also able to see an explanation of the answer

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to each question. Instructors can also download a spreadsheet of students' responses to questions in each activity; the students can also add questions to their games to create a comprehensive learning experience.

Related Studies

There have been many previous studies on using digital game resources to increase developing vocabulary knowledge. The study conducted by Montaner-Villalba (2018) in a state Spanish school aimed to improve students' knowledge of the vocabulary used in the field of Geography. Kahoot! was used as a part of the program of studies in two English courses: an elementary English course and an intermediate course. The students used the app online in mobile version. The outcomes showed that Kahoot! ,which is a mobile app, is easy to use in the foreign language classroom; moreover, this tool has a potential to motivate students with their learning process by helping them revise vocabulary.

In addition, Castro (2016) studied about using digital platforms such as Kahoot! and Quizizz to teach medical vocabulary. It was found that nursing students performed well when they were having fun and when they participated in using their gadgets. The researcher also employed a variety of words which nursing students often used in the hospital setting. The study suggests that nursing students should be taught medical vocabulary using digital platforms such as Kahoot! and Quizizz.

Previous studies have indicated that teaching vocabulary using digital game-based learning and interesting technology materials is an effective method which can improve student's vocabulary knowledge.

2. Objectives

1. To investigate the effects of digital game resources on vocabulary knowledge of EFL students in Science-Math program and Chinese-English Program.
2. To examine EFL students' opinions about learning vocabulary through the digital game resources

3. Materials and Methods

3.1 Research design

This study was to investigate the effects of using digital game resources to enhance English vocabulary on 11th grade EFL students in Science-Math Program and Chinese-English Program. This study employed quantitative data collection gained from the pre-test, the post-test and the questionnaires.

3.2 Participant

The participants of the study were 70 eleventh grade students studying at Phimanphittayasan School, Satun, Thailand, in the second semester of the 2019 academic year. These participants were selected via purposive sampling and were divided into two experimental groups: Science-Math Program and Chinese-English Program

3.3 Research Instruments

The research instruments used in this study included English vocabulary test and questionnaires.

The English vocabulary test was developed by the researcher to compare the participants' English vocabulary knowledge before and after the experiment. In designing the English vocabulary test, the researcher studied Basic Education Core Curriculum of Thailand and School Curriculum. The vocabulary knowledge in the test was based on the indicators of National Curriculum. The test consisted of 30 multiple-choice items. The test would involve the measurement of knowledge in word meanings, word forms, and word using effectively in contexts.

The Questionnaires were designed to explore students' opinions towards learning vocabulary via digital game resources. There were two parts. The first part contained 10 items designed on a five-point Likert Scale. The second part offered students to have the opportunity to leave comments or any further suggestions regarding learning vocabulary through digital game resources in classroom.

Six lesson plans were designed by the researcher to teach English vocabulary through digital game resources. Each lesson plan lasted 100 minutes, and the time for implementation would be in total of 6 weeks.

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To design the lesson plans, the researcher studied the indicators and expected outcomes in the Basic Education Core Curriculum B.E. 2551 (Ministry of Education, 2008), and the school's curriculum. After that, the researcher selected the content of words in lesson plan. The teaching method in the lesson plans included five steps which are activating background knowledge, presentation, practice, production and conclusion.

In the first steps, activating background knowledge, the instructor introduced the lesson by asking the questions to encourage the students to relate their experiences to the lesson. Next step, presentation, the instructor provided the students key vocabularies by using image, passage, miming or any reading passages. In the third step, practice, students were asked to do activities. This step included drawing to maintain student's attention, learning the meaning of English words, practicing singing word form and using the words in context. The fourth step, production, students were assigned to do language activities using multiple methods. These activities were created for students to integrate vocabulary use in any contexts. In conclusion, these activities allow the target words to be reviewed for further study.

In order to determine the validity, the researcher asked three specialists to review the instruments, lesson plans to teach vocabulary through digital game resources, an English vocabulary test, and questionnaires to examine students' opinions towards learning vocabulary via digital game resources. . Each specialist determined whether each instrument was valid and also commented on the content and language use. The reliability was determined in the pilot phase study. To determine the reliability, all instruments were tried out on thirty 11th grade EFL students at Phimanphittayasan School, Satun, Thailand who enrolled the Fundamental English Course in the second semester of 2019 academic year.

3.4 Data Collection Procedure

This study lasted for 8 weeks. The participants in both groups were asked to sign the consent form at the beginning of the study, and then they completed the English vocabulary pre-test. After the pre-test, they were taught English vocabulary through digital game resources for six weeks. After the instruction, the participants were asked to take the post-test and completed questionnaires. Finally, four volunteers from each group were interviewed after the questionnaire session.

