JCAR 7(1) (2025)

Journal of Classroom Action Research

http://jppipa.unram.ac.id/index.php/jcar/index

The Effectiveness of Picture in Improving Students' Vocabulary Mastery Skills at the Fifth Grade Students

Muh Taufiq Hidayatulloh1[1*], Amrullah[1], Husnul Lail[1], Arifuddin[1]

[1] Program Studi Pendidikan Bahasa Inggris, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Mataram, Kota Mataram, Indonesia.

DOI: https://doi.org/10.29303/jcar.v7i1.10428

Received: 29 November 2024 Revised: 18 Januari 2025 Accepted: 23 Januari 2025

Abstract: This study investigated the effectiveness of picture media in improving English vocabulary mastery among fifth grade students at SDN 1 SUKAREMA. This study was a quasi-experimental study with a Nonequivalent Control Group Design. The sample of this study consisted of 60 students divided into experimental and control groups (n=30 each). The experimental group received instruction through picture media, while the control group used puzzle-based learning. Data were collected through pre-test and post-test assessments using 25 multiple-choice questions. The data analysis technique used prerequisite tests (normality test and homogeneity test) and hypothesis testing (t-test, independent sample t-test). The results showed significantly higher performance in the experimental group (M=86.40) compared to the control group (M=64.40). Independent Sample T-test analysis revealed a significant difference between the groups ($p<0.05$), with a mean difference of 22,000 and a variance ratio of 0.81. These findings indicate that the use of pictures is effective in improving students' vocabulary mastery skills in fifth grade students at SDN 1 SUKAREMA.

Keywords: Effectivenes, Picture Media, Vocabulary Mastery, Elementary School.

Introduction

Vocabulary acquisition is the most crucial factor in students' English language proficiency. Vocabulary serves as a crucial communication tool in both native and foreign languages (Putri , 2022). Language learners must develop a robust vocabulary to effectively interact with others, recognizing that successful communication involves not just listening, but also actively responding and engaging in dialogue. There are 4 English skills that are mastered by students, when they have a wide vocabulary. The 4 skills are reading, listening, speaking, and writing. According to Tnanh Huyen & Thi Thu Nga (2003 cited in Aisyah, 2017) vocabulary is a language element that connects the four skills which include listening, speaking, reading, and writing . It's obvious that vocabulary mastery is very important to be developed for students as a first step in learning English more easily. There are 2 types of vocabulary, which are receptive vocabulary and productive vocabulary (Hatch & Brown, 1995). Receptive vocabulary is vocabulary that students recognize, but cannot use. Like the context of reading a book, students see and understand vocabulary that is familiar to them, but they cannot use it to speak and write. Productive vocabulary is vocabulary that can be understood, spoken by students with correct pronunciation and can be used for writing and speaking.

Gower (2014) stated that there are several aspects of vocabulary teaching that teachers need to pay attention to, namely word meaning, word form, and the use of word. Word meaning encompasses understanding a word's precise definition, contextual implications, and cultural nuances, exploring connotations and synonyms. Word form focuses on the structural characteristics of words, including pronunciation, spelling, grammatical categories, and morphological variations, teaching students how words

Email: ydayat156@gmail.com

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change across different parts of speech. Word use examines the practical application of vocabulary in real-world communication, guiding students to use words appropriately in various social situations, understanding register, formality levels, and learning collocations and idiomatic expressions to enhance their communicative competence.

According to Grauberg (2017) vocabulary learning involves a systematic four-stage process that guides students' language acquisition. In the first stage, discrimination, students develop the ability to distinguish between similar word sounds during listening and reading, requiring teachers to model correct pronunciation. The second stage, understanding meaning, focuses on helping students comprehend word concepts and phrases by connecting new vocabulary with familiar events and items, facilitating easier word comprehension. The final stage, remembering, involves teachers conducting learning evaluations to ensure students retain the vocabulary they have learned, thereby reinforcing their linguistic knowledge and memory.

