Enhancing Ninth-Grade Students' Vocabulary Through Word Mapping Game at MTs Muhammadiyah Al-Haq Palu

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Abstract

This study aims to determine whether the Word Mapping Game is effective in increasing vocabulary mastery of the ninth-grade students at MTs Muhammadiyah Al-Haq Palu. Students of grade IX participated in this research. Two classes were identified as control and experimental classes in this quasi-experimental research design. The researcher used pretest and posttest to collect data. Then, SPSS version 24 was used to analyze the collected data. The results showed that the mean posttest score of students in the experimental class 77.08 was higher than the mean score in the control class 61.85. Furthermore, based on the results of Mann-Whitney U, the sig (2 tailed) value 0.008 was lower than 0.05. It indicated that the alternative hypothesis was accepted and the null hypothesis was rejected. Therefore, the use of Word Mapping Game can increase the vocabulary mastery of the ninth-grade students at MTs Muhammadiyah Al-Haq Palu.

Keywords: Vocabulary, Word Mapping Game, Increasing

INTRODUCTION

Vocabulary is knowledge that plays an important role in learning foreign language. Vocabulary has correlation with other basic language skills such as reading, listening, speaking, and writing. The proficiency of vocabulary will affect the students language skill. Katemba (2022) mentioned that vocabulary is the most important term to acquire in the language. A lack of vocabulary may make it difficult for us to comprehend the words that comprise sentences.Richards and Renandya (2002) state that vocabulary is a core component of language proficiency and provides much of the basic for how well learners speak, listen, read, and write. Vocabulary is an important aspect in English. Vocabulary is a collection of words that enable students to speak English more easily. More over According to Kelendonu and Katemba (2023), language learners with limited vocabulary are unable to speak, write, understand, or grasp what is said during the listening and speaking stages. It is supported by the opinion from Dakhi and Tira (2019:16) that we cannot say anything if we do not have vocabulary, because vocabulary is the basis for communication. Further, Damanik & Katemba (2021) claimed in their study that English is still viewed as a difficult subject among Indonesian students. To maximize their chances of learning new words, they must apply a range of learning approaches.

In addition, students often face great challenges in mastering vocabulary due to limited methods, media and interesting teaching materials. Ninth-grade students at MTs Muhammadiyah

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Al-Haq Palu show difficulty in acquiring and remembering English vocabulary, this problem is compounded by low motivation and the absence of innovative learning media. These challenges highlight the need for effective strategies to improve vocabulary learning and address the motivation gap in English education.

One of the fundamental components of English study is vocabulary, which is linked to the four English language abilities of speaking, listening, reading, and writing. Further, in the study of Katemba stated that English is distinguished by its vocabulary. Vocabulary is necessary for mastering the four language-learning abilities: listening, speaking, reading, and writing. Bintz (2011) state that vocabulary is the word that someone must know to communicate effectively.

One of the important aspects of English that needs to be taught and learned is vocabulary. Students need to know vocabulary because they want to learn English. The foundation of English is vocabulary. According to Lube and Nuraeni (2020) vocabulary learning is the center of language acquisition, whether it is a first, second or foreign language.

Words in English can be divided into ten categories (noun, verb, adverb, adjective, pronoun, preposition, conjunctions, interjections, articles, and numbers/numerals) based on their function in the language. Parts of speech are the names given to these divisions. The parts of speech illustrate the grammatical and semantic functions of a word in a sentence. According to Prayuda et al (2023), parts of speech show the function of a word in a sentence. Richards et al (1986) define that parts of speech are a traditional term to describe the different types of word that are used to form sentences, such as noun, pronoun, verb, adjective, adverb, preposition, conjunction, interjection, articles, and numerals. The researcher restricts the debate, focusing only on the noun and adjective, based on the topic of the study.

One effective way to increase students' interest and comprehension of the learning process is to use games to teach vocabulary especially word mapping game. According to Martinson and Chu (2008), games are effective tools for learning because they teach us how to organize, to consider alternatives, and to think flexibly. Word mapping game is a strategy for representing knowledge in a graph. Word mapping is an extremely engaging way of building up vocabulary knowledge as well as provoking students into retrieving and using what they know Harmer (2007).

The objectives of this research is to find out whether or not the use word mapping game can effectively increase the vocabulary mastery of the ninth-grade students. By achieving these objectives, this study aims to provide practical insights into innovative teaching media that make vocabulary learning more interesting and effective.

One method for graphing knowledge is word mapping. Word mapping is a strategy that helps students engage and think about a new term or concept in several ways. WMS (Word Mapping Strategy) aims to promote the students' more profound understanding of words by depicting varying relationships between and among words Fadillah et al (2022).

