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## The Effectiveness of Using Riddle Game on Vocabulary Mastery of The Ninth Graders at MTs Ma'arif NU 1 Ajibarang Banyumas

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**Abstract:** Vocabulary mastery is a crucial aspect for enhancing skills in listening, speaking, reading, and writing. Effective learning techniques play a vital role in helping students achieve their learning goals. One such technique, the riddle game, is used to examine its impact on students' vocabulary mastery and their learning outcomes. This study investigates the effectiveness of using riddle games on vocabulary mastery among Grade IX students at MTs Ma'arif NU 1 Ajibarang Banyumas. The total population consisted of 68 students from three classes. Using simple random sampling, 25 students from class IX-A and 24 students from class IX-B were selected. A quantitative approach was applied, with data collected through pre-tests and post-tests in multiple-choice format. A t-test was conducted to assess potential differences in average scores between the experimental and control groups. Initially, both groups had low pre-test scores, with mean scores of 69.9 (experimental) and 63.4 (control). After the intervention, the experimental group achieved a higher post-test mean score of 83.4, compared to 71.1 in the control group. The research also showed a Sig. 2-tailed (p) value of 0.004, less than the alpha ( $\alpha$ ) of 0.05, leading to the rejection of H0 and acceptance of H1. The findings highlighted the potential of riddle games to improve vocabulary mastery in an enjoyable and effective way. Students in the experimental group showed improved ability to understand and apply vocabulary in context. This underscores the value of creative techniques to support language learning.

**Keywords:** *teaching technique; vocabulary mastery; riddle game*

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## Introduction

English Language Teaching (ELT) is essential in preparing students with the communication skills necessary to succeed in a globalized world, where English functions as a primary medium for international communication and knowledge sharing. In teaching and learning English, there are four skills, such as listening, speaking, reading and writing. Additionally, language components such as vocabulary mastery also becomes the main goal in learning a language, because in order to develop students' English competence, teachers must concentrate on assisting students in increasing their vocabulary knowledge (Sudarman et al., 2022).

Preliminary research at MTs Ma'arif NU 1 Ajibarang revealed that students faced challenges in learning English, primarily due to limited vocabulary. This situation significantly hindered their overall ability to comprehend spoken or written language, construct meaningful sentences in writing, and

actively participate in engaging conversations with others. Based on observations shared by the teacher working in this school, it was noted that students frequently encountered difficulties in grasping the meanings of words, accurately spelling them, and confidently contributing to verbal interactions.

The challenges found often resulted in students experiencing feelings of boredom during lessons and a noticeable decline in their motivation to learn. Considering the vital role that vocabulary plays as a fundamental component of language learning and communication, it becomes essential to develop a well-structured and effective technique aimed at simplifying the process of vocabulary acquisition, making it more accessible and enjoyable for students. One of a technique that can be implemented is riddle game activities.

Thus, the aim of the study is to find out whether or not there is an effect of riddle game as a teaching technique on student's vocabulary mastery at ninth grade of MTs Ma'arif NU 1 Ajibarang Banyumas. The findings from the study can be helpful in providing information about applying riddle game as a technique to help students mastering vocabulary.

Vocabulary is a crucial part of language that maintain all of the knowledge/information about the meanings and usage of words (Octaviarnis, 2020). Before students understand a language, they have to know vocabulary first. As a result, they will be able to listen, speak, read and write well. Understanding vocabulary involves knowing the construction of words (Megi et al., 2023). This concept explained that to use words in communication, it is essential to have a comprehension of their structure and meaning.

Vocabulary encompasses the comprehension of words and their meanings, playing a pivotal role in communication and expression (Sinaga et al., 2022). Vocabulary not only facilitates effective communication but also enhances someone's ability to express ideas and concepts with precision and clarity. The acquisition of vocabulary is a continuous process that involves exposure to new words, their meanings, and usage in various contexts. Consequently, the mastering of vocabulary is crucial component in language learning to foster linguistic competence and proficiency.

Vocabulary mastery is essential for understanding and utilizing one's own collection of words to communicate ideas and feelings in a variety of situations, including language-related tasks. In the Merdeka Curriculum Phase D students are required to demonstrate proficiency in using English for oral communication in both formal and informal settings (Kemdikbud, 2022). They are also required to express themselves in writing through clear and structured paragraphs. These skills rely heavily on vocabulary mastery, highlighting its importance. A strong vocabulary foundation equips students to meet the curriculum's requirements (Nurafni & Suriaman, 2020).