Effective vocabulary teaching requires teachers to develop strategic and engaging techniques that facilitate student learning. Drawing from pedagogical research, two prominent techniques emerge: teaching vocabulary using objects and teaching through drilling, spelling, and active involvement. The object-based technique, particularly recommended by Gairns & Redman (1986) for young learners like elementary students, helps strengthen memory by leveraging students' ability to recall visual representations, especially for nouns found within the classroom environment. Complementarily, the drilling and spelling technique focuses on familiarizing students with word pronunciation and structure, addressing the challenges posed by differences between English spelling and pronunciation in students' native languages, while simultaneously promoting active student participation in the learning process.

English language ability is one of the important skills to master since being at the elementary school level because the merdeka curriculum has implemented English language subjects (mulok english) at the elementary school level. It's application starts from elementary school level grade 4 to grade 6. However, vocabulary mastery remains a challenge for many elementary school students. The usual difficulties faced by students are errors in writing and pronunciation. This can be caused by the misapplication of media and learning methods in the classroom.

According to Tafano (2018) learning media is an important component during the course of teaching and learning that can be used to channel messages to receivers and stimulate the ideas, feelings, attention, and interests of students to learn. So the application of the right media can overcome the problems of classroom instruction and learning. Pictures are a type of learning medium that English instructors can utilize in the classroom. Wright (1989) stated that picture media has a contribution in increasing students' interest and motivation in the learning process. Pictures have striking shapes and colors to foster student attention and interest (Octaberlina & Anggarini, 2020). Picture media can also improve students' ability to remember words, word meanings, and shapes. One of the appropriate uses of images is to present and examine meaning (Hammer, 2001, p 135). So the application of picture media as a learning media can help students to learn English vocabulary. Ransom (1978 cited in Donal, 2012) states that there are several advantages of using picture media in mastering vocabulary, namely:

a) The use of picture media can help students to understand and use new vocabulary.
b) The use of pictures can help students to develop new vocabulary.
c) The use of pictures can help students to expand and improve their vocabulary mastery.

Therefore, teachers should have the ability to apply teaching media to support students in achieving their desired learning outcomes, with a particular focus on the utilization of picture.

In fact, many educators have yet to incorporate multimedia resources and technological tools into their teaching methods and classroom instruction. According to Tafonao (2018) there are several reasons why teachers do not use learning media to assist classroom instruction and learning. The reasons are (1) Teachers assume that using learning media requires a lot of preparation. (2) Media is a sophisticated and expensive item. (3) Teachers are not accustomed to using media or stuttering technology. (4) Teachers assume that the use of media for entertainment purposes only while students must learn seriously. (5) The school does not provide the media and does not facilitate teachers to make learning media. (6) The teachers do not have an understanding of the importance of using learning media. (7) Teachers do not have the knowledge and skills to make learning medium. (8) The teachers do not have ability to apply learning media. (9) Teachers do not have time to make learning media. Therefore, teachers are expected to have the ability to make their own learning media.

Based on observations made by researchers at SDN 1 SUKAREMA, there are several problems in teaching English. First, SDN 1 SUKAREMA uses class teachers to teach English, so the implementation of

English learning has not been maximized. Second, the teacher said "he has no understanding of how to apply learning media in the classroom and does not understand learning media". Third, teachers only use the lecture method and do not use learning media to carry out learning in the classroom. Fourth, students still have difficulty learning English. Fifth, the teacher stated "students will be more focused on learning if picture media is applied because students are focused on the picture".

The findings from this assessment indicate that meeting educational objectives requires specific strategies and actions, the teacher must be creative, skillful, and master the ability in the field to teach, especially English. Skillful and creative means a teacher's skill to create learning media. According to Wulandari (2023) the use of teaching media can support the effectiveness, efficiency and also attractiveness of students during the course of learning. So the application of learning media is very important to achieve learning goals. Pictures are one of the media that can be used by English teachers.

The preceding description indicates the researcher's interest in conducting a study on vocabulary teaching using "picture" media to improve English vocabulary mastery. This is very useful because it has many benefits such as increasing students' memory and involving students in learning process. In addition, picture media is also easy to prepare and relatively easy to adjust and use in various ages of students and learning objectives. So the researcher is motivated to conduct a research with the title "The Effectiveness of Picture in Improving Students' Vocabulary Mastery Skills at The Fifth Grade Students of SDN 1 SUKAREMA".

