USING CROSSWORD PUZZLE GAMES IN INCREASING THE SEVENTH-GRADE STUDENTS' VOCABULARY MASTERY

Masagus Sulaiman¹⁾, Sri Hartati²⁾, M. Tarmizi³⁾, Dian Septarini⁴⁾ ^{1) 2) 3) 4)} English Education Study Program, Faculty of Teacher Training and Education Universitas Muhammadiyah Palembang <u>mrshu.ok@gmail.com¹</u>, <u>hartatisri444@gmail.com²</u>, <u>miziahmed32@gmail.com³</u>) <u>dedek.patra@gmail.com⁴</u>

Abstract

The problem of this research was whether crossword puzzle games effectively increase seventh-grade students' vocabulary mastery at MTs Al-Hidayah of Muara Telang. This research aimed to determine whether crossword puzzle games effectively increase seventh-grade students' vocabulary mastery at MTs Al-Hidayah of Muara Telang. Using a pre-experimental design, the research included a total population of 67 students. The sample of this research was 33 students selected through total sampling. The data obtained were analyzed by using a matched t-test for manual calculation. The result of the t-test calculating in the pre-test and post-test class paired sample t-test showed that the mean was 26,96970, the standard deviation was 12,74383, the standard error mean was 2,21842, the lower was -31,48846, the upper was 22,45093 of t obtained was 12,157. On the other hand, Crossword Puzzle Games effectively increased vocabulary mastery among seventh-grade students at MTs Al-Hidaya of Muara Telang.

Keywords: Crossword Puzzle Games, Vocabulary Mastery.

Introduction

Vocabulary is a fundamental need for supporting learners in mastering English. Susanto and Fazlinda (2016) stated that learning vocabulary is essential when learning а foreign language. New words are often emphasized, whether in books or oral communication. Vocabulary is central to language teaching and important to language learners (p.182). The students must continuously learn words as they learn the structure and practice the sound system. The students must have good vocabulary knowledge because vocabulary is the core of communication, learning, and thinking.

Vocabulary is one of the components of English. Susanto (2017) says vocabulary is essential for learners to understand the language. Vocabulary is needed to express your thoughts and understand what others are saying (P.4). it means mastery means complete ©Pendidikan Bahasa Inggris FKIP UM Palembang DOI: <u>https://doi.org/10.32502/ecj.v9i1.9343</u>

knowledge or great skill that makes someone a master in certain subjects.

Moreover, Rivers (1998) stated that learning a language without vocabulary mastery was not easy. Learning Vocabulary is an essential part of Mastering a second language. If students want to master language skills such as listening, speaking, reading, and writing, they must have a large vocabulary. With a limited vocabulary, students will also have a limited understanding of language skills. In other words, mastery of a language means the ability to use or even understand the words of a language.

Based on the researchers' observations and interview with the teacher of MTs Al-Hidayah of Muara Telang, it is found three reasons they are 1) the students still have difficulties speaking English because their vocabulary is still limited, 2) the student has less motivation to learn because they feel bored in learning English, 3) the

teacher still used the old strategy, so the student is not interested in learning at the class.

A teacher should plan a good exercise or teaching vocabulary so the students will understand the learning process well. As a result, a teacher should pay more attention to the strategies to enhance students' vocabulary. Teachers have an important improving role in the student's achievement in the teaching-learning process. The teachers must know the condition of the students. On the other hand, the method has an important role in the teaching-learning process. The method that the teacher uses can make students enjoy learning.

Considering that situation, the researchers provided a solution to the students' vocabularv increase mastery for the seventh-grade students of MTs Al-Hidaya Muara Telang so that later, the students could master English well. The solution is to use a crossword puzzle game. Crossword puzzle games offer a challenge that will motivate students to try to complete the puzzle. It gives many opportunities for the students to practice and repeat the sentence pattern and vocabulary. Certainly, the crossword puzzle game is a game that will make the teaching-learning process more attractive than before. The students will feel fun, relaxed and enjoyable, and they will memorize the vocabulary differently, that is, by rewriting it.

Lestari and Yulia (2018) state that crossword puzzles help students improve their vocabulary. Crossword puzzles can help the students exert more effort in guessing the answer to finish the game quickly and correctly and be the winner (p.72). So, the researchers chose a crossword puzzle to teach vocabulary. The crossword puzzle can train the student's brain to recall new words. Moreover, the students will learn English by sharing it with their friends to finish the crossword puzzle.

