

## Developing the Vocabulary Mastery of Students through Educational Games

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### Abstract

It is well known that educational game is able to develop English language skills of children in an attractive way. It can reduce boredom and increase the student's interest in teaching and learning activities. It can also make learning process more enjoyable. This research aimed to find out the effect of educational games in developing student's vocabulary mastery of eight years' students of SMP Negeri 2 Parepare. This research applied pre-experimental method. The result of pre-test and post-test shows that the student's vocabulary mastery improved significantly. It is shown from the mean score of pre-test was 65.4 and post-test was 79.4. The result of t-test value (10.294) was higher than t-table value (1.685). It concludes that the use of educational games can develop students' vocabulary mastery.

**Keywords:** Developing, Vocabulary Mastery, Educational Games

## 1. Introduction

Teaching vocabulary at school has important roles to the students. The phenomenon showed a technique or media teachers apply in the classroom sometimes is not interesting and made students bored to study. Teachers should create a comfortable learning situation to overcome students' problems in the classroom (Amir, 2022). Students should actively participate in learning new words as part of a group project with their classmates (Ahmad 2013). In order to use those languages in their academic and social interactions, they will become internalized in their own cognitive processes. Therefore, learning vocabulary is an obligatory for the students to develop their ability to interact with others and do academic activities. Teaching in the classroom is also a communication process. Learning foreign language for students make it a must to communicate by using that foreign language. It is then teachers' obligation to make the whole classroom speak by using the target language (Amir & Jakob, 2020).

Vocabulary is a basic component in communication. It is very important for the acquisition process. Acquirers would not be able to participate in discussion if they hardly understand the meaning of the essential words used to address them. Vocabulary learning is one of the most essential issues that language learners faced when learning a foreign language. (Ahmadi, Ismail, & Abdullah 2012). Learning vocabulary as a component of language is a method of mastering a foreign language. Vocabulary instruction is an essential component of any foreign language teaching and learning. This is because vocabulary knowledge determines the level of a foreign language learner. Vocabulary knowledge is also essential for the major language skills of listening, speaking, reading, and writing. A foreign language learner who has mastered the required vocabulary can become an effective speaker, listener, reader, and writer. However, limited vocabularies has a significant impact on these four language skills (Al-Dersi, 2013).

The initial study discovered that eighth-year students at SMP Negeri 2 Parepare has a low vocabulary mastery, with an average score of 68. The main problem is the vocabulary comprehension of students is still low. Previous related studies offered many innovative methods in teaching English in the classroom, especially vocabulary. One of the method is educational games. It can alleviate students' boredom and promote their interest in learning activities. It can also improve the learning experience.

Educational games are merely games that are either purposely designed for educational reasons or have occasional or subsequent educational benefits. It is intended to teach students both a specific subject and a skill. (Keese, 2012). Educational games include activities in which students engage and interact with one another. (Lawrence, 2013). It is a method of teaching that is suitable for circumstances where traditional methods are poorly accepted; when acquiring and maintaining focus is difficult. (Pathan & Aldersi, 2014).

Using games in education has been found significant. Some significances such as increases a child's memory, computer and simulation fluency, fast strategic thinking and problem-solving, hand-eye coordination, and is especially beneficial for children with attention disorders (Jones, 2013). Other advantages of using games in the classroom are as a break from the usual routine of the language class, motivation and challenge, a great deal of effort, a language practice in the various skills-speaking, writing, listening and reading, encouragement for students to interact and communicate, and a meaningful context for language use (Wit, 2012). In addition, potential benefits of educational games are also found that; every game starts with a challenge that encourages players to put their knowledge and skills to the test. The game's difficulty allows players to fail in a fun way while also encouraging them to learn and improve; because decisions made in the game have no real-world consequences, players can experiment and try new things; in a game, players assume fictitious identities, pretend, and can thus adopt new perspectives; application and immediate feedback enable players to directly apply what they have learned in the game (Mitgutsch 2014).

In designing the educational games, some types of classified games can be taken into account. Here are some detailed forms of educational games which are composed of both the elements defining linguistic and communicative games, namely sorting, ordering or arranging games, information gap games, guessing games, searching games, matching games, labelling games, exchanging games, board games, and role play games ( Wang, 2011). Other classification of educational games also fall into three categories, namely card games, board games and video games (Sen, 2015).

One way to improve language learning is to introduce games for learners with the intention of teaching and further developing their language proficiency. Moreover, Teachers must adhere to the prescribed curriculum, which is adapted to second language learners. High-level games may present difficulties for players, whereas games that are too easy to play do not challenge their intellect (Lee, 2012). Games are perceived as an inevitable factor for enhancing and facilitating the teaching-learning process. Students' achievement in all subjects will improve as the teaching-learning process is accelerated. (Mustafa, 2011). Therefore, A core principle of game-based learning is that it has the potential to motivate students to learn by making learning enjoyable (Liu, 2014). Game-based learning is appropriate for teaching complex subjects. The main characteristics of educational games are developing strategies, testing hypotheses, and solving problems (Park 2012).