Method

Research design and method should be clearly defined. This research employed a quasi-experimental approach where two groups were compared, but participants were not randomly assigned to the control and experimental groups. Control and experimental classes are not randomly selected. In this research design, control and experimental groups was compared after giving the treatment. Therefore, this research design aims to find out the effectiveness of using pictures to improving studets vocabulary mastery skills at the fifth grade students of SDN 1 SUKAREMA.

This study used the fifth grade students of SDN 1 Sukarema Kecamatan Lenek Kab. Lombok Timur in the academic year 2024/2025 as the population and the number of students was 60.

The research participants selected for study represent a subset that reflects the characteristics of the larger target population being investigated (Arikunto, 2013). In this research, the population did not use a sample, but the entire population was used as the research sample, namely 60 fifth grade students at SDN 1 SUKAREMA. Two groups of 30 students each, one designated as the control group and the other as the experimental group. So this research constitutes a population study.

The data collection, the first researcher gives the pre-test, the second gives treatment, and the third gives the post-test to students. The initial step to carry out the pre-test is by giving 25 multiple choice questions to students. The pre-test question contains the picture and the series of vocabulary choices. Then students answered the questions for 45 minutes and their answer were corrected by the researcher.

The second step is to give a treatment, treatment is the second step taken by researcher to improve students' abilities, namely the ability to master English vocabulary. The researcher and students engage in educational interactions and knowledge exchange within the classroom setting. There are 2 classes that are given treatment, namely experimental and control classes. The intervention involved implementing two different teaching methods: picture-based instruction in the experimental group and puzzle-based activities in the control group. Both approaches were applied in three sessions with the aim of enhancing students' English vocabulary acquisition.

The third step is to give the post-test, this is the last step taken by researcher to assess student development knowledge related to mastery of English vocabulary. After the intervention, students in both groups were given a post-test that mirrored the pre-test format, consisting of 25 multiple choice questions completed within a 45-minute timeframe. The scores from both tests were then analyzed to measure and compare the learning progress between the experimental and control groups.

In data analysis, the data analysis was conducted using SPSS version 26 software and involved three sequential statistical procedures. Initially, a normality test was performed to verify normal data distribution. This was followed by a homogeneity test to confirm the uniformity of the data. Finally, an independent sample t-test was employed to determine whether there were statistically significant differences between the mean scores of the experimental and control groups.

The data analysis employed the Kolmogorov-Smirnov test to assess normality, with values exceeding 0.05 indicating normal distribution of data (Bobbitt, 2024). For the homogeneity assessment, the

homogeneity of variance test was used, where values above 0.05 confirmed homogeneous data distribution (Prime, 2024). To evaluate differences in learning outcomes between the two groups, an independent sample t-test was conducted. The analysis criterion, which states that a two-tailed significance value less than 0.05 indicates a statistically significant difference between the experimental and control groups (Akhtar, 2018).

The following is the formula for finding the difference in variance from the mean score of the control and experimental classes in the independent sample t-test statistical group table. Here is the formula for decision making in the t-test table statistical group :

$$R(0_2, 0_1 = \frac{E(01 - 0)^2}{E(01 - 0)^2} \text{ or } \frac{\text{Var } 0_1}{\text{Var } 0_2}$$

Noted :
R = Relative Efficiency
0_1 = Estimator 1
0_2 = Estimator 2
E = Unbiased
Var 0_1 = Estimator Variant 1
Var 0_1 = Estimator Variant 2

02 is relatively more effective than 01, if the R value is higher than 1 (R>1). Whereas 01 is more effective than 02, if the R value is lower than 1 (R<1).

(Hassan, 2010)

Result and Discussion

The results of the experimental class pretest scores were collected through students' answers to 25 multiple-choice questions. The results of the analysis are presented in Table 1. Interval of Experimental Class Pretest Scores.

