

The Effectiveness of Using Snake and Ladder Game in Vocabulary Mastery of seventh-grade students at SMPN 1 Sikur

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ABSTRACT

This study aims at investigating the effectiveness of the Snake and Ladder game as a learning medium to improve English vocabulary mastery among seventh-grade students at SMPN 1 Sikur during the 2025/2026 academic year. A quantitative approach with experimental design was employed, involving an experimental group that used the Snake and Ladder game and a control group that received conventional instruction. The type of test that used in the study was multiple choice, consist of 20 items, was administered both before and after the treatment. The experimental group's mean score improved from 63.97 to 83.79, while the control group's mean score increased from 66.24 to 80.41. A t-test yielded a significance value of 0.01, indicating that the difference between groups was statistically significant. These results demonstrate that the Snake and Ladder game is effective in enhancing students' vocabulary mastery. Furthermore, the study suggests that integrating educational games into language teaching can make learning more engaging, increase student motivation, and foster active participation.

Keywords: *Vocabulary Mastery, Learning Media, Snake and Ladder Game, English Language, Effectiveness*

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INTRODUCTION

Language is one of the symbols that everyone uses to interact carefully. Without language, humans cannot interact. In addition, Language is also a means for humans to share ideas, feelings, and experiences (Rabiah, 2018). It is used daily to convey information, arguments, and emotions, and is essential for social interaction and cultural expression. The means of communication used by humans is language. This is the basic function of language that is independent of status and social values. After being connected in normal human life, it is always tied to the values and status of language.

Although English is considered a foreign language in Indonesia, it has become quite familiar due to its constant presence in our daily lives, whether through music, movies, social media, or school (Herlambang & Adri, 2024). English has evolved into the primary language for global communication, utilized in various fields such as business, science, and entertainment, and it continues to drive the pace of globalization (Adawiyah, 2022). Because it's spoken so widely across the world, English helps bridge cultural and national boundaries. Still, learning English in Indonesia isn't without its challenges. One major issue is finding the right teaching methods that match students' needs (Wahyuningsih, 2018). How well students understand and use English often depends on how the material is taught. That's why it's so important to choose methods that align with clear learning goals, so students can use the language confidently in real-life situations.

English is made up of important components such as grammar, vocabulary, and composition (Branford, 2015). These fundamental elements are essential not only for native speakers but also for learners of the language. Understanding how these parts work together

helps us communicate more clearly and effectively. That's why they are often explained in accessible ways, such as through glossaries or beginner-friendly texts, to make learning and teaching easier. Gaining a solid grasp of these building blocks can make a significant difference in how well we use English in both everyday situations and academic settings.

Vocabulary is a collection of words that we know and use, and it plays an important role in language learning (Alnan & Halim, 2024). Without sufficient vocabulary, a person will struggle to understand or express messages, whether in speaking or writing. According to Zarfsaz & Yeganehpour (2021), vocabulary learning requires two key aspects: the frequency of exposure (how often a word appears) and depth of processing (how well we understand and use it in context). Meanwhile, Meutia et al. (2023) stated that vocabulary is a central key to successful language learning, as it forms the foundation for understanding sentences and texts. Therefore, a combination of intentional vocabulary learning (such as memorizing) and incidental learning (such as through reading or listening) is necessary to improve students' overall language skills.

Vocabulary mastery plays a crucial role in enhancing students' language skills. Therefore, vocabulary learning must be conducted seriously and in a well-structured manner to effectively support the development of students' language proficiency. In practice, many students still face difficulties in learning English. These difficulties are particularly evident when engaging in the four language skills, which are often hindered by their limited English vocabulary mastery.

English is often perceived as a difficult subject by many students. To overcome this issue, teachers can utilize engaging and accessible learning media to attract students' attention and facilitate better comprehension. Learning media refers to any tools used to convey instructional messages (Muhaimin & Juandi, 2023). In direct instruction models, where the teacher acts as the main source of information, the use of suitable media is crucial. Developing effective learning media plays an important role in the success of the educational process, as it helps teachers communicate lessons more clearly and assists students in learning more efficiently.