Learning vocabulary has been implemented in Indonesian schools. They are taught to students in a way that is integrated (Cahyono et al., 2024). Despite the advancements in educational methods and the introduction of modern teaching technologies, some teachers in Indonesia still use traditional teaching strategies. However, others have adopted more effective methods for teaching vocabulary, such as translation, dictionaries, stories, and games (Gultom et al., 2022). Despite these efforts, students often struggle with vocabulary, facing challenges in memorization, grammar application, pronunciation, and motivation in the school (Purnomo et al., 2013).

Implementing the technique of incorporating game activities into the learning process offers many advantages to students in the learning process. One significant benefit is that it aligns with students' natural inclination and enthusiasm for playing game. Games provide a familiar mode of communication among players and it can motivate them to study foreign languages (Ningrum et al., 2019). In learning,

motivation is important for students. Motivation is one of the factors that influence students to master English (Dwinalida & Setiaji, 2022).

One of the games that can be implemented and motivated students in the classroom is riddle game. Riddle is an effective teaching technique as they engage students in using various language skills to find solutions (Nachtigal, 2005). A riddle is typically a statement, question, or phrase with a hidden or implied meaning, presented as a challenge to solve (Brassel, 2008). This activity enhances critical thinking, as it involves guessing and answering. Riddle games positively impact students' vocabulary mastery, aiding in memorization (Octaviarnis, 2020).

The previous studies focused on using riddle games to introduce nouns, in contrast, this research shifts the focus toward vocabulary that is particularly essential for enhancing writing skills, with a strong emphasis on verbs and adjectives. Verbs give the action or state, while adjectives give detail and nuance to the description. These parts of speech play a crucial role in constructing meaningful and descriptive sentences, allowing students to express their ideas more clearly and effectively. This approach helps students better understand and retain the vocabulary taught by their teacher.

## Research Method

This research took place on September 14, 2024 to October 7, 2024 with adjustments to the applicable lesson schedule at the school. The location of this research is MTs Ma'arif NU 1 Ajibarang Banyumas. The location was chosen for this study because preliminary research indicated that the students had a limited vocabulary, making it challenging for them to comprehend English. This was known from the students' scores during the test, some of which still did not reach the criteria explained by the teacher through interviews. They also tended to be bored and unmotivated to learn English. Furthermore, the school was also chosen because the teacher expressed willingness to give the researchers time and space to try out innovative teaching techniques, making it an ideal place to explore teaching students' vocabulary mastery and student engagement.

In this study, the research's population involved 68 ninth grade students, and it was divided into 3 class, IX A to IX C, at MTs Ma'arif NU 1 Ajibarang Banyumas during the academic year 2024/2025. However, this involved a number of samples in the form of 25 students from class IX A (experimental class), and 24 students from class IX B (control class) after going through simple random sampling in the form of lottery. These participants were chosen after undergoing a process of simple random sampling, which was conducted using a lottery system to ensure fairness and eliminate potential biases. The detailed information about population is shown on the table below:

Table 1. The Number of the Students

| Class          | Number of students |
|----------------|--------------------|
| IX A           | 25                 |
| IX B           | 24                 |
| IX C           | 19                 |
| Total students | 68                 |

Based on the table above, the total population is 68 from 3 classes, including classes A, B, C. This study decided on 2 classes as samples to be used as experimental class and control class.

This research employed a quantitative method with a quasi-experimental design as the primary approach. More specifically, the study was structured to investigate the effectiveness of using riddle

games in students' vocabulary mastery. By adjusting for any variables that might affect the outcome, an experimental design is used to test the effect of the treatment on the outcome. Researchers can determine whether the treatment is the only factor affecting the outcome when one group receives the treatment and the other group does not (Creswell, 2019).

The data collection used pre-test and post-test in the form of multiple choice totaling 40. Before that, the researchers conducted pilot test with the total 60 questions in IX-C. The material used for assessment during both the pre-test and post-test sessions focused primarily on vocabulary, with a particular emphasis on adjectives within the context of the present continuous tense. In addition to this core component, the tests also included other important aspects of vocabulary, such as conjunctions, which help in connecting ideas; determiners, which clarify the meaning of nouns; pronouns, which substitute for nouns; auxiliary verbs, and etc. This was done in 40 minutes for the rules. The validity of the instrument was only assessed by experts. The test was assessed by 2 experts namely an English lecturer of UIN Prof. K.H. Saifuddin Zuhri Purwokerto and 1 teacher of MTs Ma'arif NU 1 Ajibarang Banyumas, whose practical experience in teaching junior high school students.