Table 1. Interval Pretest Score in Experimental Class

	Interval of Pre-test	Frequence	percentage	Valid Response Percentage	Accumulated Percentage
Valid	36-55	14	46.7	46.7	46.7
	56-65	7	23.3	23.3	70.0
	66-75	7	23.3	23.3	93.3
	76-85	1	3.3	3.3	96.7
	86-95	1	3.3	3.3	100.0
	Total	30	100.0	100.0	

In Table 1, 14 students scored poor (46.7%), 7 students scored fair (23.3%), 7 students scored fairly good (23.3%), 1 student scored good (3.3%), 1 student scored very good (3.3%), and 0 students scored excellent (0%). It means that more students obtained a low score.

The results of the experimental class posttest scores were collected through students' answers to 25 multiple-choice questions. The results of the analysis are presented in Table 2.

Table 2. Interval Posttest Score in Experimental Class

	Interval Pos-Test	Frequence	Percentage	Valid Response Percentage	Accumulated Percentage
Valid	66-75	2	6.7	6.7	6.7
	76-85	12	40.0	40.0	46.7
	86-95	11	36.7	36.7	83.3
	96-100	5	16.7	16.7	100.0
	Total	30	100.0	100.0	

In Table 2, 2 students scored fairly good (6.7%), 12 students scored good (40.0%), 11 students scored very good (36.7%), 5 students scored excellent and 0 students scored poor (0%). The analysis of the data presented in the table indicates that more students got high scores. It means that there is an increase in the ability to master English vocabulary. The experimental group demonstrated improved performance, as evidenced by higher scores in the post-test compared to their pre-test results.

Table 3. The Mean Scores of Experimental Class

Descriptive Statistics

	N	Range	Min	Max	Mean	Standard Deviation (SD)	Variance
Pre-Test	30	56	36	92	57.07	12.820	164.340
Pos-Test	30	28	72	100	86.40	7.762	60.248
Valid	30						

In Table 3, the learning outcomes of the experimental class, specifically, the mean pre-test score was 57.07, and the mean post-test score was 86.40. Additionally, the range of pre-test scores analyzed was from 36 to 92. Conversely, the post-test scores ranged from a minimum 72 to a maximum 100. The analysis reveals a notable improvement in student performance, the observed decrease in standard deviation scores, from 12.820 in the pre-test to 7.762 in the post-test, demonstrates a reduction in the variability of scores. The elevated post-test scores in the experimental class, coupled with the utilization of picture-based

instruction, strongly indicate the effectiveness of this teaching method in enhancing student learning.

Table 4. Interval of Pretest Score in Controll Class

Interval Pre-test

		Frequence	Percentage	Valid Response Percentage	Accumulated Percentage
Valid	36-55	12	40.0	40.0	40.0
	56-65	14	46.7	46.7	86.7
	66-75	3	10.0	10.0	96.7
	76-85	1	3.3	3.3	100.0
	Total	30	100.0	100.0	

In Table 4, 12 students scored poor (40.0%), 14 students scored fair (26.7%), 3 students scored fairly good (10.0%), 1 student scored good (3.3%), 0 students scored very good (0%), and 0 students scored excellent (0%). It means that more students obtained a low score.

Table 5. Interval of Pretest Score in Controll Class in Controll Class

Interval Post-Test

		Frequence	Percentage	Valid Response Percentage	Accumulated Percentage
Valid	36-55	3	10.0	10.0	10.0
	56-65	13	43.3	43.3	53.3
	66-75	10	33.3	33.3	86.7
	76-85	4	13.3	13.3	100.0
	Total	30	100.0	100.0	

In table 5 shows 3 students scored poor (10.0%), 13 students scored fair (43.3%), 10 students scored fairly good (33.3%), 4 students scored good (13.3%), 0 students scored very good (0%), and 0 students scored excellent (0%). It means that more students get a standardized post-test score in the control class.