One example of such instructional media is the Snakes and Ladders game. According to Wati (2021), Snakes and Ladders is a game played by two or more players using dice and a board with numbered squares that include images of snakes and ladders. This medium aims to increase students' participation, motivation, and support teachers in delivering material (Dewi et al., 2017). The use of the snake and ladder game is expected to address the issue of students' limited vocabulary and low interest in English lessons. It also holds educational value and is easy to relate to everyday life.

Considering the importance of vocabulary acquisition and the difficulties associated with it, it is crucial to implement active, creative, and enjoyable learning strategies. Teachers play a key role in facilitating an effective and innovative learning environment that enhances students' vocabulary mastery.

Based on the problem above, the researcher is interested in conducting a study entitled "The Effectiveness of Using Snake and Ladder Game for Students' Vocabulary at SMPN 1 Sikur." SMPN 1 Sikur was chosen as the research site because English teaching there still relies heavily on traditional lecture methods, making students easily bored and struggle to understand the material due to their limited vocabulary. Furthermore, the lack of learning media also contributes to the problem. Therefore, the researcher aims to implement the Snakes and Ladders game as a learning medium in the hope that it can be a solution to these challenges. This media is expected to help students become more engaged in English learning and enhance their interest in the subject.

METHOD

Research Design

This research employed a quantitative method with an experimental design, which is used to determine the effect of a specific treatment on another variable under controlled

conditions. Among the two types of experimental research—pre-experimental and true experimental—the present study applied a true experimental design because it includes both an experimental and a control group, providing stronger evidence regarding the effectiveness of the treatment (Utami, 2017).

The population of this study consisted of seventh-grade students of SMPN 1 Sikur in the academic year 2025/2026. A total of 58 students participated and were randomly assigned into two groups: the experimental group and the control group. The experimental group received treatment using the Snake and Ladder game, while the control group was taught using conventional instruction. The treatment was conducted within a duration of two hours.

The research instrument was a vocabulary test in the form of multiple-choice questions, consisting of 20 items. The test items were taken from the official textbook for seventh-grade students, which had been validated by educational experts, ensuring their suitability for the study. However, no additional reliability testing was conducted.

To analyze the data, the researcher employed an independent samples t-test. This statistical test was chosen because it is appropriate for comparing the mean scores of two independent groups (experimental and control) to determine whether there is a significant difference between them. The use of the independent samples t-test ensures that the conclusions drawn are statistically valid and academically justifiable, as it measures whether the observed differences in vocabulary mastery were caused by the treatment rather than by chance.

This study employed a non-equivalent control group design, which included a pre-test, treatment, and post-test for the experimental group, while the control group only received a pre-test and a post-test (Utami, 2017). A summary of the research design is presented in Table 1.

Table 1. Paradigm of the Non-equivalent Control Group Design

Group	Pre-test	Treatment (X)	Post-test
Experimental Group	Y1	X (Snake and Ladder Game)	Y2
Control Group	Y3	–	Y4

Descriptions:

Y1: Pre-test for the experimental group

Y2: Post-test for the experimental group after treatment

Y3: Pre-test for the control group

Y4: Post-test for the control group (no treatment)

X: Treatment using the Snake and Ladder Game

Respondents

The population in this study was all seventh graders of SMPN 1 Sikur, which amounted to 268 students. In this study, the sample consisted of 58 seventh-grade students from classes 7G and 7H at SMPN 1 Sikur. The participants were selected using purposive sampling, a non-random sampling technique in which subjects were chosen based on specific considerations relevant to the research. Classes 7G and 7H are selected because they had a balanced number of students and English lesson schedules that allowed consistent treatment and observation throughout the research period. Class 7G served as the experimental group, which received the treatment, while Class 7H functioned as the control group, which did not receive any treatment.

