

## Virtual Implementation of Mobile-Game Based Learning: Enhancing Students' Vocabulary Mastery and Self-Motivation

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### Abstract

*This paper is based on a research on students' vocabulary mastery at the first grade students of Junior High School at Loeitadnonputtana School, Loei Thailand using Mobile-Game Based Learning strategy. This research is conducted based on the preliminary study which pointed out that the students confronted some challenges and low of motivation in mastering English vocabulary. The purpose of this research is to enhance students' vocabulary mastery and self-motivation through Mobile Game Based Learning. It conducted in the second semester of the academic year 2020-2021. The participants were 9 students. The research design used on this research is Classroom Action Research (CAR). The data were gathered from the first and second cycle by using quiz, teacher made-tests, observation, and questionnaire. The data were evaluated by using triangulation. The result of this study shows that Mobile Game Based Learning can significantly enhance the vocabulary mastery of the first grade Junior High School students at Loeitadnonputtana school. The average enhancement is 14%, from 72% in the first cycle into 86% in the second cycle. The questionnaire also shows that Mobile Game Based Learning can make the students enjoy in learning vocabulary so that they feel motivated and interested more in learning and mastering vocabulary. All of the enhancement also seen from the outcome of the classroom observation in every meeting of teaching and learning activities.*

**Keywords:** *Vocabulary Mastery; Mobile Game Based Learning; Teaching English.*

### INTRODUCTION

Vocabulary is the basic component of learning English. Vocabulary takes an important role for all English skills in both ESL and EFL classroom activity (Nation, 2013). Students have to master English vocabulary before they continue to other English skills. Without syntax very little can be transferred, without vocabulary nothing at all can be transversed (O'Connor, 1973). In addition, learner must mastering thousands of words to be mastered on a language (Allen, 1983). So, because of the importance of mastering English vocabulary for students, so that the teacher has to find out the best strategy to be implemented in the learning process. A limited vocabulary can impede a successful communication (ALQAHTANI, 2015). Language mastery will be hampered if the learner

still lack of vocabulary (Thornbury, 2002). It shows that vocabulary is the main point to English mastery.

During teaching and learning process, issue recognition is conducted to characterize applicable problems on the students when learning English. In identifying the issue, the teacher implemented some activities, such as gave a worksheet to the students that asked them to make a line from English vocabulary to the correct picture, asked the students to produce simple sentence using the given vocabulary, and asked them to repeat in pronouncing some English vocabulary. Here, some problems are identified in the classroom. The three main problems are, the first is the students addicted with their phone during teaching and learning process, so they were focus and busy with their mobile phone when the teacher asked them to do some activities or answering some question. The second problem is the students still lack of English vocabulary. They still cannot answer with the correct vocabulary based on certain picture and they also still have a bad pronunciation of English vocabulary. The third problem is the students are less of motivation in learning English. English is their foreign language and they feel less of interest in learning on it, they are only being able to focus in short time when learning English.

Considering the above problems, it is crucial for the teacher to find out the best teaching and learning strategy in order to enhance students' vocabulary and their self-motivation. Learning strategy as internal and external actions that can affect students' inspiration, consideration, determination and processing of information (Weinstein, C.E., & Mayer, 1986). Game Based Learning can enhance students' interest, language mastery, and learning efficiency (Goodman et al., 2006). Mobile Game Based Learning has been thought of by many researchers as a bright sceme for outstanding mastery and retention of knowledge. The outstanding act of Mobile Game Based Learning has been affirmed in the field of learning innovation. Learning through games is the method of things to come (Prensky, 2001). Game can help teacher to enhance students' learning potential (Sugar, S., & Sugar, 2002). In addition, mobile game provides difficulties, discipline, and delution that can enhance students' interest, motivation, and knowledge retention (Hogle, 1996). It means that teacher can try to implement Mobile Game Based Learning strategy in teaching vocabulary.