3.5 Data Analysis

The data from the English vocabulary pre-test and post-test of each group were analyzed as following:

First, the data from the English vocabulary pre-test and post-test of each group were analyzed by using mean scores ($\bar{x}$), standard deviations (SD), and t-test analysis. A dependent t-test was used to compare the means scores of pre-test and post-test in each group.

Then, The data from the questionnaire were scored as follows: for the positive statements, Strongly Agree =5, Agree = 4, Neutral = 3, Disagree = 2, Strongly Disagree = 1. The level of students' opinions were determined by using the criteria as 0-.99 = Highly Negative, 1.00-1.99 = Negative, 2.00-2.99 = Average, 3.00-3.99 = Positive, 4.00-4.99 = Highly positive

4. Results and Discussion
4.1 Vocabulary Knowledge

To investigate the effects of digital game resources on vocabulary knowledge of EFL students in Science-Math program and Chinese-English Program, mean scores, standard deviations, and the t-test analysis were employed to analyze the mean scores of the pre-test and post-test. The results are presented in Table 1 and Table 2.

Table 1 The Comparison of the Mean Scores on Pre-test and Post-test in Science-Math Program Students

	n	M	SD	t	df	p-value
Pre-test	35	16.26	3.53	-8.54*		0.000
Post-test	35	21.46	3.39		34	

*Significant at the 0.05 level (p<0.05)

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Regarding Table 1, a dependent-samples *t*-test was conducted to investigate the improvement of vocabulary knowledge in EFL students from Science-Math program. The analysis of *t*-test shows the positive effect of digital game resources in vocabulary education of EFL students from Science-Math program. There was a statistically difference between the mean scores of the pre-test and the post-test ($p<0.05$). The mean score of post-test ($M= 21.46$, $SD= 3.39$) was higher than the mean score of pre-test ($M= 16.26$, $SD= 3.53$) conditions; $t(34) = -8.54$, $p = 0.00$, suggesting that Science-Math program students can improve their vocabulary knowledge by learning through the use of digital game resources.

Table 2 The Comparison of the Mean Scores on Pre-test and Post-test in Chinese-English Program Students

	n	*M*	*SD*	*t*	*df*	p-value
Pre-test	35	16.94	2.20	-10.93*		0.000
Post-test	35	22.91	2.87		34	

*Significant at the 0.05 level (p<0.05)

Regarding Table 2, a dependent-samples *t*-test was conducted to investigate the improvement of vocabulary knowledge in EFL students from Chinese-English Program. The analysis of *t*-test shows the positive effect of digital game resources in vocabulary education of EFL students from Chinese-English Program. There was a statistically difference between the mean scores of the pre-test and the post-test ($p<0.05$). The mean score of post-test ($M= 22.91$, $SD= 2.87$) was higher than the mean score of pre-test ($M= 16.94$, $SD= 2.20$) conditions; $t(34)=-10.93$, $p = 0.00$, suggesting that Chinese-English Program students can improve their vocabulary knowledge by learning through the use of digital game resources.

4.2 The Students' Opinions about Learning Vocabulary through Digital Game Resources

To study students' opinions towards learning vocabulary through digital game resources after the experiment, the data were collected from the questionnaires and analyzed by mean scores, standard deviations, and t-test analysis. The results are presented in Table 3.

Table 3 Opinions on Learning Vocabulary through the Digital Game Resources

Item	Statements	n	*M*	*SD*	Level
1	Using digital game resources to learn vocabulary is more fun.	70	4.71	0.59	Highly positive
2	Using the digital game resources to learn vocabulary is less stressful.	70	4.40	0.71	Highly positive
3	I can use the vocabulary learnt by the digital game resources better, since they provide me with more pictures, sound, definition, examples.	70	4.37	0.71	Highly positive
4	The digital game resources help me become more confident in using vocabulary.	70	4.17	0.83	Highly positive
5	By participating in frequent non-threatening situations/ testing (with digital game resources), I am now able to face more challenging ones in real life.	70	4.24	0.94	Highly positive
6	The digital game resources allow me to interact better in the class.	70	4.43	0.73	Highly positive
7	The digital game resources help enhancing my vocabulary knowledge.	70	4.37	0.76	Highly positive
8	Learning vocabulary through the digital game resources is more practical than through textbooks.	70	4.41	0.73	Highly positive

9	The use of digital game resources in learning environments encourages me to participate in learning activities.	70	4.40	0.73	Highly positive
10	Interacting with the digital game resources help me remember vocabulary meaning, forms, and context use better.	70	4.27	0.80	Highly positive
	Average	70	4.38	0.54	Highly positive