All of the above explanations researchers inspire the to do experimental research. The researchers want to know how far crossword puzzles students' can enhance vocabulary mastery and meet the students in MTs Al-Hidayah. So, the researchers conducted experimental research titled: Using Crossword Puzzle Game In Increasing The Seventh Grade Students' Vocabulary Mastery At MTs A1-Hidayah of Muara Telang."

Previous Related Studies

The title of this research is "Using Crossword Puzzle Game in In Creasing the-Seventh Grade Students' Vocabulary Mastery At MTs-Al Hidayah Muara Telang." There is so much research that has topics similar to this one. One of them, Andina's research (2020), "The Use Of Word Clap Games Vocabulary Improve Students' to Mastery At The Second Grade Of SMPN Mattirosompe," aimed to discover 1 how to improve students by using word clap games. The research population was all of the second grades of SMPN 1 Mattirosompe. There were six classes. In this research, the researcher chose VIII 1 of SMPN 1 Mattirosompe, with the total number of the sample being 30 students.

The technique used to collect the data was the purposive sampling technique of the second grade of SMP Negeri 1 Mattirosompe to improve the student's vocabulary mastery of the word clap game. This research found that student vocabulary showed a significant difference between the mean score pre-test and post-test. Moreover, the mean score of the pre-test was 60,7, and the post-test was 81. Moreover, the improvement from the pre-test and post-test was 33%. The alternative hypothesis (Ha) was accepted, and the null hypothesis (Ho) was rejected.

The similarities were as follows:

- 1. Both Andina's thesis and the researcher's studies used quantitative research.
- 2. Both Andina and the researcher's research used vocabulary skills.

While the differences are as follows :

- 1. Andina's thesis used secondgrade students of SMP Negeri 1 Mattirosompe as the population, while the researcher will use the seventh-grade students at MTs Al-Hidayah Muara Telang.
- 2. Andina's thesis used a word clap game strategy, while the researcher will use the crossword puzzle game.

The second thesis of Nurvati (2021), entitled "The Use Of Word Cross Games to Improve Students' Vocabulary in SMA Muhammadiya 4 Makasar," This research is aimed to find out whether or not students' Vocabulary improved by using word cross games in the first grade of SMA Muhammadiyah 4 Makasar. This research applied a preexperimental research design. The population was the first-grade students of SMA Muhammadiyah 4 Makassar. The total sampling technique decided the sample and the total number of samples was 20.

This research also shows that the word cross game was effective. It was proved by the t-test value (25.09), which was greater than the t-table value (2.093). It indicated that there were significant differences. This also indicated that HI was accepted and H0 was rejected. It is concluded that using the word cross game can improve students' Vocabulary.

The similarities were as follows:

1. Both Nuryati's thesis and the researcher's studies used vocabulary components in the research.

2. Both Nuryati and the researcher's research used a crossword game.

While the differences were as follows : Nuryati's thesis used first-grade students of SMA Muhammadiyah 4 Makassar. as the place of the research. In contrast, the researcher will use the seventh-grade students at MTs Al-Hidayah Muara Telang.

The third thesis of Sari, Kurnia Suci (2017), entitled "The Effectiveness of Crossword Puzzle Games toward Students' Vocabulary Mastery," this research aimed to obtain empirical evidence of the effectiveness of crossword puzzle games towards students' vocabulary mastery. This research was conducted in the second grade of SMP Puspita Bangsa Ciputat.

The method of this research is experimental, taking a sample of 70 students from 99 student populations and dividing it into two classes: 35 students for the experimental class and 35 students for the controlled class. Before giving the treatment, the researcher gave a pre-test. Then, the researcher taught in experiment class with a crossword puzzle game and in controlled class without one. After three meetings, the researcher gave the post-test to both classes.

The pre-test and post-test scores collected from twenty-five were multiple-choice questions and then analyzed using a t-test. The finding of this research led to the conclusion that using crossword puzzle games was effective towards students' vocabulary mastery in the second grade of SMP Puspita Bangsa Ciputat. It was based on the T-test result, which showed that count> table (4.11 > 2.38) in the degree significance 1%. It means that HI was accepted and HO was rejected. Therefore, the crossword puzzle game is students' effective for vocabulary mastery.

