The Effect of The Jigsaw Teaching Technique on The Students' Reading Comprehension at Seventh Grade of UPTD SMPN 5 Pematangsiantar

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Abstract

This research aims to determine the effect of jigsaw teaching techniques on reading comprehension of Grade VII students at UPTD SMPN 5 Pematangsiantar in 2024/2025 school year. This research uses a quantitative research design by applying a quasi-experimental design. In this design, the research subjects were divided into two groups: VII-1 as experimental group and VII-2 as control group. The treatment was given only to the experimental group. The experimental group was treated with the jigsaw technique while the control group was treated without the jigsaw technique. The subjects of this research were seventh grade students (VII-1 and VII-2) of UPTD SMPN 5 Pematangsiantar with 62 students. The researcher used multiple choice questions as an instrument to assess students' reading comprehension. The results of data analysis showed that the mean score of the experimental class increased from 67.81 up to 81.25 while the mean score of the control class increased from 69.21 up to 73.43. A t-test was performed at the 5% significance level. The calculated t-value of 4.25 exceeds the t-table value of 1.670 (t-test > t-table). This indicates that the alternative hypothesis (Ha) is accepted and the null hypothesis (H0) is rejected. Therefore, it can be concluded that the use of jigsaw teaching technique has a significant effect on the reading comprehension of seventh grade students at UPTD SMPN 5 Pematangsiantar.

Keywords: Effect, Jigsaw Technique, Reading Comprehension

INTRODUCTION

Language is a crucial element in human communication (Kurniati, 2017). It enables us to interpret the world and convey that understanding to others. Language goes beyond mere skills; it acts as a fundamental tool for all types of learning (Rabiah, 2018). Educators teaching English as a second language often design activities to aid students in learning the language, the subject matter through the language, and the nuances of the language itself. In the context of learning English, Indonesian students are expected to develop proficiency in the four key language skills: listening, speaking, reading, and writing (Gumartifa, 2021). However, they often face challenges in mastering these skills due to significant differences between English and Indonesian.

Reading comprehension remains a significant challenge for some students in Indonesia, particularly in learning English (Nanda & Azmy, 2020). Students must focus not only on understanding individual words, phrases, or sentences but also on grasping meanings, tenses, and other elements. Reading is an interactive process between the reader and the text that leads to comprehension (Dewi & Salmiah, 2019). The purpose behind reading also influences the appropriate strategies for comprehension (Sheeba & Hanif, 2018). Essentially, reading involves understanding the text to extract information and messages from the author, which is why the author emphasizes the importance of reading comprehension (Sinaga, 2022).

Reading is a vital skill to teach students, as it enables them to comprehend written material and apply it in their daily lives (Maizera et al., 2024). It serves as a receptive skill for acquiring information and broadens one's knowledge and perspective. According to Brown, reading is a process linked to thinking and other communication skills, such as speaking, writing, and listening (in Zulyanis, 2021:1). Furthermore, Pourhosein (in Zulyanis, 2021:1) describes reading as an interactive process where readers create meaningful interpretations of a text by employing effective reading strategies.

Reading comprehension was a crucial aspect of English reading (Artayasa & Yuliati, 2023). It involved not just reading a text but doing so with the intention of achieving a thorough and complete understanding. Woolley (2011:15), as cited in Fadillah (2019), defined reading comprehension as the process of extracting meaning from a text rather than from a single word or sentence. The objective was to fully comprehend what was described in the text. The researcher focused on reading comprehension due to its importance, recognizing that it was the ability to understand a text. However, many students struggled with this skill. Based on the researcher's experience during teaching practice in the seventh grade at UPTD SMPN 5 Pematangsiantar in October 2023, it was observed that students faced difficulties in understanding descriptive texts. Their reading comprehension skills were notably poor, as they struggled to read the text and grasp its meaning. Many students felt intimidated by unfamiliar vocabulary, which hindered their understanding. None of the students exceeded the minimum completion criteria (KKM) of 75; only eight students managed to achieve a maximum score of 70. They found it challenging to understand and identify the main idea of the text and frequently did not comprehend what they had read. When the researcher taught descriptive text in the classroom, students often failed to understand the topic being discussed, and when explanations were provided regarding the definition and social function of descriptive texts, they tended to converse among themselves, resulting in a noisy classroom and a lack of concentration on learning.