This research used normality test. Normality test is one of the important statistical tests carried out in quantitative research. Normality tests are tried to test whether the data being tested has a normal distribution or not (Sugiono, 2017). Then, it also through homogeneity test. Homogeneity test is usually done before performing statistical analysis. This test is to ascertain the similarity of the population. The Levene test is one method that is frequently used to check homogeneity. The homogeneity test in this study was carried out at a significance level of  $\alpha = 0.05$ . When the significance value is more than 0.05, it can be said that the data are homogenous. Furthermore, this research used Hypothesis test. It is one of the important data analysis techniques in quantitative research to test the validity of assumptions or theories proposed based on the empirical data obtained. In this case, the t-test formula was used.

## **Results & Discussion**

Vocabulary mastery is essential for learning any foreign language. Vocabulary encompasses the knowledge of words and their meanings (Kamil, M. L., & Hiebert, 2005). Mastering vocabulary is highly beneficial for students' English language learning, as it provides a strong foundation for their overall communication skills. However, one of the problems that students encounter when learning English, as observed prior to the study was their unfamiliarity with a range of essential vocabulary. This limited vocabulary not only hinders their comprehension of spoken and written material but also created a barrier that made it challenging for them to actively engage in classroom discussions or participate in learning activities. Consequently, they often struggle to express their ideas, respond to questions, or contribute to group conversations.

In this study, researchers conducted a normality test as a data analysis process. The normality test assesses whether the data follows a normal distribution. Data is considered normally distributed if the significance value exceeds 0.05.

The normality test in this research was carried out using the IBM SPSS, specifically version 25. The results of the analysis were displayed in the Kolmogorov-Smirnov significance column, which provided the necessary data to determine the distribution of the datasets. The experimental class had a significance value of  $0.101 > 0.05$ , and the control class had a significance value of  $0.065 > 0.05$ . These values indicate that both datasets are normally distributed, as each significance value exceeds 0.05

In addition, this data analysis process was also through a homogeneity test. A homogeneity test assesses whether data is homogeneous or heterogeneous. The Levene test was used to evaluate homogeneity. The significance value between the experimental and control groups for the pretest is 0.149, which was more than 0.05, indicating homogeneity of the pretest data. For the posttest, the significance value was  $0.841 > 0.05$ , confirming that the posttest scores of both the experimental and control groups were also homogeneous.

Once the data was confirmed to be normal and homogeneous, a t-test was conducted to identify if there was a significant difference between the experimental class, which used the riddle game, and the control class. The results of the initial test showed that neither the experimental group nor the control group achieved high scores. Specifically, the experimental group had an average score of 69.9, while the control group had an average of 63.41. This result indicated that they were still limited in their vocabulary mastery.

The depiction for the last result on post-test both classes, experimental class and control class that through independent sample T-test, as explained as follows:

The results of the independent sample t-test using SPSS version 25, under the assumption of equal variances, show a significance (2-tailed) value of 0.004, which is less than 0.05. This indicates that  $H_0$  should be rejected when the sig (2-tailed) value (p) is less than 0.05, as seen in the table. Therefore,  $H_0$  is rejected, and  $H_1$  is accepted, leading to the conclusion that  $H_1$  demonstrates the effectiveness of the riddle game on students' vocabulary mastery.

This research was done by riddle technique treatment. Students in IX-A as experimental class were introduced to how the riddle was implemented. The rules of the game were explained so that students could follow the game properly. First, students were given an example of a riddle and its answer, after which the game began. They received 10 riddles in 1 day that contained the answers to the vocabulary they learned that day. On the first and second day, these riddles were related to verbs, then on the third and fourth day, the riddles were related to adjectives. This vocabulary was based on the material book, namely SIMAK textbook. These vocabularies were related to daily activities both at school and outside activities that are familiar to students.

As a more detailed explanation of the treatment, the initial session occurred on Wednesday, September 11, 2024. During this meeting, students were introduced to the concept of a riddle game and were provided with examples of riddles and their answers. The teacher also introduced 10 new verb-related vocabulary words. The riddle game began with students being divided into groups. The teacher then dictated a series of riddles for students to solve on paper. If students faced challenges, they were allowed to ask the teacher for a single hint during this session.

