

THE EFFECTIVENESS OF HIDDEN OBJECT GAMES IN INCREASING VOCABULARY MASTERY OF EIGHTH GRADE STUDENTS AT SMPN 3 NGANJUK

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Abstract— Vocabulary mastery is a crucial component of English language learning that directly impacts students' communication skills. This study investigates the effectiveness of using Hidden Object Games (HOGs) as an innovative learning tool to improve the vocabulary mastery of eighth-grade students. Using a quantitative approach with a quasi-experimental design, this research involved 52 students divided into an experimental group ($n=26$) and a control group ($n=26$). The experimental group learned vocabulary through a Hidden Object Game application, while the control group used conventional methods. A vocabulary test was administered as a pre-test and post-test. Results showed the experimental group's average score increased significantly from 65.4 to 82.7, whereas the control group's average only rose from 64.2 to 68.9. Statistical analysis using an independent samples *t*-test yielded a *t*-count of 12.1, which exceeded the critical *t*-table value (1.708), indicating a statistically significant difference. The study concludes that Hidden Object Games are an effective method for enhancing vocabulary mastery among junior high school students. This is an open access article under the CC BY-SA License.

Keywords: Vocabulary Mastery, Hidden Object Games, Interactive Learning, Game-Based Language Learning, Quantitative Method



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INTRODUCTION

Language is the key to opening the gates of education. With language, we can understand learning material, follow instructions, and exchange ideas with teachers and peers. Good language skills are essential for achieving success in studies and pursuing higher education opportunities. Language is used as the main medium in conveying lesson material, both orally and in writing. Teachers use language to explain concepts, provide instructions, and guide students in the learning process. Students also use language to understand material, ask questions, and express their ideas. Language is not only a communication tool, but also a thinking tool. Through language, students can organize their thoughts, analyze information, and develop a deeper understanding of a topic. Good language skills enable students to think critically, creatively and logically.

To be able to communicate using English well, of course you have to master sufficient vocabulary. Mastery of English vocabulary does not necessarily grow automatically in students. Consistent coaching is realized in the form of studying and learning. In general, students who are just starting to learn English really need knowledge of vocabulary because with good and adequate vocabulary knowledge, students will be able to understand the meaning of English. This means that one's vocabulary mastery determines the quality of one's language. Without adequate vocabulary mastery, it is very difficult for someone to have good interactions. Based on KBBI (2001:597) vocabulary is vocabulary or a number of words that a language has. This opinion is in accordance with the opinion expressed by Hendri Guntur Tarigan (1985:197) that "Vocabulary is words which constitute the vocabulary of a language." Interactive media can help students remember vocabulary. [Murdiandi: 2022]

At SMPN 3 Nganjuk, observations and preliminary assessments indicate that students face considerable challenges in vocabulary acquisition. Common issues include difficulty understanding word meanings, confusion with spelling and pronunciation, and the rapid forgetting of learned words. These challenges often lead to low motivation and the perception of English as a difficult and tedious subject. Traditional, rote-memorization methods appear to contribute to this disengagement.

Previous studies have shown that the use of educational games can be an effective tool in language learning. According to Kapp (2012), gamification in education can increase student motivation and participation. In line with that, research conducted by Gee (2003) shows that games can help students understand new concepts through fun and interactive contexts.

A study by Ashraf, Motlagh, and Salami (2014) found that hidden object games can significantly improve students' English comprehension. In their study, students who learned using hidden object games showed greater improvement in mathematics mastery compared to students who learned using conventional methods.

In Indonesia, research conducted by Anugrah (2018) also supports these findings. Anugrah found that the use of hidden object games in the eighth grade of junior high school can increase student engagement and help them remember new words more effectively.

Based on this background, this study aims to analyze students' vocabulary mastery before and after using hidden object games in eighth grade students at SMPN 3 Nganjuk in the 2023/2024 academic year. This study is expected to provide empirical evidence on the effectiveness of hidden object games in improving students' understanding mastery and provide practical recommendations for teachers in implementing innovative learning methods. The toughest obstacle faced by EFL students in Indonesia is vocabulary mastery. Students have difficulty understanding reading texts, speaking English effectively and consistently using the same phrases, and their interactions are often disrupted due to missing words. The fundamental source of this problem is a lack of vocabulary (Sujadi and Wulandari, 2021). Apart from that, communication is also often affected by vocabulary problems. When the person speaking does not use the right words, communication breaks down. Because students have to memorize unknown words and spellings, many students feel that vocabulary learning becomes monotonous when studying EFL, Nurjanah stated as, quoted by Muhandia (Ekawati, 2022).