The similarities were as follows:

- 1. Both Sari and Kurnia Suci's thesis and the researcher's studies used vocabulary components in their research.
- 2. Sari, Kurnia Suci, and the researcher used a crossword game in their research.

While the differences were as follows : Sari and Kurnia Suci Used the second grade of SMP Puspita Bangsa Ciputat as the place of the research, while the researchers used the seventh grade of MTs Al-Hidayah Muara Telang.

Vocabulary Mastery

Vocabulary mastery is a gradual process. Someone needs to follow the process to reach good vocabulary mastery. It can be defined as knowledge of the words of a language. The learners" vocabulary mastery is indicated by their ability to produce and understand the words in their daily lives. Ihsan (2019) states that vocabulary is one of the important language elements that must be mastered. The learner with a million words has a better chance of practising English. Vocabulary influences the ability of the student to learn English. If students mastered vocabulary well, they could learn the elements and skills in the language (p.84)

Cameron (2001) stated that learning words is not yet done and finished. To master vocabulary is to learn new words and meanings to increase vocabulary (p.74). The learning includes the pronunciation, meaning, spelling, usage, and part of speech of the words.

According to Lubis (2017), the following list of the different kinds of knowledge that a person must master to know a word is:

- 1. The meaning of the word,
- 2. The written form of the word,
- 3. The spoken form of the word,
- 4. The grammatical behaviour of the word,

Masagus, Etc, Using Crossword Puzzle...

- 5. The collocations of the word,
- 6. The register of the word,
- 7. The associations of the word,
- 8. The frequency of the word. (p. 10)

Based on the definitions stated, it can be concluded that the student needs to master Vocabulary because Vocabulary is the core of learning, communicating, and thinking. If students master vocabulary, they perform better in their learning.

Kinds of Vocabulary

Many kinds of "Part of Speech" are English words commonly classified into seven parts of speech: noun, verb, adjective, adverb, preposition, conjunction, and interjection. However, in this part, the researchers will discuss only four parts of speech: nouns, verbs, and adjectives.

1. Noun

According to Hornby (2008), a noun is a word (other than a pronoun) used to identify any of a class of people, places, or things (common noun) or to name a particular one of these (proper noun), a quality or an activity.

2. Verb

Hornby (2008) explains that a verb is a word phrase that expresses an action, an event (e.g., happen), or a state.

3. Adjective

Hornby (2008) explains that an adjective is a word that describes a noun, giving extra information about it—for example, a sweet taste, a red apple, a technical problem and so on.

Crossword Puzzle

The first published crossword puzzle was created by a journalist named Arthur Wynne from Liverpool, and he is usually credited as the inventor of the popular word game. The first crossword appeared in England during the 19th century. Eliot George (2014) states that

they were of an elementary kind, apparently derived from the word square, a group of arranged words. Hence, the letters are read vertically and horizontally and printed in children's puzzle books and various periodicals.

Dhand (2008) defines a crossword puzzle as a puzzle with a square set to be filled in with words/numbers, on letter/number to each square. Synonyms or definitions of words are given with numbers corresponding to numbers in the squares. In answer to clues, letters/ words are fitted into a pattern of numbered squares.

According to Hornby (2003), a crossword is a puzzle in which words must be guessed from clues and written in spaces in a grid. A crossword is a word puzzle normally consisting of a square or rectangular grid of white and shaded squares.

From some definitions stated, the researchers can conclude some definitions of crossword puzzles:

- 1. The crossword puzzle is a game you must consider carefully, consisting of words written in space in a grid.
- 2. The crossword puzzle is a game to exercise the mind, consisting of words written in space in a grid.
- 3. The crossword puzzle is a game you must consider carefully, normally as a square or rectangular grid of white and shade squares.
- 4. The crossword puzzle is a game to exercise the mind, which normally takes the form of a square or rectangular grid of white and shade squares.

Teaching and Learning Process Through Crossword Puzzle Games

The teaching and learning process uses a crossword puzzle game for seventh-grade students at Mts Al-Hidayah of Muara Telang.

