

## The Effect of Cooperative Learning Jigsaw Model on Students' Vocabulary Mastery of the Fourth Grade at Elementary School Bakungan

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### ABSTRACT

This research was about the effect of the Cooperative Learning Jigsaw Model on students' vocabulary mastery of the fourth grade at Elementary School Bakungan. The objective of this research was to find out whether there was an effect of the Cooperative Learning Jigsaw Model on the students' vocabulary mastery of the fourth graders. The method used in this research was an experimental quantitative method with a one-group pretest–posttest research design. The respondents of this research were 27 fourth-grade students. This research used the Jigsaw Model test to collect the data. The result of the t-test was 2.39 and the t-table value was 1.70 at the 5% significance level with a degree of freedom of 26. It showed that the t-test value was higher than the t-table value. This data analysis was also strengthened by the average scores of the students. The average score of the respondents' post-test results was 75.37, which was higher than 52.04 in the pre-test of the experimental group. Based on the results of the data analysis and discussion, it could be concluded that there was an effect of the Cooperative Learning Jigsaw Model on the students' vocabulary mastery of the fourth grade at SDN 1 Bakungan.

**Keywords:** *Vocabulary Mastery; Cooperative Learning; Jigsaw Model*

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### A. Introduction

English language learning has challenges, particularly vocabulary mastery, and proposes the Jigsaw cooperative learning model as a potential solution. Vocabulary plays a vital role in language proficiency, impacting the ability to speak, listen, read, and write (Richards, 2014). Elementary students often struggle with mastering vocabulary, especially with pronunciation and spelling, due to differences between English and their native language. The Merdeka Curriculum implemented in Indonesia encourages active learning, making the Jigsaw cooperative learning model an effective strategy (Bore, 2015). The Jigsaw model promotes collaboration and engagement, as students work in groups to understand and teach specific topics, fostering better comprehension and teamwork (Jing, 2010). This study focuses on assessing the effectiveness of the Jigsaw

technique in improving vocabulary mastery among fourth-grade students at SDN 1 Bakungan.

The research aims to investigate whether the Jigsaw model enhances students' vocabulary learning. By encouraging cooperative and collaborative learning, the study seeks to improve students' engagement and proficiency (Mujtaba, 2014). Theoretical and practical significance lies in contributing to English language teaching methods, offering insights for teachers and potentially benefiting students' academic success. The scope of the study is limited to fourth-grade students at SDN 1 Bakungan, focusing on nouns related to body parts. Key terms such as cooperative learning, the Jigsaw model, and vocabulary mastery are defined to clarify the research context.

Cooperative learning is an educational approach where students work together in small, diverse groups to achieve common goals. This method emphasizes positive interdependence, individual accountability, and group processing, ensuring that each student contributes to the group's success (Suprijono, 2010). Cooperative learning fosters not only academic achievement but also critical thinking, social skills, and a sense of community among students. Methods such as Think-Pair-Share and Jigsaw encourage active engagement and peer teaching, promoting deeper understanding and collaboration (Lie, 2004). The benefits of cooperative learning extend beyond academics, helping students develop empathy, conflict resolution skills, and teamwork, which are valuable both in and out of the classroom.

The Jigsaw model, a specific form of cooperative learning, assigns each student a unique piece of the content to master and then share with their group, similar to fitting together a puzzle. This method encourages active learning, critical thinking, and effective communication, as students teach and learn from each other (Soleha, 2016). It fosters a collaborative classroom environment that values diverse perspectives, reduces competition, and enhances inclusivity (Yusuff, 2016). By encouraging students to take ownership of their learning and contribute to the group's success, the Jigsaw model promotes not only academic achievement but also social and emotional growth, preparing students for future challenges in both educational and professional settings.

The jigsaw model encourages active learning, where students are actively involved in the learning process. This active learning can increase students' motivation

and interest in learning new vocabulary, because they not only receive information passively, but also have to process, convey and apply it. And then this finding it was also supported by the expert statement, Rahmawati (2021) social constructivist theory highlights the role of social interaction in learning. The jigsaw model embodies this principle by encouraging students to collaborate, discuss, and teach each other, which helps them internalize and understand new vocabulary more effectively.

## B. Research Method

This research uses a pre-experimental one-group pre-test post-test design. It involves administering a pre-test before treatment and a post-test afterward. The pre- and post-test scores are then compared to evaluate the impact of the treatment. The study is quantitative, relying on numerical data for statistical analysis (Sugiyono, 2020). The goal is to assess the effect of the Cooperative Learning Jigsaw Model on students' vocabulary mastery at SDN 1 Bakungan by comparing their performance before and after receiving the treatment. A positive effect is indicated if the post-test scores are higher than the pre-test scores.