This research aims to solve the three main problems, whether Mobile Game Based Learning can enhance students' vocabulary mastery, increase students' self-motivation, and make students' addiction on mobile phone becomes a good thing for them especially in learning vocabulary. It is hoped that this study will bring out a good strategy for teacher in enhancing students' vocabulary mastery and their self-motivation in learning English.

## METHOD

A Classroom Action Research (CAR) design is carried out inside two cycles with eight meetings in the research. Teaching and learning strategy using Mobile Game Based Learning is executed to enhance students' vocabulary mastery for the first grade students of Junior High School at Locitadnonputtana School 171 Moo 2 Loei Thailand, who joined English class that consist of 2 males and 7 females. The researchers chose school in Thailand because we would like to see how is English language teaching and learning outside Indonesia. Locitadnonputtana School is chosen because it is in rural area of

Thailand and the preliminary research showed that the English language abilities of students at this school are still very low and lack of basic vocabulary of English, the English teachers there are also still lack and not expert in teaching English. The Classroom Action Research (CAR) steps are evolved from the theories of (Kemmis, S., & Mc Taggart, 1992), (Sukmadinata, 2006), and (Kusnandar, 2008). There are three principle steps of CAR namely planning step, implementing and observing step, and reflecting step are implemented in this study. The steps of Classroom Action Research (CAR) are drawn in the diagram below.

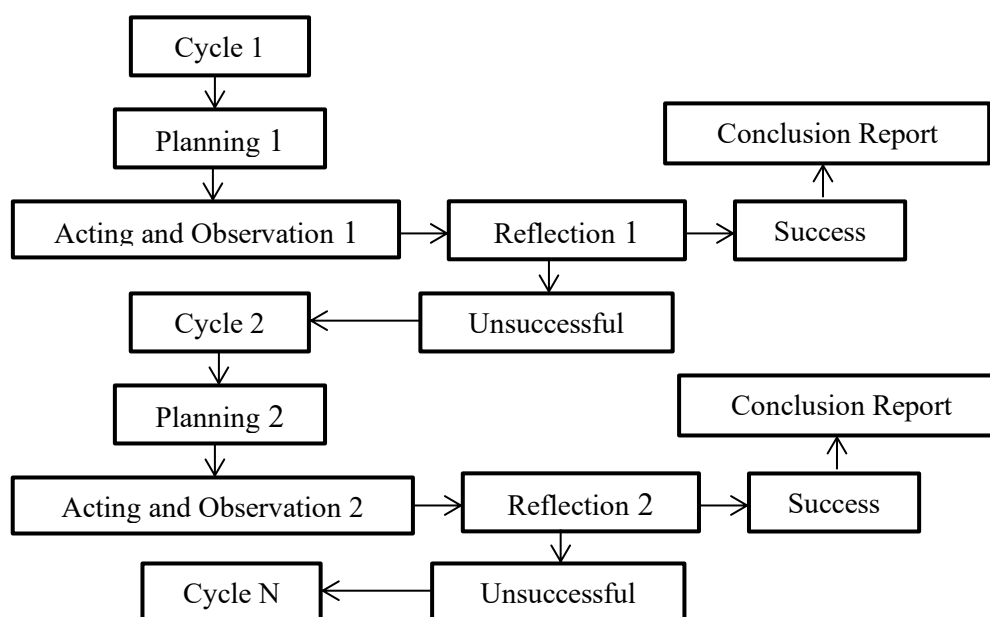


Diagram 1. The Cycles of CAR by Kemmis & Mc Taggart, 1992.

The quantitative and qualitative data on how significantly Mobile Game Based Learning strategy works in the classroom teaching and learning activities are gathered from observation by the team teaching (one teacher and one lecturer) that work as the observers of English class in eight times classroom teaching and learning activity. The data then wrote and described quantitatively and qualitatively. Students' vocabulary mastery are obtained from Q&A, Kahoot, Quizizz and Wordwall. Questionnaires adapted from (Chen et al., 2019) are also executed to gather the data on learners' self-motivation that consist of the potential effectiveness of Kahoot; Quizizz and Wordwall, the usability of Kahoot; Quizizz and Wordwall, and the students' satisfaction on Kahoot; Quizizz and Wordwall for vocabulary mastery. All of those aspects are also obtained by the observers' classroom observation checklist.