The word mapping strategy is possibly the most impressive way to show vocabulary since it draws students to contemplate word connections Awaluddin (2017). Meanwhile, according to Yunus et al (2017) a word mapping strategy can assist the students with finding multiple new vocabularies by building up the primary word. Word mapping also gives students various circumstances in learning English, particularly vocabulary.

Based on the explanation above, the hypotheses of this research are as follows:

1. Alternative Hyphothesis (Ha)
   Word mapping game can be effective to increase English vocabulary mastery of the ninth-grade students at MTs Muhammadiyah Al-Haq Palu.
2. Null Hyphothesis (Ho)
   Word mapping game cannot effectively to increase English vocabulary mastery of the ninth-grade students at MTs Muhammadiyah Al-Haq Palu.

METHODS

This research was conducted using a quasi-experimental research design to determine whether the Word Mapping Game is effective in increasing vocabulary mastery of the ninth-grade students at MTs Muhammadiyah Al-Haq Palu.

Research design

This research used a quasi-experimental research design. There were two groups that were divided into experimental and control groups. The researcher taught vocabulary to the experimental group using the word mapping game, while the control group used a conventional method. In this study, five meetings were conducted for each group.

The design of the research by Cohen L Manion (2007:276) as follows:

Table 1 Research Design

Class	Pretest	Treatment	Posttest
Experimental	O_1	X	O_2
Control	O_3		O_4

Where:

O_1O_3 : pretest
O_2O_4 : posttest
X : treatment

Research participants and Sampling Procedures

The population of this research was the ninth-grade students at MTs Muhammadiyah Al-Haq Palu. Three classes consisted of 16 to 21 students per class. Therefore, the total population was 55 students. The following table presented the distribution of the population.

Table 2: The Population of Grade IX Students

No.	Class	Number of Students
1	IX A	16
2	IX B	18
3	IX C	21
Total		55

The sample is a small portion of the population selected by the researcher to represent the entire population. In taking sample of this research, the researcher used cluster random sampling technique with the following steps. First, the researcher wrote the name of each class on the small

three pieces of paper and folded them. Second, the researcher put the folded paper into a glass and shook the glass until two pieces of the paper dropped out. Last, the researcher took two folded papers out with the provision that first the paper unfolded became the experimental research class and the second was the control class. Thus, in this research ninth-grade section A was the experimental group and ninth-grade section B was the control group.

Data Collection

Data were analyzed using descriptive and inferential statistics. Descriptive statistics were used to summarize the means and standard deviation of the pre-test and post-test scores for vocabulary mastery. Inferential statistics, specifically Mann-Whitney U t-tests, were used to asses whether there was a statistically significant difference between the pre-test and post-test scores. There was a statistically significant difference between the pre-test and post-test scores in each group. A Mann-Whitney U t-test was used to compare the post-test results between the experimental and control groups to determine the effectiveness of reciprocal teaching.

Scoring Rubric

Description	Score
Incorrect answer	0
Correct answer	1
Total	1

$$Score = \frac{Obtained\ score}{Maximum\ score} \times 100$$

Interventions:
The intervention in this research is the Word Mapping Game in teaching vocabulary.
1. The experimental group will receive vocabulary lesson using the Word Mapping Game, in which students are given keywords that help them record their ideas on the board.
2. The control group will learn vocabulary without the help of word mapping game but rather with conventional methods.

RESULTS, FINDINGS, DISCUSSION

The researcher administered pretest in the experimental class and control class. After administering the treatments, the researcher gave posttest to the students to know the students' vocabulary knowledge after getting the treatments. The results of pretest and posttest are displayed in the table 4.

Table3: Pretest and Posttest Results Experimental Class
Descriptive Statistics

	N	Minimum	Maximum	Mean
Pretest of Experimental Class	16	20	80	51.67
Posttest of Experimental Class	16	47	97	77.08
Valid N (listwise)	16			

Based on 3. the total number of students in experimental class was 16. The mean score of pretest in experimental class was 51.67. The pretest has a maximum score of 80 and

a minimum score of 20. On the other hand, in the posttest the mean score was 77.08 which indicated that there was a significant improvement in students' knowledge about English vocabulary mastery. The highest score achieved is 97 and the lowest score is 47. The table shows that the mean score increases from 51.67 to 77.08, indicating that the score has already surpassed the schools required passing score.