Table 3 reveals that in general, students' opinions towards learning vocabulary through digital game resources were highly positive ($M = 4.38$), which means that students favored this teaching method and enjoyed class activities. The statement of the highest agreement was: "Using digital game resources to learn vocabulary is more fun," ($M= 4.71$). Following by the statement "The digital game resources allow me to interact better in the class." ($M= 4.43$), In addition, students thought that this method of teaching helped them develop vocabulary knowledge and English skills. As shown in table 5, the statements "Learning vocabulary through the digital game resources is more practical than through textbooks" ($M= 4.41$). Furthermore, the statement that indicates the enjoyment in class activities which are "Using the digital game resources to learn vocabulary is less stressful.", and "The use of digital game resources in learning environments encourages me to participate in learning activities" ($M=4.40$) were also rated at a highly positive level.

Although there were five statements that received the lowest scores in comparison to other statements, the mean scores were still at a highly positive level. These statements were: "The digital game resources help me become more confident in using vocabulary" ($M=4.17$), "By participating in frequent non-threatening situations/ testing (with digital game resources), I am now able to face more challenging ones in real life." ($M=4.24$), "Interacting with the digital game resources help me remember vocabulary meaning, forms, and context use better" ($M=4.27$), "I can use the vocabulary learnt by the digital game resources better, since they provide me with more pictures, sound, definition, examples.", and "The digital game resources help to enhance my vocabulary knowledge" ($M=4.37$).

The results of this study demonstrated that digital game resources can support students to improve their English vocabulary knowledge. According to the statistical findings of this study, the digital game resources are effective for EFL vocabulary classroom. Teaching English vocabulary through digital game resources could enhance students' vocabulary knowledge significantly. Therefore, this study supported the hypothesis that the using of digital game resources in vocabulary learning was a successful method in enhancing EFL students' vocabulary knowledge.

This study founded that, digital game resources created motivation in language learning because of the challenging and excitement of games. The experimental groups learned through digital game resources included Kahoot!, Quizizz, and Triventy. These resources are game-based learning platform, used as educational technology and can be accessed via computer as well as a smartphone or a tablet. These resources provided fun multiplayer game-based learning platform and a challenging educational quiz-game with both words and functions from the images and example sentences. In addition, flashcards and quizzes featured in the games were also utilized to teach students word meanings, forms, and the use in context in a fun and engaging way for the students of all ages. Apart from that, these digital game resources also encouraged sensory stimulation, provided helpful feedback, and maintained records for assessment purposes. These findings were consistent with the studies of Alemi, 2010; Kumar and Lightner (2007) which found that digital games resources created relaxation and fun for students in class, and this leads to high motivation of students to succeed with their learning. Similarly, Lepper, Corpus, and Iyengar (2005) founded that digital game resources can raise the efficiency of learning because they increase intrinsic motivation by linking the goals of winning the game and learning the material.

Moreover, this method of teaching helped students gain vocabulary knowledge and learn to actually use the words. The digital game resources were designed to combine learning with game playing, so the learners can improve their language competence and can apply them to the real world situation. From the

study, students were instructed to do activities related to word contents using the digital game resources activities. This was in accordance with the idea of Yip & Kwan (2006), that DGBL is effective in developing the vocabulary knowledge, both receptive and productive vocabulary for every age levels by inferring vocabulary meanings and use it in the context. It also supported students' retention of newly learned words. The good learning environment also supported vocabulary education. Like the ideas of Clark, (2016), the good environment classroom in this study can enhance knowledge and skills acquisition. As Farber (2014) proposed, when students engaged in games, skills and knowledge were also mastered.

5. Conclusion

This study proved that using digital game resources was a good tool for enhancing students' vocabulary knowledge. Moreover, digital game resources made the vocabulary learning process easier and more enjoyable. This study pointed out that digital game resources are valuable for not only academic purposes, but also motivational purposes by creating interesting vocabulary activities and engagement, motivation, and fun environment. Hence, the result of this study will be helpful for teachers or educators to apply this effective method for teaching vocabulary in the EFL classroom. Furthermore, the study can be used to develop a curriculum in order to increase students' language competency as Twenty-First Century skills.

Although the findings of this study confirmed the positive effects of teaching English vocabulary through digital game resources on the EFL students, further studies need to be conducted to expand the knowledge in the field of EFL learning. Firstly, it would be interesting to use digital game resources to teach other language skills, for instance, reading, writing, speaking, and listening. Furthermore, using a variety of materials in classrooms will improve students' learning. For this reason, it will also be interesting to investigate the effects of different kinds of digital game resource integration to enhance vocabulary knowledge and language skills for EFL students.

6. Acknowledgements

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