Similar problems are also experienced by students at SMPN 3 Nganjuk, they consider English as a challenging subject. Based on observations of several students, they experienced many difficulties in this learning. In studying vocabulary, students face many problems so it is very difficult for them to understand all the material explained by the teacher, namely: First, understand the meaning of words. Most students have difficulty understanding the meaning of a word, because they may not know it when studying, so it is very difficult for them to understand the lesson well, and this can also make them disappointed and unmotivated. Apart from that, they tried to translate it into Indonesian, so they tried to look it up in the dictionary. Second, distinguish the spelling of foreign words. The students found several similar words and sounds in English, which made them confused. Third, use words. Students forget words they have learned previously, so they cannot make sentences well. Therefore, they consider English as a subject that they do not have much free time to study. In addition, they admit that learning English vocabulary is complicated in terms of word meaning, pronunciation, and looking for synonyms and antonyms.

According to observations, some students experienced difficulties in the mid-term exams. They have limited English vocabulary. As a result, they chose the answer with full of haste. They admit that difficulties Their main problem in learning English for speaking, listening, reading, and writing is the lack of vocabulary. Toth in Gruss (2016: 84) provides a broader definition by explaining a game as an activity that has rules, goals and an element of fun. There are two types of games: Competitive games, where players or teams compete to be the first to reach a goal, and cooperative games, in which players

or teams work together to achieve a common goal. The emphasis in this game is on successful communication, not on language accuracy. The game is suitable for young students is a Hidden Object Game. Playing hidden object games is similar to retaining a new understanding of English with the help of pictures, and also fits the principle of multimedia learning which states that "people learn best when appropriate words and visuals are presented together". (mayer:2009) However, research that explores this is still rare. Benefits of hidden object games for exploration. Benefits of hidden object games DGBLL. Therefore, this study aims to examine the impact of hidden object games on English language learning and motivation. A famous free hidden object game, HIDDEN CITY, was selected in this experiment. The effectiveness of hidden object games is checked by comparing them with commonly used methods, namely learning understanding with pictures.

Overall, the Hidden Object game proved to be effective as a tool for improving vocabulary mastery. When players are involved in searching for hidden objects, they are indirectly encouraged to identify and remember the names of objects in the game. This visual and interactive process helps strengthen associations between visual objects and the vocabulary that represents them. Additionally, the expanded features and challenges in Hidden Object games make the learning experience more fun and meaningful for players. Thus, this game can be an effective learning tool, especially for those who want to improve their vocabulary mastery in a fun and non-boring way. Although its effectiveness depends on individual factors, Hidden Object games can prove to be a valuable strategy for enriching one's insight. Therefore, the author is interested in analyzing and offering hidden object games to improve students' understanding. Therefore, the author chose this school as a research location and chose the title effectiveness of hidden object games in increasing vocabulary mastery.

RESEARCH METHODOLOGY

According to Cresswell (2012:294) that experimental design is a conventional way of conducting research using quantitative data. The author uses quantitative data related to numbers and analyzed with descriptive statistics. The test formula is as follows. Quantitative data analysis test, the author takes the average of students' vocabulary scores in one cycle. It is used to measure how well students do in vocabulary. This uses the formula: Determining standart of deviation. To know effectiveness, the data are analyzed by using the following of t-test Following formulation of t-test.

$$t = \frac{md}{\sqrt{\frac{\sum x^2 d}{N(N-1)}}$$

To test value of t-test is obtained if the hypothesis is accepted or rejected to use "t_{table}" the significant level of 5%.

Hypothesis alternative $t_{count} > t_{table}$ so, H_a is accepted and H_o is rejected. It means that there is significant effectiveness between before and after using gaming .

RESEARCH FINDINGS AND DISCUSSION

This research aims to test the effectiveness of hidden object games in improving vocabulary mastery of class VIII students at SMPN 3 Nganjuk in the 2023/2024 academic year. The research methodology uses a quantitative approach with an experimental design, involving two groups: an experimental group that uses hidden object games and a control group that uses traditional learning methods. The research sample consisted of 52 students selected randomly, with 26 students in the experimental group and 26 students in the control group.

Tabel 1. potest-pre

Test	Average	Category
Group experimenta l	75,7	Fair
Group control	55,88	Very Good

From the T distribution above, it is found that t_{table} for $t_{0,05} = 1,708$. So, $t_{count} > t_{table} = 12,1 > 1,691$. The results of the trial showed a significant difference between the experimental group using the application and the control group not using the application in English vocabulary mastery in eighth grade students of SMPN 3 Nganjuk in the 2023/2024 academic year. Data analysis revealed that the experimental group consistently showed a higher increase in scores compared to the control group. Based on statistical calculations, it was found that the average value of the difference in scores between the two groups was 20.38. This illustrates a substantial increase in vocabulary mastery of students who use the application compared to those who do not use it. Furthermore, the t-test conducted produced a t-count value of 12.1, which far exceeds the t-table value of 1.708 at a significance level of 0.05 with 25 degrees of freedom. These statistical findings provide strong evidence that the use of the application has a significant effect on improving students' vocabulary mastery. The consistent difference in scores between the experimental and control groups indicates that the application does have a positive effect on vocabulary learning. Students who use the application show a greater increase in their

vocabulary mastery. This may be due to several factors, such as the app's interactivity, engaging visual elements, and the app's ability to present vocabulary in a meaningful and memorable context