The gathered data are then examined over both quantitatively and qualitatively. The quantitative method is implemented to analyze the result of Kahoot, Quizizz, Wordwall and questionnaire. On the other hand, the qualitative data method is deciphered to clarify the arising commonalities application of the arranged strategy. At long last, triangulation

is executed in reflecting stage by looking the observation outcomes, questionnaire, and the rubric with the standard of accomplishment.

The indexes of students' accomplishment in vocabulary mastery are outlined into some assertions. Firstly, students' ability in comprehending the meaning. Secondly, students' ability on phonological system in speech. Thirdly, students' ability on phonological system in writing. Fourthly, students' ability in applying the vocabulary in sentence. Those indicators are accomplished in case the learners' minimum average score is  $70 < PP < 100$  with the accompanying reach:

A =  $81 < PP < 100$  : Very Good

B =  $70 < PP < 80$  : Good

C =  $51 < PP < 69$  : Fair

D =  $< PP < 50$  : Poor

## **FINDINGS AND DISCUSSION**

### **Students' Vocabulary Mastery**

Student can be indicated as mastering vocabulary if the student success on four points, the first is comprehending the meaning, the second is having ability on phonological system in speech, the third is having ability on phonological system in writing, and the fourth is being able in applying the vocabulary in sentence (Henry & Pongrantz, 2006). In addition, vocabulary mastery must focus on the process of pronunciation, understanding the meaning, and remembering the word (Ehri & Rosenthal, 2007). The assessment process for students' ability in comprehending the meaning is having quizzes through Kahoot, Quizizz, and Wordwall, the quizzes consist of matching the vocabulary with the correct picture, matching the vocabulary with the correct situation or place. Then, the assessment process for students' ability on phonological system in speech is through asking the students one by one to pronounce the vocabulary for each picture. The assessment process for students' ability on phonological system in writing is having quizzes through Quizizz, the students should type the correct vocab for the picture or situation given. Then, the assessment process for students' ability in applying the vocabulary in sentence is through zoom meeting, the students asked to produce simple sentence using the vocabulary given.

The topics talked about in both the first and second cycle consist of four topics, they are: a) Feelings, b) Public Places, c) Jobs, and d) Animals. The purpose of the teaching and learning activity is to lead the students mastering the English vocabulary for each topic. The English class is twice meetings a week with 60 minutes for each meeting. The strategy implemented is Mobile Game Based Learning, where the class does some quizzes and answers some questions through Kahoot, Quizizz and Wordwall. The strategy is implemented for each topic. It endures around eight meetings for the two cycle with some enhancement on the strategy as tool for increasing students' vocabulary mastery.

Lots of quizzes and tests were conducted bit by bit. The quizzes and tests were applied in each classroom activity using Kahoot, Quizizz, and Wordwall done after the teacher show and explain the vocabulary. Then, the final test also conducted at the end of the cycle. The improvement results from the assessment on students' vocabulary mastery shown as below:

**Table 1**

The percentage of students' vocabulary mastery (Cycle I &amp; Cycle II)

Variables	Cycle I	Cycle II
Students' ability in comprehending the meaning	67%	89%
Students' ability on phonological system in speech	77%	89%
Students' ability on phonological system in writing	67%	77%
Students' ability in applying the vocabulary in sentence	77%	89%
Average	72%	86%

The first variable is students' ability in comprehending the meaning. The activity is implemented through Mobile Game Based Learning strategy, where the students need to access Kahoot, Quizizz, and Wordwall to do some quizzes. After finishing the quiz, the students will know their score. All of those activities were executed both on the first and the second cycle with the all out of meeting is eight times. The table is showed that on the cycle I around 67% from 9 learners accomplished the goal, and on the cycle II positively increased 22% from 67% into 89%. The improvement may possibly because the students are used to operating the Kahoot, Quizizz, and Wordwall. This variable can be achieved because the teacher explained the vocabulary for each topic very well and Mobile Game Based Learning that consist of some quizzes such as matching picture or certain situation with the correct vocabulary, that form of quizzes can make the students interested with the topic and they can easily comprehending the meaning for each vocabulary. This phenomenon came up as in the implementation of Mobile Game Based Learning, most of the students were having improvement on their ability in comprehending the meaning of vocabulary.