A pretest and posttest were also given the ninth-grade section B as control class. The students in this class were not treatment by the researcher. The researcher only taught them using conventional method or the same way their English teacher taught them. The results of are presented in the following table:

Table 4: Pretest and Posttest Results Control Class
Descriptive Statistics

	N	Minimum	Maximum	Mean
Pre-Test of Experimental class	18	37	77	56.11
Posttest of Experimental class	18	47	87	61.85
Valid N (listwise)	18			

Based on table 4 the total number of students in control class was 18. The mean score of pretest in control class was 56.11. The pretest has a maximum score of 77 and a minimum score of 37. Meanwhile, in the posttest the mean score was 61.85 which indicated that there was a significant improvement in students' knowledge about English vocabulary mastery. The highest score achieved was 87 and the lowest score was 47. The table shows that the mean score was slightly improved from 56.11 to 61.85.

Table 5 Tests of Normality Using Shapiro-Wilk

Class	Kolmogorov-Smirnov^2			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
Pretest of Experimental Class	.152	16	.200*	.960	16	.664
Posttest of Experimental Class	.193	16	.115	.897	16	.073
Pretest of Control Class	.118	18	.200*	.919	18	.123
Posttest of Control Class	.290	18	.000	.886	18	.033

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Based on table 5 shows that the significance value (Sig.) Shapiro-Wilk of experimental class > 0.05, the data was normally distributed. Then, in the control class the significance value (sig) for the pretest was 0.123, the data was normally distributed. The significance value (sig) for the posttest control was 0.033, and since

the significance value (sig) was 0.033 < 0.05, the data was not normally distributed. Based on the Shapiro-Wilk test results above it can be determined that the research data were normally distributed, except for the posttest control results.

Table 6 Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Result	Based on Mean	5.789	1	32	.022
	Based on Median	3.913	1	32	.057
	Based on Median and with adjusted df	3.913	1	29.537	.057
	Based on trimmed mean	5.502	1	32	.025

The homogeneity of variance test was used to assess whether or not the posttest results for the experimental and control groups were homogeneous. If the p-value is more than 0.05, the data is homogeneous. Based on the analysis of the results on the table6, the probability value (Sig.) was found to be 0.022. It showed that p-value (sig) was smaller than 0.05. Thus, it can be concluded that the two variables are not homogeneous.

Table 7:Mann-Whitney U Test
Test Statistics

No	Class	Asymp. Sig. (2-tailed)
1	Pre-Test and Post-Test of Experimental and Control Class	0.008

Based on table 7, the result on the data analysis above showed that the Asymp. Sig (2 tailed) value was 0.008. It can be seen that the value of sig (2-tailed) was less than 0.05. It indicated that there was a significant difference between the result of the tests in the experimental and control classes. Therefore, the Ha (alternative hypothesis) was accepted while the Ho (null hypothesis) was rejected. In other words, there is a significant in increasing the vocabulary mastery taught using word mapping game of ninth-grade students at MTs Muhammadiyah Al-Haq Palu.

DISCUSSION

Based on the result of test and data analysis above, the researcher found that the result of pretest mean score was lower than the result of posttest mean score. Before the researcher applied a word mapping game to the students, the researcher tested the class during the teaching and learning process to know the ability of the students' vocabulary. In the first meeting, the researcher gave the students a pretest before the treatment. The total number of item tests was 30 words include multiple choices 20 number, matching tests 5 number and fill in the blank 5 number. There is a difference in the mean score between the experimental class and the control class. The mean pretest score in the experimental class was 51.67 and the mean pretest score in the control class was 56.11.

After doing a pretest, the researcher moved to the next step which is the treatment. The researcher did the treatment in the second to sixth meetings. The first treatment the researcher explained about sangkuriang as the topic. In the first treatment, the researcher found that the students had problems in memorizing English words which leads to a lack of vocabulary. They

had difficulty in mentioning and understanding the meaning of words. Consequently, the students find it difficult to understand the teacher explanation. Then, the researcher explained to the students in the experimental class about word mapping game and how the students' ideas could be sequenced in a piece of writing. Moreover, for the control class, the researcher did not teach the students by using word mapping game, but the researcher using conventional method. The reason because the researcher wanted to compare the experimental class and the control class which applied conventional learning media. According to Anjar and Muhammad (2024) there are two ways that can be used to overcome these problems, namely through interactive activities such as word games (scrabble, word mapping, crossword puzzles) and dialogs, students' vocabulary understanding is significantly improved. Word games help students connect the meaning of words with picture or images, while dialog provides a more concrete context for understanding vocabulary. Concept maps also proved effective in helping students organize and connect new vocabulary with concepts they already know. Therefore, the researcher used a word mapping game to overcome the problems.