- 1. Pre Activities (15 minutes)
 - a. The teacher greets the students and opens learning activities.
 - b. The teacher checks the students' attendance list.
 - c. The teacher will give motivation to the students.
- 2. While Activities (55 minutes)
 - a. Students are divided into groups of 4-5 students.
 - b. Give students some instructions and explain how the puzzle and rules. works the For example, please fill in the crossword puzzle according to missing the word or the definition.
 - c. The teacher makes crossword puzzles on the whiteboard.
 - d. The teacher allowed students to listen to the music and gave them erasers.
 - e. Student must give the eraser to their friend, and when the music of who has the eraser, one of each group must answer the question.
 - f. The teacher gives the student a present to the winner of the group.
 - g. Ask students to submit work.
 - h. Ask students to share their work with other groups.
 - i. Students discuss together. The group with the correct answers is the winner.
 - j. Spell letters, pronounce words, and ask students to follow.
 - k.
- 3. Post Activities
 - a. The teacher will review the material and give the conclusion,
 - b. The teacher will give the motivation before dismissing the class,
 - c. The teacher greeted the students and closed the learning activity.

Population

According to Creswell (2012), the population is the group with common defining characteristics the research can identify and study (p.142). The population in this research is all of the eleventh-grade students at MTs Al-Hidaya Muara Telang in academic 2022-2023. There are 67 students divided into three classes.

Table 1. Population

No.	Class	Total Students
1	VII A	34
2	VII B	33

Sample

Arikunto (2013) defines a sample as a part of the population that will be investigated (p.174) in this research. The total sample is 33 students, which will be taken using the sampling technique with VII B as the sample for the preexperimental group.

Table 2. Sample					
No.	Class	Total Student			
1.	VII B	33			

Technique for Collecting the Data

1. Test

Brown (2002) defines a test as a simple term that can be defined as measuring a Person's ability, knowledge, and performance in a given domain (p.3). Furthermore, Kuntojojo (2009) states that a test technique is a data collection technique that provides a series of questions or tasks and other tools to the subject to the required data (p.35). The test will be given twice to the student. The test items in the pre-test are the same as those of posters because the purpose of giving them is to know there is an influence on the student's vocabulary score before and after.

a. Pre-test

In the pre-test, the researchers will ask the following question: This test will Masagus, Etc, Using Crossword Puzzle...

determine the student's vocabulary achievement before treatment.

b. The post-test

The post-test will be given after the student has been given the treatment. The researchers will use the questions already given in the pre-test. This test determines the students' vocabulary achievement after receiving the treatment.

Reliability

According to brown (2004), a reliable test is consistent and reliable. If you take the same test with the same students or match students on occasion, the tests should give a similar result (p.20). Reliability is the degree to which one can rely on the accuracy of the results of measurements, calculations, or specifications. Reliability is the degree to which one can rely on the accuracy of the result of measurements, calculations, or specifications. Reliability measures the reliability of research tools used for pre-test and post-test activities. The researchers consider the reliability coefficient using the formula from Kuder Richardson KR-21.

Instrument reliability testing using the Cronbach alpha formula. The following Cronbach Alpha Formulas:

$$r11 = \left(\frac{n}{n-1}\right) \left(1 - \frac{\Sigma \sigma_t^2}{\sigma_t^2}\right)$$

Where:

r11 = Reliability sought

n = The number of questions tested

 $\Sigma \sigma_t^2$ = The number of variants of each score

 σ_t^2 = The total variance

Source: Kuder Richardson KR-21 (P. 151)

 Table 3. The Students Score in Try Out in Class

 VII A

		VII A			
Student	Number	Х	X1	(X-	(X1-
Number	of Item	Correct		X1)	X2)
		Answer			
1	40	27	20	7	49
2	40	25	20	5	25
3	40	21	20	1	1
4	40	22	20	2	4
5	40	23	20	3	9
6	40	24	20	4	16
7	40	21	20	1	1
8	40	20	20	0	0
9	40	28	20	8	64
10	40	21	20	1	1
11	40	30	20	10	100
12	40	23	20	3	9
13	40	24	20	4	16
14	40	26	20	6	36
15	40	21	20	1	1
16	40	20	20	0	0
17	40	22	20	2	4
18	40	27	20	7	49
19	40	30	20	10	100
20	40	24	20	4	16
21	40	21	20	1	1
22	40	23	20	3	9
23	40	24	20	4	16
24	40	21	20	1	1
25	40	23	20	3	9
26	40	26	20	6	36
27	40	27	20	7	49
28	40	24	20	4	16
29	40	26	20	6	36
30	40	21	20	1	1
31	40	20	20	0	0
32	40	25	20	5	25
33	40	24	20	4	16
34	40	22	20	2	4

Table 3 shows the result of the reliability coefficient of the test is 0,845. It meant that data was valid for the experimental because it was higher than 0,70. Then, the researchers analyzed the data using a matched T-test, in analyzing the data. Use a Matched t-test to determine the significant differences between the pretest and post-test.