The second variable is students' ability on phonological system in speech. Pronunciation is one of the language feature that indicates the speakers as native or nonnative (Celce-Murcia et al., 1996). The activity is implemented after the students have done the quizzes on Kahoot, Quizizz, and Wordwall. The students were given picture or certain situation, they should guess the correct vocabulary, then they should say it. The table.1 shows that on Cycle I, 77% from 9 students achieved the goal, and on the Cycle II, improved 12% from 77% into 89%. To achieve this variable, the teacher also asked them to repeat each vocabulary many times, so they become proficient in pronouncing the vocabulary even though Thai accent still can not be separated from them when pronouncing the English vocabulary. This means that Mobile Game Based Learning also have a good impact for students' ability on phonological system in speech.

The third variable is students' ability on phonological system in writing. The activity is implemented through Mobile Game Based Learning strategy, especially using Quizizz. Here, the students were asked to type the correct vocabulary for some pictures. The table.1 showed that the students have improvement 10%, on Cycle I 67% from the total students achieved this variable, then on Cycle II it becomes 77%. The improvement may possibly because the students were accustomed with the vocabulary when they play some quizzes through Kahoot, Quizizz and also Wordwall. This phenomena showed that Mobile Game Based Learning also can improve students' ability on phonological system in writing.

The fourth variable is students' ability in applying the vocabulary in sentence. Here, after the students have finished the quiz through Mobile Game Based Learning, the



students were asked to produce short sentence depend on the given vocabulary from the teacher. The table.1 is drawn that for this variable on Cycle I, 77% of the total students can achieved and on Cycle II they have improvement 12% , from 77% into 89%. Students' vocabulary mastery is an interaction that happens as the students build associations with other words, look at models and non-models of the word and linked words, and apply the word appropriately with the context of the sentence (Snow, J., Burns, M., & Griffin, 1998). This variable can be achieved because the students already comprehend the meaning for each vocabulary so they become easily in applying the vocabulary in simple sentence. Vocabulary has a connection with language use, vocabulary empowers language use, and language use prompts an improvement of vocabulary (Nation, 2013). This phenomena showed that the implementation of Mobile Game Based Learning, that makes students comprehend the meaning of the vocabulary and that can make students being able in applying the vocabulary in creating or producing simple sentence easily.

### **Students' Self-Motivation**

Motivation is the key of a successful learning process. Motivation that the students bring to the class is the important factor that affects their success (Harmer, 2001). Motivation is the degree which learners settle on decisions about objectives to seek after and the effort they will commit to that pursuit (Brown, 2007). Here, the researcher looked at students' self-motivation through distributing questionnaire to the students who joined the class. The questionnaire contains of fifteen items that divided into three indicators that can affect students' self motivation, they are a) the probable capability of the mobile game based learning used, b) the usability of the mobile game based learning used, and c) students' satisfaction on the mobile game based learning used. According to the result, majority of students at Loeitadnonputtana School have positive responses.