In this case, the word mapping game can attract students' interest in learning vocabulary, because the keywords given to the students are very useful for them in mentioning and understanding the meaning of words. The first treatment, the researcher gave the keyword "sangkuriang". Then, the researcher recorded the important words and ideas from the students on the board and give guiding questions if the students did not understand the ideas. Next, the researcher explained how the ideas were sequenced in a piece of writing and instructed the students to look at the board for one minute and clean the board. The students then come up one by one to remember what was on the board. Lastly, the researcher explained the meaning of each word on the board. While in the control class, the researcher did not use word mapping game in the classroom.

Then, the last step is to give a posttest for both classes, namely the experimental class and the control class. The posttest was given to assess and measure whether the experimental group ability increased, decreased, or remained the same after the treatment. The posttest also compares the vocabulary skills of students from both groups whether there is a difference or not.

The posttest results showed that the mean score in the experimental class and control class had increased. The mean posttest score in the experimental class was 77.08 and the mean posttest score in the control class was 61.85. Thus, the use of word mapping game was effective in increasing the vocabulary mastery of the ninth-grade students at MTs Muhammadiyah Al-Haq Palu because there was a significant difference between the experimental class that used the treatment and the control class that did not use the treatment. In addition, the mean score of the experimental class in the posttest was higher than the mean score of the control class in the posttest.

The researcher analyzed the data using SPSS version 24 with the Mann-Whitney U test. The use of Mann-Whitney U is to determine whether there is difference in students learning outcomes after learning the material, before and after receiving treatment by using word mapping game in learning activities. The researcher did the treatment in the second to sixth meetings. it was found that the Asymp. Sig (2 tailed) value was 0.008. It can be seen that the value of sig (2-tailed) was less than 0.05. It indicated that there was a significant difference between the result of the tests in the experimental and control classes. Therefore, the Ha (alternative hypothesis) was accepted while the Ho (null hypothesis) was rejected. In other words, there is a significant in increasing the vocabulary taught using word mapping game of ninth-grade students at MTs Muhammadiyah Al-Haq Palu.

This result is also supported by three previous studies. According to Dwi (2017), word mapping is very useful for clarifying conceptual categories and developing sorting skills. By using the word mapping strategy students can see and understand the relationship between words. Widyawati (2016), stated that word mapping can help students in recognizing new

words. Seeing the benefits of word mapping, students assume that this technique is very useful for them so that students' perceptions become positive. According to Hediza (2016), the word mapping technique encourages students deeper understanding of new words, engages them in thinking about word relationships, and allows students to actively participate in the learning process and they are required to be more creative in illustrating the relationship between the words which can be directly observed from the treatment results, that students can obtain significantly higher scores on the test after this technique applied. It can be concluded that using word mapping game was effective in students' vocabulary mastery especially of the ninth-grade students at MTs Muhammadiyah Al-Haq Palu. Also made the students more enthusiastic in the teaching and learning process and the atmosphere of the class becomes very fun.

There are differences and similarities between those supported by three previous studies in chapter II and the research that the researcher has conducted. The difference lies in the method. The first study and the second study used experimental design, while the third study used pre-experimental research design. Then, the researcher used a quasi-experimental research design. The similarity of the two studies is that both studies conducted research on grade VII students. While the third study conducted research on grade VIII students. In this study, the researcher conducted research on grade IX students. The main similarity of these four studies is focus on the use of word mapping to improve students' vocabulary.

CONCLUSION

The research was conducted at MTs Muhammadiyah Al-Haq Palu. The researcher concluded that the use of Word Mapping Game can increase English vocabulary mastery of the ninth-grade students at MTs Muhammadiyah Al-Haq Palu. This research aimed to analyze the significant effect of using Word Mapping Game on students' vocabulary mastery. The data was obtained by comparing the pretest and posttest scores, which were calculated using SPSS version 24. There is a significant difference in the mean score of pretest and posttest in experimental class. The mean score of the pretest was 51.67 and the posttest was 77.08. It is also supported by the Mann-Whitney U test to test the hypotheses, the value of significance was 0.008 which is lower than the standard significance 0.05. Concluding that the application of Word Mapping Game can increase English vocabulary mastery of the ninth-grade students at MTs Muhammadiyah Al-Haq Palu. The study also suggested that teachers should implement or create a more engaging and interactive learning experiences in the classroom. Word mapping game can be engaging lesson staters, helping students activate prior knowledge and build connections between concepts. In addition, teachers can utilize them to reinforce key vocabulary, encourage collaborative discussions, and adjust the level of difficulty according to students' individual needs. Furthermore, with word mapping game students can come up with creative ideas, improve writing skills and collaborative with peers. By utilizing word mapping game students can have an easier time understanding the relationships between concepts and develop critical thinking skills. Finally, this research is expected to be an additional reference for other researchers with similar problems to conduct research on Word Mapping Game to increase English vocabulary mastery.

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