In fact, most students had difficulty comprehending the text. They were more inclined to engage in conversation than to focus on the material. When questioned about the text they had read, they often remained silent. The researcher frequently encountered challenges in capturing the students' attention, which directly impacted their engagement in the teaching and learning process. Some students expressed that the lessons were boring and that they desired a more enjoyable and interesting approach to learning. They needed a new classroom atmosphere to make reading less tedious.

The researcher's observations during teaching practice indicated that the teacher's methods were unengaging. The researcher concluded this because, upon entering the classroom, the teacher merely instructed the students to translate the text from their textbooks. This approach left students confused, leading them to rely on Google Translate to complete their assignments. When the researcher inquired about their English lessons, one student simply stated that English was uninteresting and boring.

To address the students' challenges with reading comprehension, the researcher proposed a technique for teaching reading comprehension known as the jigsaw teaching

technique. Various types of jigsaw techniques could be employed, including Aronson's original jigsaw, Slavin's jigsaw II, and Kagan's jigsaw variation. In this instance, the researcher decided to utilize Aronson's jigsaw technique. Patnoe (in Fitri Zulyanis, 2024:43) defined the jigsaw technique as a method aimed at replacing competitive behaviors in the classroom with cooperative ones. Surahmawati (in Zulyanis, 2021: 2) noted that the jigsaw technique significantly impacted students' reading comprehension. Furthermore, this technique had been proven to enhance students' understanding, particularly in reading descriptive texts (Kurniatillah, 2019). The jigsaw method was effective in achieving two important and interconnected teaching goals that contributed to reading comprehension: fostering students' metacognitive awareness and enabling them to learn content while teaching it to peers in small groups.

Additionally, the jigsaw technique allowed students to feel more comfortable and free to discuss within their groups, creating a refreshing classroom environment. Surahmawati (in Zulyanis, 2021:2) emphasized that the jigsaw technique had a significant impact on students' reading comprehension.

The objective of the jigsaw teaching technique was to foster a more collaborative and engaging learning environment to enhance students' reading comprehension. In this context, the teacher played a significant role, but students were also encouraged to develop independence in their reading. Thus, the researcher was motivated to conduct a study entitled **"The Effect of The Jigsaw Teaching Technique on The Students' Reading Comprehension at Seventh Grade of UPTD SMPN 5 Pematangsiantar"**

METHOD

In conducting research, a research design was required as a guide. According to Creswell (2009:3), research design was a plan outlining the methods for data collection and analysis. The most common research approaches were qualitative and quantitative, and this study was structured as a quantitative study. Creswell (2012:27) noted that "quasi-experiments involved the assignment of tasks, but not the assignment of participants to groups."

This research employed a quasi-experimental approach to evaluate both internal and external validity, using pre-tests and post-tests to assess the impact of the jigsaw teaching technique on the reading comprehension of descriptive texts among seventh-grade students at UPTD SMPN 5 Pematangsiantar. Participants were divided into two groups: an experimental group, which received instruction using the jigsaw teaching technique, and a control group, which did not.

The study involved two classes: grade VII 1 served as the experimental group with 32 students, while grade VII 2 was the control group, also consisting of 32 students. A multiple-choice test was used as the instrument to gather data on students' reading comprehension in descriptive texts before and after the treatment. The pre-test assessed students' initial knowledge, and the post-test measured their reading comprehension abilities following the treatment.