The second session took place on Monday, September 16, 2024. In this meeting, students, working in their groups, learned 10 additional verbs. They played another round of the riddle game using the newly introduced vocabulary. However, unlike the first meeting, no hints were provided during this session. After completing the riddles, students were tasked with creating one present continuous sentence using the given vocabulary as an additional activity.

The third session was held on Wednesday, September 18, 2024. The activities same as the previous meetings, focusing on a riddle game with a new set of 10 adjectives as the vocabulary for the day. Students worked in groups to solve the riddles on paper. Following this, the answers were reviewed and discussed together with the teacher.

The final session also occurred on Wednesday, September 18, 2024. In this session, students engaged in another round of the riddle game, learning 10 additional adjectives distinct from those introduced earlier. After discussing the riddles in groups, they finalized their answers. To conclude, students were required to construct a present continuous sentence incorporating the new adjectives.

That was the series of treatments that had been carried out in the form of applying the riddle game as a teaching strategy in Class XI-A. The implementation was conducted by the researchers with planning and attention to detail to ensure that the activity effectively engaged the students and supported their learning process throughout the study.

The other group served as the control class, specifically class XI-B, which did not receive any treatment involving riddle games. Instead, students in this class learned using traditional methods, relying solely on the textbook and teacher-centered instruction. The teacher introduced vocabulary through the textbook, which the students were required to read. The vocabulary taught in this class mirrored that of the experimental group, focusing on adjectives and verbs. Under the teacher's guidance, students read the vocabulary provided and then wrote it down as part of their learning process.

Both the treatment and control classes participated in a series of assessments through pre-test and post-test evaluations to measure their progress. According to the findings of the research, students in the treatment class, who received instruction using the riddle game technique, achieved an average pre-test score of 69.9. After the implementation of this engaging and interactive game technique, their average score significantly increased to 83.4 in the post-test. Additionally, the highest score in this class improved markedly, rising from 80 in the pre-test to an impressive 95 in the post-test.

In contrast, the control class, which followed without the riddle game intervention, exhibited a more modest improvement. The average score for this group rose from 63.4 in the pre-test to 71.1 in the post-test. While the minimum score in the control class improved slightly, increasing from 50 in the pre-test to 60 in the post-test, the maximum score experienced only a small gain, increasing from 80 to 85.

The results of this study highlighted the greater effectiveness of the riddle game technique in enhancing students' vocabulary mastery compared to class without riddle game treatment. It was supported not only by the pre-test and post-test results but also by an independent test between the two groups. The findings from the research demonstrated that students who were taught vocabulary using riddle game technique exhibited a significantly greater improvement in their vocabulary mastery compared to their counterparts in the control group, who did not receive the riddle game intervention.

The independent sample t-test confirmed this, with H1 being accepted and H0 rejected. The post-test results revealed a significant value (2-tailed) of  $0.004 < 0.05$ , indicating that the riddle game positively impacted students' vocabulary mastery. In summary, the riddle game proved to be an engaging and effective technique for affecting students' vocabulary mastery.

Those statistical result demonstrated that riddle games significantly influenced students' vocabulary mastery. In particular, the use of riddles positively enhanced students' vocabulary skills by creating a dynamic and enjoyable learning experience. This result highlights the value of incorporating creative and playful elements into vocabulary learning, as it supports students in acquiring language skills in a way that is both effective and enjoyable. The positive impact of the riddle game suggests that such technique can enhance students' vocabulary knowledge by making learning more appealing and accessible. This technique not only introduced students to new vocabulary but also engaged them in an interactive activity that promoted active involvement and better retention of newly learned words.

## Conclusion

Effective learning techniques play a vital role in helping students achieve their goals. Vocabulary is essential in mastering English skills. One such technique, the riddle game, is used to see the effect of students' vocabulary mastery and help them achieve their learning goals. The research showed a Sig. 2-tailed (p) value of 0.004, less than the alpha ( $\alpha$ ) of 0.05, leading to the rejection of H0 and acceptance of H1.

The results highlighted the potential of this innovative teaching technique to enhance learning outcomes by making vocabulary acquisition more enjoyable and effective. This was particularly evident in the experimental class at MTs Ma'arif NU 1 Ajibarang Banyumas, where students displayed an improved ability to understand and apply new vocabulary in context. These findings underscore the value of incorporating creative technique, such as riddle games, into the classroom to support learning. However, the paired t-test showed no significant difference.

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