The results of the study showed a significant difference between the experimental group using the hidden object games application and the control group using conventional learning methods. The experimental group achieved a total score of 1970, while the control group only achieved 1440, showing a fairly large difference of 530 points. This difference was clearly seen in the range of individual scores, where the experimental group had the lowest score of 65 and the highest of 85, while the control group had a wider range with the lowest score of 40 and the highest of 70. The majority of students in the experimental group scored above 70, while the control group was mostly in the range of 50-60. These findings indicate that the use of hidden object games has a positive impact on students' vocabulary mastery, although further statistical analysis is needed to confirm the significance of this difference.

The analysis of the experimental group data produced significant findings related to the effectiveness of the method applied. The average score (M_x) achieved by the experimental group was 75.7, calculated from the total score of 1970 divided by the number of participants 26. This average value shows that in general, the experimental group showed quite satisfactory performance in vocabulary mastery. The standard deviation (SD_x) of 76 shows a fairly varied distribution of scores within the group. This finding indicates that the learning method using hidden object games has the potential to have a positive impact on improving students' vocabulary mastery. However, to obtain a more comprehensive and valid conclusion, a comparative analysis with the control group and inferential statistical tests are needed.

The calculation results for the control group showed lower performance than the experimental group. The average score (M_x) for this group was 55.38, calculated from the total score of 1440 divided by 26 participants. The standard deviation (SD_x) of 55.88 shows a fairly varied distribution of scores among the control group participants. This finding shows that the control group has a fairly diverse distribution of scores, with a relatively lower average than the experimental group. The visible difference between the average scores of the control and experimental groups can be an early indicator of the potential effectiveness of the intervention given to the experimental group.

Statistical analysis showed a significant difference between the experimental and control groups. The average value of the difference in scores between the two groups was 20.38, illustrating a substantial increase in vocabulary mastery of students who used the application compared to those who did not. The t-test produced a t-count value of 12.1, far exceeding the t-table value of 1.708 at a significance level of 0.05 with 25 degrees of freedom. This statistical finding provides strong evidence that the use of the application has a significant effect on improving students' vocabulary mastery. The consistent difference in scores between the experimental and control groups indicates that the application does have a positive effect on vocabulary learning.

The results of the N-Gain analysis further strengthen the effectiveness of the use of the hidden object games application in improving students' vocabulary mastery. The average N-Gain value of 0.98 or 98.33% indicates a high level of effectiveness of the intervention given. Some students even achieved N-Gain above 100%, with the highest score reaching 300%, indicating a very substantial increase. However, variation in effectiveness was seen with the lowest N-Gain score being 14.29%. Overall, these data suggest that the use of hidden object games as a learning method can be an effective tool for improving students' vocabulary mastery. However, variation in individual results suggests that the effectiveness of this method may be influenced by individual student factors, which requires further research to optimize its application in educational contexts.

CONCLUSION AND RECOMMENDATION

Based on the results of the research and data analysis that have been carried out, it can be concluded that the use of the hidden object games application has a significant effect on improving English vocabulary mastery in class VIII students of SMPN 3 Nganjuk in the 2023/2024 academic year. The experimental group using this application showed a substantial increase compared to the control group using conventional learning methods. This is evidenced by the significant difference in average scores, where the experimental group achieved a total score of 1970 with an average of 75.77, while the control group only achieved 1440 with an average of 55.38. Further statistical analysis produced a t-count value of 12.1, which far exceeded the t-table value of 1.708 at a significance level of 0.05, confirming the effectiveness of this method. In addition, the N-Gain analysis showed a high level of effectiveness with an average of 0.98 or 98.33%, with some students even achieving an increase above 100%. Although there are variations in individual results, with the lowest N-Gain of 14.29% and the highest of 300%, overall this study proves that the use of hidden object games as a learning method can be an effective tool to improve students' vocabulary mastery in learning English. **Suggestion**

Based on the research results and conclusions above, here are some suggestions that can be considered: For Teachers: Integrate the use of hidden object games applications into the English learning curriculum, especially to improve students' vocabulary mastery. For Schools Facilitate the procurement of technology infrastructure that supports the use of interactive learning applications in the classroom. For Students: Utilize hidden object games applications as additional learning aids outside of school hours to improve vocabulary mastery independently. Actively participate in providing feedback on application use for improvement and development of learning methods in the future.

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