Instruments

A research instrument is a tool or device used by researchers to collect data in order to answer research questions or test hypotheses. According to Sugiyono (2019), a research instrument is a tool used to measure natural or social phenomena being observed, where all of these phenomena are specifically referred to as research variables. The research instrument functions as a bridge that connects theoretical concepts with the empirical data to be collected in the field.

In this study, the research instrument used is a test, which serves to measure students' vocabulary mastery. The type of test administered is a multiple-choice test that consists of 20 items. Each question has four answer options, with only one correct answer per item.

The scoring system is designed as follows: each correct answer is awarded 5 points, while incorrect answers receive 0 points. Therefore, the maximum possible score a student can achieve is 100 points (20 items $\times$ 5 points each). This scoring method ensures objectivity and clarity in evaluating students' performance. The results of the test are then used to compare the vocabulary achievement between the experimental and control groups.

Data Collection Technique

Pre-test

To determine the students' initial vocabulary level, the researcher administered a pre-test to both the experimental and control groups before implementing the treatment. The pre-test was conducted on the first day of the study and served as a baseline to measure the students' vocabulary knowledge before any instructional intervention. By giving the same test to both groups under similar conditions, the researcher aimed to ensure fairness and to verify that both groups began with relatively equal levels of vocabulary proficiency.

Treatment

In this study, the treatment was given only to the experimental class, where students learned vocabulary through the Snake and Ladder game. During the treatment sessions, students played the game while completing vocabulary tasks guided by the teacher. Before moving forward on the game board, they were required to answer questions or identify specific vocabulary items, making the activity both enjoyable and meaningful. This approach was expected to encourage students to be more actively involved and provide them with repeated opportunities to interact with the target vocabulary. Meanwhile, the control class continued with their usual learning process using conventional methods, such as textbook exercises, repetition, and teacher explanations, without receiving any special treatment.

Post-test

After completing the treatment phase, the researcher administered a post-test to both the experimental and control classes to determine how much the students' vocabulary had improved. The post-test was designed to closely resemble the pre-test in both structure and content, allowing for a fair and clear comparison of results. By using the same test for both groups, the researcher was able to identify whether the Snake and Ladder game had a significant impact on the vocabulary skills of students in the experimental class, especially when compared to those who learned through conventional classroom methods. The results of the post-test served as a crucial component in analyzing the effectiveness of the game in facilitating students' vocabulary acquisition.

Data analysis

To analyze the results of the data from the pre-test and post-test, the writer used the following steps:

Descriptive Statistics

Descriptive statistics involve measures of central tendency (such as mean, median, and mode) and variability (such as variance, standard deviation, coefficient of variation, and range). The researcher utilized SPSS 25 to obtain descriptive statistics for the pre-test and post-test data.

Statistics Required for Testing Hypothesis

Normality Test

The normality test is a statistical procedure used to determine whether the data are normally distributed. In this study, the normality test will be conducted using SPSS Statistics 25 to examine whether the pre-test and post-test scores are normally distributed. The researcher will input the data into SPSS, access the "Explore" function under "Descriptive Statistics," and select the option for normality plots with tests. If the significance value (p-value) from the test is greater than 0.05, the data will be considered normally distributed.

Homogeneity Test

The homogeneity test is a statistical procedure used to determine whether two or more groups of sample data are drawn from populations with equal variances. This test is essential to ensure that the data being analyzed is homogeneous, thereby ensuring that the results of

the analysis reflect the actual conditions and are not biased by variance differences within the data. The homogeneity testing is performed by using SPSS 25 for Windows.

Hypothesis Testing

Although not all research required a hypothesis, this study formulated one before starting the investigation. The test was conducted using SPSS Statistics 25, as the study involved comparing two sets of scores from the same group (experimental group) before and after the treatment. The SPSS output showed whether the hypothesis was accepted or rejected.