To exploit games in the learning process, there are at least two approaches found namely, the first is instructionist perspectives. The students play game which teaches them a data concept at the end. The second is constructionist perspectives. The student is an active learner and a key player in the development of processor games. In fact, learning while creating games requires the application of game design rules (Quahbi, 2014) which is similarly done by the study of knowing by heart to build up students' vocabulary mastery (Sardi, 2022). Furthermore, there are four principles of good game-based learning, namely the first is, the subset principle which means learning occurs in a (simplified) subset of the real domain from the start. The second is the active and critical learning principle which means the learning environment must encourage active and critical learning. The third is the probing principle which means learning is a cycle that consists of probing the world, reflecting the action and forming a hypothesis, re-probing the world to test the hypothesis, and finally accepting or rethinking the hypothesis. The last is the practice principle which means learners get a lot of practice in a fun environment (Trybus 2015).

This research focused on the development of vocabulary mastery of students. The main problem of learning process was the students' low vocabulary mastery. It influenced the learning result of students. It was caused by limited vocabulary of students, less interest toward the English lesson especially vocabulary, and inappropriate method in teaching. To solve the problems, this study applied educational game. This research focused on one kind of educational games, namely card game. The card game then modified into some forms, namely Observe & Remember, Word Pairs, Word Grouping, as well as Word Arrangement. The content of vocabulary focused on the things in the students' environment and their characteristic. The purpose of this research is to find out whether or not educational game can increase students' vocabulary mastery at SMP Negeri 2 Parepare.

## 2. Method

In this research, the writers applied pre-experimental design using the application of educational games to improve the students' vocabulary mastery of SMPN 2 Parepare. This research involved the eighth year students of SMPN 2 Parepare. The total population is 356 students and consists of 9 classes. Cluster random sampling technique was used to take the sample of this research. The sample is class VIII.7 which consists of 40 students.

The instrument to test students' vocabulary mastery was vocabulary test. It was implemented in three kinds of test. They are multiple choices, matching and arrangement. The multiple choice test consists of 10 numbers, the matching test consists of 10 numbers, and the arrangement test consists of 5 numbers. So, the total number of test is 25 numbers. Every correct answer got score 1 (one) and the incorrect writers used some procedures to collect data to determine the result. The writers collected the data from pre-test and post-test. The writers gave pre-test before giving treatment to define the students' ability in vocabulary. The pre-test took about 30 minutes and monitored by the writers. The post-test was given after the students getting the treatment to know the difference between the students' ability before and after applying educational games in learning. The post-test took about 30 minutes and monitored by the writers.

## 3. Findings and Discussions

### *The Students' Vocabulary Score in Pre-Test and Post-Test*

In this research, it is found that students' vocabulary score is different in pre-test and post-test. In the pre-test, students' vocabulary score is mostly under fair classification. The result of pre-test could be presented as follows:

Table 1: Students' vocabulary score in pre-test

No	Classification	Score	F	Percentage (%)
1	Excellent	86 – 100	1	2.5
2	Good	71 – 85	14	35
3	Fair	56 – 70	17	42.5
4	Poor	41 – 55	6	15
5	Very poor	≤ 40	2	5
Total			40	100

The classification of the pre-test score in the Table 1 showed that from 40 students, only 2.5% of students are under excellent classification, 35% of students are under good classification, 42.5% of students are under fair classification, 15% of students are under poor classification, and 5% of students are under very poor classification. The result of the pre-test showed that the vocabulary score of students is still low, so the writers taught vocabulary through educational games.

After conducting the treatment, the post-test was conducted. In the post-test, the writers found that students' vocabulary score was higher than the score in the pre-test. It could be seen by the data as follows:

Table 2: Students' vocabulary score in post-test

No	Classification	Score	F	Percentage (%)
1	Excellent	86 – 100	10	25
2	Good	71 – 85	23	57.5
3	Fair	56 – 70	7	17.5
4	Poor	41 – 55	0	0
5	Very poor	≤ 40	0	0
Total			40	100

The classification of the post-test score in the Table 2, showed that from 40 students, students under excellent classification increase to 25%. 57.5% of students are under good classification. Students under fair classification decrease to 17.5%. The result of the post-test showed that the vocabulary score of students after taught through educational games had improved significantly.

### The Progress of Students' Vocabulary Mastery

Based on the result of pre-test and post-test, the progress of students' vocabulary mastery could be showed as follows:

Table 3: The progress of students' vocabulary mastery

Variable	Pre-Test	Post-Test
Mean Score	65.4	79.4
Standard Deviation	13.93	9.06

Table 3 presented the mean score of students in the post-test (79.4) was higher than that in pre-test (65.4). Therefore, the standard deviation in the pre-test (13.93) was higher than post-test (9.06). It meant that the result of post-test had increased higher than pre-test.