Table 6. The Mean Scores of Controll Class

Descriptive Statistics

	N	Range	Min	Max	Mean	Standard Deviation (SD)	Variance
Pre-test	30	40	36	76	56.73	9.889	97.789
Post-test	30	32	48	80	64.40	8.621	74.317
Valid	30						

In Table 6 shows the control group's performance metrics. The mean scores exhibited a substantial increase, progressing from 56.73 in the pre-test to 64.40 in the post-test. The pre-test scores exhibited a range from 36 to 76, whereas the post-test scores ranged from 48 to 80. Additionally, the standard deviation decreased slightly from 9.889 in the pre-test to 8.621 in the post-test. Based on these data, students experienced a slight increase in learning outcomes and the students' vocabulary acquisition showed modest improvement when puzzles were used as a teaching aid utilized in the control group, as evidenced by the slight increase from pre-test to post-test scores.

Table 7. Normality Test

Tests of Normality

		Kolmogorov-Smirnova			Shapiro-Wilk		
		Statistic	Df	Sig.	Statistic	Df	Sig.
Student Learning Outcome	Eksperiment	.131	30	.197	.958	30	.281
	Controll	.149	30	.085	.949	30	.163

In Table 7, shows that The significance score for the experimental class is 0.197."While the control class is 0.085 (0.085>0.05). This indicates that the data in both the control and experimental groups are normally distributed. Data is considered normally distributed if the significance score from a normality test exceeds 0.05 (Bobbit, 2024).

Table 8. Homogeneity Test

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Students' Learning Outcomes	Mean	.629	1	58	.431
	Median	.664	1	58	.419
	Based on Median and with adjusted df	.664	1	57.895	.419
	Based on trimmed mean	.629	1	58	.431

In Table 8 shows the statistical analysis yielded a significance value of 0.431 between the two classes. When the significance score is above 0.05, it indicates that both groups share equal variance or homogeneity in their data distribution (Prime, 2024).

Table 9. Independent Sample T-test

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means				
	F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Equal variances assumed	.629	.431	10.388	58	.000	22.000	2.118

Equal variances not assumed		10.388	57.373	.000	22.000	2.118

Table 9 shows a 22.00 point difference in mean scores between the experimental and control classes. According to Akhtar (2018) criterion a statistically significant difference in learning outcomes is indicated when the 2-tailed significance value is below 0.05 (Akhtar, 2018). The data analysis in the table confirms this, with the statistical significance score of 0.000, which is less than 0.05. Based on this evidence, the null hypothesis (Ho) is rejected, and the alternative hypothesis (Ha) is accepted, using picture was effective to improve students vocabulary mastery skills at the fifth grade students of SDN 1 SUKAREMA.

Table 10. Group Statistics

	Class	N	Mean	Std. Deviation	Std. Error Mean	Variance
Student Learning Outcomes	Eksperimental Class	30	86.40	7.762	1.417	60.248
	Control Class	30	64.40	8.621	1.574	74.317

Table 10 shows that the experimental class achieved a mean score of 86.40, while the control class attained a mean score of 64.40. This indicates that the experimental class achieved a higher mean score than the control class.

The effectiveness of the experimental and controll classes can be determined by measuring the variance data of the two classes using the following formula :

$$R\ (0_2, 0^1 = \frac{\text{Var } 0_1}{\text{Var } 0_2} = \frac{60.248}{74.317} = 0{,}81$$

The effectiveness test above shows that the R (0,81) value is lower than 1(0,81<1). It means that 01 (experimental class) is more effective in giving treatment using picture media than 02 (control class) giving treatment using puzzle media. 02 is relatively more effective than 01, if the R value is higher than 1 (R>1) and 01 is more effective than 02, if the R value is lower than (Hassan, 2010).

Conclusion

The findings and discussion collectively support the conclusion that utilizing pictures as a learning medium effectively enhances vocabulary mastery. This is proven by the independent sample t-test data which shows a 2 tailed significance of 0.000 less than 0.05 (0.000 < 0.05) which means that using pictures was ineffective to improve students' vocabulary mastery skills at the fifth-grade students of SDN 1 Sukarma (Ho) is rejected and using picture was effective to improve students' vocabulary mastery skill at the fifth-grade students of SDN 1 SUKAREMA (Ha) is accepted. The calculated R value (0.81) was less than 1 (0.81 < 1), this indicates a disparity in learning outcomes between the two classes. This, combined with the significant difference in mean scores between the control and experimental groups, supports the conclusion that using pictures effectively improved students' vocabulary mastery.

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