FINDINGS AND DISCUSSION

Descriptive Statistics

Based on the results of the data analysis, it was found the effectiveness of the snake and ladder game in mastering student vocabulary was found. The descriptive statistics of 29 participants of the experimental class showed significant results. The pretest scores had a range from a minimum of 47 to a maximum of 87 with a mean of 63,97 and a standard deviation of 10.655, indicating variation in participants' initial abilities. After being treated using the snake and ladder game, the post-test results showed significant improvement. Posttest scores ranged from a minimum of 70 to a maximum of 95, with a mean of 83,79, indicating a significant improvement in participants' vocabulary acquisition. The standard deviation for posttest scores was 6,700, indicating a smaller variation in scores compared to the pretest.

Concurrently, the results of the pretest and posttest conducted without using the snakes and ladders game media, namely in the control group, the results of the learning scores of English subjects were obtained, namely. In the pretest, the lowest and the highest scores were 50 and 80, and the average was 66.24. Then, for the posttest results, the lowest score was 70, the highest was 92, then the average was 80.41.

Based on the results of the descriptive test of the two groups, a significant difference in results was obtained when before and after using the snakes and ladders game media. it can be concluded that the results of the post-test in each class increased and showed satisfactory results. The result can be seen in the table below.

Table 2

	Descriptive Statistics				
	N	Minimum	Maximum	Mean	Std. Deviation
pretest experiment	29	47	87	63,97	10,655
posttest experiment	29	70	95	83,79	6,700
pretest control	29	50	80	66,24	9,214
posttest control	29	70	92	80,41	5,997
Valid N (listwise)	29				

The calculation of normality testing was used to determine whether the distribution of the pre-test and post-test was normal. Based on the result, both the experimental and control groups, in both the pre-test and post-test results, show significance values greater than 0.05 according to the Shapiro-Wilk normality test. This indicates that the data in each group is normal. Based on the data, all the data was obtained by distributing. Thus, it can be concluded that the data distribution meets the assumption of normality.

This test was conducted to determine that the data are homogeneous. Moreover, the data was said to be homogeneous if the values of the level significance are smaller than $p = 0.05$. Based on the calculation of the Paired-Sample T-test, the value of significance obtained is 0.00. that less than 0.05, it means the data was homogeneous.

Hypothesis testing

Hypothesis testing was conducted to determine whether the null hypothesis was accepted or rejected. To analyze whether there was a significant difference in the mean score between the pre-test and the post-test, the present researcher used a paired-samples t-test to test the hypothesis. After performing a Paired samples T-test, the present researcher found that there was a significant difference in the mean scores between the pre-test and the post-test. The value of sig (2-tailed) obtained is 0.01, that less than 0.05, meaning that the null

hypothesis was rejected and the alternative hypothesis was accepted. It implied that the used Snakes and Ladders game was effective in students' vocabulary mastery.

Normality Test

Table 3. Normality Test

		Tests of Normality					
		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Class	Statistic	Df	Sig.	Statistic	Df	Sig.
Learning outcome	pretest experiment	,157	29	,065	,939	29	,097
	posttest experiment	,114	29	,200*	,959	29	,303
	pretest control	,107	29	,200*	,950	29	,185
	posttest control	,148	29	,103	,956	29	,262

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

a. Lilliefors Significance Correction

The normality test results in Table 3 show that all data sets (pretest and posttest for both experimental and control groups) are normally distributed, as indicated by p-values (Sig.) greater than 0.05 in both the Kolmogorov-Smirnov and Shapiro-Wilk tests. Therefore, the assumption of normality is met for all groups.