### Hypothesis Testing

In testing the hypothesis, the writers applied a test formula at the level of significance  $\alpha = 0.05$ . The result of calculation could be shown as follows:

Table 4: Hypothesis Testing

df	Level of Significance	t-test Value	t-table Value
39	0.05	10.294	1.685

Based on the Table 4, it could be shown that the t-test value (10.294) was higher than the t-table value (1.685). From this analysis, the null hypothesis ( $H_0$ ) was rejected and alternative hypothesis ( $H_1$ ) was accepted. It meant that the application of educational games can develop the vocabulary mastery of students.

Based on the data analysis above, the writers presented the discussion of the data analysis. The writers had analyzed the students' score in pre-test and found that the score was still low. It is caused

by the low students' vocabulary mastery. However, Vocabulary is fundamental for mastering language skills.. As stated by Al-Dersi (2013), Vocabulary knowledge is essential for the major language skills of listening, speaking, reading, and writing. A foreign language learner who has mastered the required vocabulary can become an effective speaker, listener, reader, and writer.

Different kinds of educational games were applied in each meeting during this research. All the games focused on the card game. From the treatment, the students could master some kinds of vocabulary. In the first meeting, the students could master some vocabulary which they could find in the environment. In the second meeting, the students could master some adjectives and their antonym. In the third meeting, the students could group some vocabulary with their categories. Finally, in the last meeting, the students could arrange some jumbled words to correct words. Besides that, the writers observed that the students felt interested in learning English, especially vocabulary. The students were more active and felt motivated. It is in line with Liu (2014), that a central component of game-based teaching methods is its potential to encourage students to learn by making learning enjoyable.

After teaching by using educational games, post-test was conducted to measure students' vocabulary mastery. From the comparison of score percentage and mean score between pre-test and post-test, it is found that there was development of the students' vocabulary mastery. Similarly, Sardi, et al (2017) investigated by the study taken from "the Distinct types of diction used by the EFL teachers in the classroom interaction" showed that the teachers' vocabulary is determined by their dictions whilst teaching. Therefore, the standard deviation of the post-test was lower than pre-test. It meant that the students' variance in mastering vocabulary had decreased, so most of the students' vocabulary mastery in the sample class was the same.

The result of this research supported some previous research findings. The first is Rahmawati (2012) had conducted a research on students' vocabulary mastery by using spider web technique. In this research, the students' vocabulary mastery after taught through spider web technique were better than before taught through spider web technique. The second is a research conducted by Rahmat (2012) to improve the vocabulary mastery through contextual teaching and learning method. Like the first research, this research had concluded that the students' vocabulary mastery can improve if they were taught through contextual teaching and learning. The last researcher, Rasmah (2014) had conducted research to increase the reading comprehension of the students through guessing game. This research proved that guessing game can improve the reading comprehension of the students. Teaching by games can improve not only reading comprehension but also vocabulary mastery of students.

This research also supported some ideas from the experts. As stated by Mustafa (2011), Games are regarded as an inevitable factor in improving and advancing the learning process. Students' achievement in all areas of study will improve as the teaching method is accelerated. Moreover, Rustam (2018) stated that when students had improvement especially in their attitude to study English in the classroom, it will be able to lead the improvement of their speaking skill. This statement is proven by the findings of the research where games can develop students' interest then finally it is affected significantly students' vocabulary mastery in a positive way. In addition, Park (2012) also stated that game-based learning is ideal for teaching difficult subjects. The major purposes of educational games are to establish strategies, test hypotheses, and solve problems. The students' learning interests varied, but they all liked to play in class. As a result, educational games may serve as a solution to a teaching problem. Students were encouraged to expand their insights through games, but the overall purpose of the teaching methods was to enhance students' understanding, particularly vocabulary mastery. Even so, the use of games to motivate students to learn is a proven fact in the implementation of games in the learning process.

#### **4. Conclusions and Suggestion**

The result of this study showed that the application of educational games are able to improve students' vocabulary mastery at SMP Negeri 2 Parepare. It was proven by the result of t-test value that was higher than t-table value. Besides, teachers' observation during the learning process showed a result that students' interest and motivation in learning English especially vocabulary increase during learning process by educational games.

The researchers proposed some suggestions to improve students' vocabulary mastery for both English teachers and students. Before teaching vocabulary, English teachers should boost students'

enthusiasm and motivation, because high enthusiasm and motivation impact students' exposure in learning English. Furthermore, English teachers should integrate several modern instructional games into each meeting to keep students from becoming bored during the process of learning. At last, students need to use this method to learn vocabulary in order to avoid boredom in learning.

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