Technique for Analyzing the Data

In this research, the researchers calculated their answers in the pre-test and post-test and compared the result by comparing the student's average scores before and after the action was done.

Masagus, Etc, Using Crossword Puzzle...

1. Conversion of Percentage Range

Conversion of percentage range is a criterion used to know that arrange level grades the students after they had done the test. The conversion of percentage would be presented as follows:

 Table 4. Conversion of score range

Score	Grade	Level Competency
75-95	А	Excellent
70-74	В	Good
55-69	С	Fair
45-54	D	Poor
40-44	Е	Very Poor

2. Matched t-test/Paired t-test

To analyze the data, a matched ttest was used to determine the effectiveness of Using a Crossword Puzzle Game in Increasing the Seventh-Grade Students' Vocabulary Mastery At MTs Al-Hidayah of Muara Telang. The formula was:

$$T_{obt} = \begin{bmatrix} \frac{X_1 - X_1}{S_D} \end{bmatrix}$$

Where:

X1: Mean of the student's scores in the pre-test.

X2: Mean of the student's score in the post-test

SD: The denominator standard error of differences between two means.

(Hatch and Farhady, 1982; 116)

$$S_D = \frac{S_D}{\sqrt{N}}$$

Where:

SD: The denominator standard error of differences between two means

SD: Standard deviation of the set of the test score

N: Number of Items

(Hatch and Farhady, 1982:166)

Objective of the Study

Referring to the preceding background, this research was investigated to determine whether or not crossword puzzles are effective in Increasing Seventh Grade students' Vocabulary Mastery at MTs Al-Hidayah Muara Telang.

Place and Time of the Research

This research conducted for three months. It was started from planning, applying until reporting the result. The place of the study was Seventh Grade students' Vocabulary Mastery at MTs Al-Hidayah Muara Telang.

Methodology

This research was categorized as quantitative research applying preexperimental design as one group pretest- post-test. It consisted of a single class. The one-group pre-test and posttest were represented in the following diagram:

 $O_1 \rightarrow X \rightarrow O_2$

Where:

O1 : Pre-test X: Treatment O2 : Post-test (Syahri, 2017)

Discussions

Finding

The findings of the research present (1) the student's scores in the pre-test classes,(2) the student's scores in the post-test classes, and (3) the differences between pre-test and posttest classes. The test result in the experimental class was calculated using a matched t-test manual calculation. The researchers compare the students' scores in the pre-test and post-test of the experimental class. 1. The Students' Score in Pre-test Class

The students in the pre-test class were 33. The pre-test was given to determine students' vocabulary mastery ability before the researchers taught them about crossword puzzle games. The pre-test result was that the highest score was 75, got by two students, and the lowest score was 30, got by one student.

2. The students' Scores in Post-test class

The number of students who participated in the post-test class was 33. The post-test was given to determine the students' vocabulary ability after the researchers gave them treatment by using crossword puzzles. The post-test result was found that the highest score was 95 by students, and the lowest score was 60 by students.

3. The Differences between the student's scores in pre-test and post-test class

This research analyzed the data using a matched t-test, which was manually calculated. Based on the result, the average score in the pre-test and the post-test score in class. The average score in the post-test was higher than in the pre-test in class.

The average post-test score was 80,1. The Average score in the pre-test was 53,1. The highest score in the pre-test class was 75 by two students, 70 by two students, 65 by two students, 60 by eight students, and the lowest score was 30 by one student. The average score on the post-test is higher than the pre-test score in the class. The highest score in the post-test was 95 by two students, 90 by four students, 85 by twelve students, and 80 by four students, and the lowest score was 60 by one student.