The first indicator is the probable capability of the mobile game based learning used. The result shows that 89% from the total students, they really agree that the mobile game based learning used (Kahoot, Quizizz, and Wordwall) are effective in terms of learning vocabulary, can motivate the students to learn English vocabulary, can allow the students to accomplish learning task more efficiently and help them enrich their English vocabulary. The second indicator is the usability of the mobile game based learning used. From the result, the researcher found that 77% of students are very agree that the resolution and the pixel are sufficient in terms of general use, the way how to operate the mobile game based learning used are easy for them and only need little mental effort. The last indicator is students' satisfaction on the mobile game based learning used. The result of the questionnaire showed that 89% from the total students are very agree that they feel interest while using it for vocabulary acquisition, they are also happy with the capacities offered and the vocabulary learning instrument, they will continue to utilize it for their English vocabulary learning and acquisition. Thus, it can be concluded that Mobile Game Based learning has successfully applied, have good responses from the students, and can increase students' self motivation towards learning and mastering vocabulary. It means that mobile game based learning is an amazing strategy to be implemented in the teaching and learning process especially mastering vocabulary.

### Discussion

In the first cycle, the students' activities during the teaching and learning process showed that most of the students still found some difficulties in following most of the learning activities. Some of them was confused in operating the mobile game based learning used, because the apps used in the teaching and learning process are still new for them. In this case, the researchers gave instructions and explained the way how to operate each mobile game based learning used before they worked on the quizzes. In this cycle, the students also still pretty bad in vocabulary pronunciation and writing. So the researchers has done repetition in pronouncing the vocabulary before and after the mobile game based learning being used to mastering the vocabulary. In the quizzes, the students also being asked to write down some English vocabulary based on the picture given, and after they done the quizzes and tests through Kahoot Quizziz and Wordwall, the researchers asked the students one by one in pronouncing the given vocabulary. Then, the teacher asked them to produce simple sentence, however some of them still cannot do it perfectly. This case may be because the students still difficult in following the learning activities, so they do not quite master the given vocabulary. All of those cases were shown in the table.1 that the percentage of each variable in cycle 1 is still under 80%.

In the second cycle, the students already familiar with the mobile game based learning used by the researchers. They can operate the apps easily and they already feel motivated by the apps used. So that, in this cycle the students were easier in mastering the vocabulary given by the researchers in each topic. When the researchers asked them to pronounce and write the given vocabulary, they can do it almost perfectly. Same with the first cycle, in this cycle the researchers also asked them to produce simple sentences after they finish the quiz and test in Kahoot, Quizziz, and Wordwall. So in this cycle, their ability in vocabulary pronunciation and writing, and also applying the vocabulary in simple sentence are being improved. In the table.1, showed that in cycle II most of the variables are up to 80% except students ability on phonological system in writing. This case may be because of the students there are not familiar enough with alphabet, they use akson thai in their daily life. However, they still have pretty good improvement on all of the variables from the first to the second cycle.

After done the first and second cycle, questionnaire was distributed to the students. The result showed that the students agreed that Mobile Game Based Learning is a good learning strategy and appropriate to be implemented in teaching vocabulary. They also agreed that they feel motivated and interest in learning when the teacher used Mobile Game Based Learning as the learning tool. In both the first and second cycle, the thing that still be a problem or obstacle that makes Mobile Game Based Learning can not be applied perfectly is the internet connection of the students. They are in rural area where electricity and internet connection sometimes bad when the rain comes. This makes the students suddenly out of the test or quiz before they finish it, and they can do again the test after the internet connection back to normal.

### CONCLUSION

Mobile Game Based Learning can be asserted to enhance learners' vocabulary mastery. It is proven from the first and second cycle that the students' improvement of students' ability in comprehending the meaning from 67% into 89%, then students' ability

on phonological system in speech from 77% into 89%, students' ability on phonological system in writing from 67% into 77%, and students' ability in applying the vocabulary in sentence from 77% into 89%. Moreover, Mobile Game Based Learning also increase students' self-motivation and made them enjoy in learning vocabulary. It is proven from the result of tests, quizzes, observations and questionnaires. So, Mobile Game Based Learning can be the alternative solution of a gorgeous learning tool and strategy to be applied in the teaching and learning activities especially for students who have an addiction on mobile phone, still lack of vocabulary and low of learning motivation. It provides special challenges and fantasy for the students. It can work as the external factor that makes the students easier in mastering vocabulary and give the students positive implusion as their motivation in learning. It also can help teacher to have effective and efficient teaching process.

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