*Table 1. Table of One-Group Pretest – Posttest Design*

<b>Pre-Test Score</b>	<b>Treatment</b>	<b>Post-Test Score</b>
<b>O<sub>1</sub></b>	<b>X</b>	<b>O<sub>2</sub></b>

The researcher used tests to measure students' vocabulary mastery. This research was conducted two meetings on Wednesday, June 19, 2024 and Thursday, June 20, 2024. The respondents used were from the IVA class of Bakungan Elementary School with a total of 27 students. The test used 20 multiple-choice questions consisting of on nouns, specifically focusing on external and internal body parts.

In collecting the data, the researcher used a data collection method in the form of tests. The test consisted of multiple-choice questions, with a total of 20 items covering the material “parts of the body.” The researcher used quantitative data to analyze the data. The researcher first examined the students’ test results. The data analysis technique used in this research was the paired t-test to determine the effect of the Cooperative Learning Jigsaw Model on the students’ vocabulary mastery of the fourth grade at SDN 1 Bakungan.

## C. Research Finding and Discussion

### a. Research Finding

The research presents the results from a vocabulary test conducted with fourth-grade students at SDN 1 Bakungan. The study took place on June 19-20, 2024, in an experimental class (IVA), involving 27 students. The research measured the students' vocabulary scores through pre-test and post-test assessments, followed by a T-test analysis to evaluate the data.

#### a.) Pre – Test Result

In the pre-test, the researcher administered a vocabulary test to students at SDN 1 Bakungan, consisting of 20 multiple-choice questions on nouns, specifically focusing on external and internal body parts. Correct answers were scored as 5 points, while incorrect answers received 0 points. Based on the analysis, the highest pre-test score was 75, and the lowest was 40. After the pre-test, the researcher provided treatment over two meetings.

#### b.) Post – Test Result

After the treatment over two meetings, the researcher conducted a post-test with 20 multiple-choice questions about body parts, similar to the pre-test but with 10% of the questions altered and randomized. The scoring remained the same, with correct answers earning 5 points and incorrect answers receiving 0 points. Based on the data analysis, the highest post-test score was 85, and the lowest score was 70.

#### c.) The Results of T-Test Analysis

The researcher used a t-test to compare the pre-test and post-test scores. The mean pre-test score was 52.04, while the mean post-test score was 75.37. The standard deviation for the post-test was 38.75, and for the pre-test, it was 104.18. With a degree of freedom (df) of 26 and a significance level of 5%, the t-table value was 1.70. The calculated t-test result was 2.39, indicating a significant difference between the pre-test and post-test scores

*Table 2. Paired Samples Statistics*

		Paired Samples Statistics			
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	pretest	52.04	27	104.180	10.78
	posttest	75.37	27	38.750	6.34

(SPSS Version 23.00, 2024)

#### d.) The Hypothesis Verification

Hypothesis verification aims to find out the answer of whether there is any effect of using cooperative learning jigsaw model on students' vocabulary mastery in grade IV students at SDN 1 Bakungan. To get the answer, researcher must propose an alternative hypothesis ( $H_a$ ) and null hypothesis ( $H_o$ ) as below.

- $H_a$ : There is an effect of using cooperative learning jigsaw model on students' vocabulary mastery of the fourth grade at Elementary School Bakungan..
- $H_o$ : There is no effect of using cooperative learning jigsaw model on students' vocabulary mastery of the fourth grade at Elementary School Bakungan.

The following is a table to determine the results of hypothesis verification

*Table 3. Table of SPSS T-Test of Hypothesis Verification*

		Paired Samples Test		
		t	df	Sig. (2-tailed)
Pair 1	pretest - posttest	-2.394	26	.001

(SPSS Version 23.00, 2024)

#### b. Discussion

Based on the analysis the t-test result was 2.39, which is higher than the t-table value of 1.70 at a 5% significance level with 26 degrees of freedom. The focus of the material was on nouns and descriptive adjectives related to body parts. In the pre-test, most students selected incorrect answers. After two treatment sessions, the post-test showed improvement, with students scoring better than in the pre-test, indicating progress

in their vocabulary mastery. Based on the results of this analysis, it can be concluded that the alternative hypothesis ( $H_a$ ) is accepted and  $H_o$  is rejected, which means that there is an effect of cooperative learning jigsaw model on the vocabulary mastery of the fourth grade SDN 1 Bakungan.

#### D. Conclusion

Based on the research findings indicate that the cooperative learning jigsaw model is an effective strategy for enhancing students' vocabulary mastery. It encourages active participation, collaboration, and critical thinking skills. It was supported by data analysis with 5% significant level. The t-test result was 2,39 and t-table was 1,70. It means that the result of t-test analysis was higher than t-table ( $2,39 > 1,70$ ), so null hypothesis ( $H_o$ ) was rejected and alternative hypothesis ( $H_a$ ) was accepted. The versatility of this approach makes it beneficial for various subjects and grade levels. Overall, teachers can use cooperative learning techniques to improve student engagement and achievement, creating a dynamic and supportive learning environment. This research concludes that there is an effect of cooperative learning jigsaw model on the vocabulary mastery of the fourth grade SDN 1 Bakungan

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