The results of the matched t-test unequivocally reject the null hypothesis (H0) and accept the alternative hypothesis (Ha). The final score in the pre-test and post-test (D2) was 22250,

with a difference (D) of 890 and a standard deviation of 21499,91. The value of t-obtained was 0,001 at the significant level p<0,05, and the degree of freedom (df) = 33 (33-1), t table was 2,045. The rejection of the null hypothesis confirms that using crossword puzzles effectively increases the seventh-grade students' vocabulary mastery at MTs Al-Hidayah of Muara Telang.

Conclusions And Suggestions A. Conclusions

Based on the previous discussions, the researchers conclude the following: having implemented the treatments by using the crossword puzzle games in the pre-experimental, the researchers concluded that the crossword puzzle games were effective in increasing students' vocabulary at the seventh grade of MTs Al- Hidayah of Muara Telang. Crossword puzzle games were effective in learning and teaching because they involved students directly and made students active in learning. The students could prove it: "The result of the mean score in the pre-test of pre-experimental was 53,1, and the mean score of the students in the post-test was 80.1. After treating the students, the researchers found that the tablet is 0.001 and the alpha is 0.05: therefore. tobt $\leq \alpha$ (0.001 < 0.05).It evidenced that hypothesis (H0) was rejected, and hypothesis (Ha) was accepted.

B. Suggestions

Regarding teaching vocabulary by applying crossword puzzle games, the researchers gave some suggestions for the teachers and students as follows: 1. Suggestions for the Teachers

The teachers can apply the crossword puzzle games to English teaching, especially when teaching vocabulary. The teachers must be able to make the atmosphere of the learning process more interesting and fun so that it is not easily boring. Moreover, one of the strategies is the application of crossword puzzle games.

2. Suggestions for the Students

The students should be more active in the learning process. Having applied the crossword puzzle games, the students should learn how to write the correct vocabulary based on its pronunciation. 3. Suggestions for the Next Researchers The next researchers can make methods or strategies for upgrading students' vocabulary and use this research as an additional reference for further relevant research with different variables and conditions.

References

- Arikunto, S. (2013). *Metode Penelitian*. Rineka Cipta. (hal. 174).
- Hornby, A. S. (2003). Oxford advanced learner's dictionary (6th ed.). Oxford University Press.
- Hornby, A. S. (2008). Oxford advanced learner's dictionary (7th ed.). Oxford University Press.
- Brown, H. D. (2004). Language assessment: Principles and classroom practices. Pearson Education. (hal. 20).
- Cameron, L. (2001). *Teaching Language To Young Learners*. United Kingdom: Cambridge University Press..
- Creswell, J. W. (2012). Research design: Qualitative, quantitative, and mixed methods approaches (4th ed.). Sage Publications. (hal. 142).

- Dhand, Harry. (2008). Techniques of Teaching. New Delhi. APH Publishing Corporation
- Hatch, E., & Farhady, H. (1982). *Research design and statistics for applied linguistics*. Newbury House Publishers.
- Kuder, G. F., & Richardson, M. W. (1937). *The theory of the estimation of test reliability*. Psychometrika, 2(3), 151.
- Ihsan, R. (2019). The Implementation Of Buzz Group Technique To Improve Students' Vocabulary Mastery. Menara Ilmu, XIII(7), 84.
- Lestari, N., & Yulia, Y. (2018). The use of crossword puzzle to improve vocabulary mastery of the fifth grade students' of SDN Golo. JELLT, 2(2), 72.
- Kuntojojo. (2009). Metodologi Penelitian. Kediri.
- Lubis, I. R. (2017). Improving Students' Vocabulary Mastery By Using Fly Swatter Game In The First Grade Of Mts Persatuan Amal Bakti(PAB) 1 Helvetia. UIN Medan.
- Rivers, W. M. (1998). *Teaching foreignlanguage skills (Edisi 2)*. New York: University Press of America.
- Susanto, A. &. (2016). English Vocabulary Acquisition Through Vocabulary Learning Strategy And socio Education Factos: A Review, Applied Science And Technology.

- Susanto, A. (2017). The Teaching Of Vocabulary: A Perspective. 2(1).
- Syahri, MGS Sulaiman, R. Susanti. (2017). Metode Penelitian Pendidikan Bahasa. Roemah Sufie: Palembang.