Test of Homogeneity of Variance

Table 4. Test of Homogeneity of Variance

Test of Homogeneity of Variance					
		Levene Statistic	df1	df2	Sig.
Learning outcome	Based on Mean	,864	1	56	,357
	Based on Median	,867	1	56	,356
	Based on Median and with adjusted df	,867	1	55,933	,356
	Based on trimmed mean	,870	1	56	,355

The Levene's Test of Homogeneity of Variance results for the learning outcomes indicate that the assumption of equal variances between groups is satisfied. Across all four methods used to assess variance (based on the mean, median, median with adjusted degrees of freedom, and trimmed mean), the significance (Sig.) values range from 0.355 to 0.357, all of which are greater than the threshold of 0.05. This suggests that there are no statistically significant differences in the variances of the learning outcomes between the experimental and control groups.

Paired Samples Test

Table 5. Paired Samples Test

		Paired Samples Test						
		Paired Differences						
		95% Confidence Interval						
		Mean	Std. Deviation	Std. Error	Lower	Upper	t	Sig. (2-tailed)
Pair 1	Pretest experiment – posttest experiment	-19,828	4,676	,868	-21,606	-18,049	22,836	,000
Pair 2	pretestcontrol – posttestcontrol	-14,172	3,771	,700	-15,607	-12,738	20,240	,000

The Paired Samples Test results show significant improvements in learning outcomes for both the experimental and control groups. For the experimental group (Pair 1), the mean difference between pretest and posttest scores is -19.83, with a p-value of .000, indicating a statistically significant increase. For the control group (Pair 2), the mean difference is -14.17, also with a p-value of .000, confirming a significant improvement. These results suggest that both groups showed progress, but the experimental group had a greater improvement in learning outcomes.

Discussion

According to the previously mentioned investigation, the researcher discovered that using the snake and ladder game to teach vocabulary could help students in the first grade of junior high school become more proficient in the language. It was demonstrated by the notable variations in the pre-test and post-test average scores between the experimental and control groups. The experimental group's pre-test mean score was 63,97, whereas the control groups was 66,24. Otherwise, the experimental group's post-test score increased to 83,79, whereas the control group's score increased to 80,41. In this instance, it is evident that following its class's

treatment with the snake and ladder game, the experimental group, VIIG, received a higher score than the control group. It indicates that once the snake and ladder board game was introduced, there was a significant improvement in the seventh-grade junior high school students' vocabulary mastery.

Additionally, the results of this study supported the explanation by Siburian & Mahmud (2022) that a game is one type of medium that the instructor might use to impart knowledge. Because games help students recall more words, they are used as a vocabulary-learning tool. According to the theory above, it can be concluded that by using the Snakes and Ladders game, students can improve their vocabulary acquisition more easily. This game not only engagingly supports vocabulary mastery, but also helps train the brain to recall words more quickly, as students will already have a broader vocabulary stored in their memory.

In addition, there are a number of other ways that the snake and ladder game might help players expand their vocabulary (Fitriana & Maro, 2018). According to the theory above, it can be concluded that the use of the Snakes and Ladders game can effectively enhance students' vocabulary acquisition. This educational game provides a fun and interactive learning environment that encourages students to memorize and recall new words engagingly. Moreover, as students repeatedly encounter and use vocabulary during the game, it helps reinforce their memory and improves their ability to access vocabulary quickly when speaking. Therefore, the snake and ladder game not only enriches students' vocabulary knowledge but also supports the development of their fluency and confidence in using English in real-time communication.

CONCLUSIONS

Based on the findings of this research, it can be concluded that the Snake and Ladder game had a significant and positive effect on students' vocabulary mastery in the 2025/2026 academic year. The results of the independent samples t-test showed a significance value of 0.01, confirming that the difference between the experimental and control groups was statistically meaningful. Furthermore, the post-test scores of the experimental group were considerably higher than their pre-test scores, indicating substantial improvement after the treatment. Therefore, the use of the Snake and Ladder game proved to be an effective instructional medium for enhancing vocabulary, while also fostering greater student engagement and motivation in learning English. In conclusion, the researchers assert that the snake and ladder game was successful in enhancing students' vocabularies, as demonstrated by the notable increase in post-test scores as compared to scores from the pretest.

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