RESULT AND DISCUSSION
Data Description

The experimental class in this study included 32 students from Grade VII-1 at UPTD SMPN 5 Pematangsiantar. The researcher employed the jigsaw teaching technique as the instructional method for this class. The table below presents the results of the pre-test and post-test conducted while teaching descriptive text using the jigsaw technique in this research.

Table 1. Students scores of the Experimental Class

No	Student's Initial Name	Pre Test	Post Test
1.	AMRP	65	80
2.	AIS	75	80
3.	APT	80	85
4.	CGP	55	75
5.	DS	65	85
6.	DS	75	80
7.	DSS	80	90
8.	DFPT	70	85
9.	EGNH	65	85
10.	EINN	55	70
11.	FCP	70	85
12.	GTS	75	80
13.	GP	60	85
14.	HJS	75	80
15.	IFS	65	75
16.	JJSAP	80	85
17.	JS	65	80
18.	JFIS	75	90
19.	MRP	55	70
20.	ML	50	75
21.	MS	65	85
22.	MVS	75	80
23.	PHV	50	75
24.	RTHM	70	85
25.	RJPS	75	85
26.	RAR	80	90
27.	RPN	75	85
28.	SAP	65	80
29.	SCH	60	75
30.	TN	75	90
31.	VMPS	65	70
32.	ZMM	60	80
	$\sum$	**2170**	**2600**

In the experimental class, the highest pre-test score recorded was 85, while the lowest score was 55. After implementing the jigsaw teaching technique as a method of instruction, the post-test results demonstrated a significant improvement, with the highest score reaching 95 and the lowest score at 75. The total score for the pre-test in the experimental group was 2380 points, resulting in an average pre-test score of 74.38. Following the instructional intervention, the experimental group achieved a total of 2800 points in the post-test, leading to an improved average score of 87.50.

This data illustrates a clear positive trend in student performance, emphasizing the effectiveness of the jigsaw teaching technique in enhancing reading comprehension skills. The increase in both the highest and average scores from the pre-test to the post-test indicates that the teaching strategies employed had a significant impact on the students' ability to comprehend reading materials. These findings highlight the importance of innovative teaching methods in promoting student engagement and improving educational outcomes in

reading comprehension.

Figure 1. Improvement in Experimental and Control Class

	Experimental	Control
Pre-Test	67,81	69,21
Post-Test	81,25	73,43
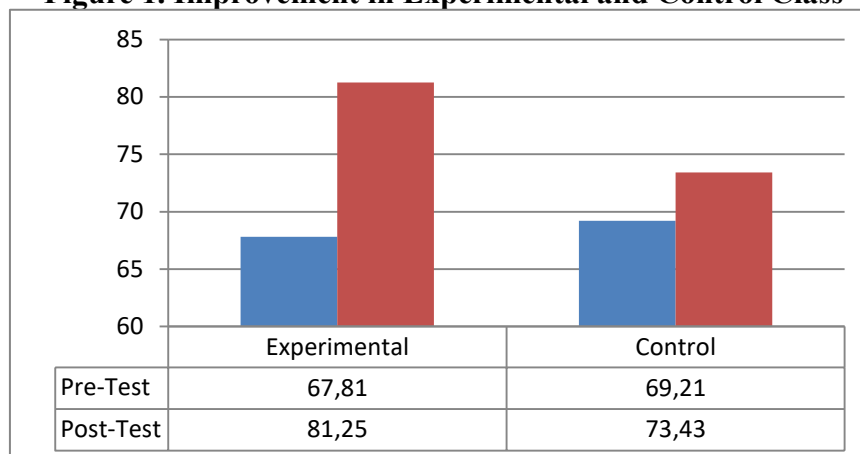
After calculating the mean scores for both the pre-tests and post-tests of the experimental and control groups, the researcher illustrated the combined data through a graph. The chart clearly indicated an improvement in student performance, particularly following the intervention. The experimental group, which utilized the jigsaw teaching technique, demonstrated a significant increase in scores. Specifically, the mean score for the experimental class improved from 74.38 in the pre-test to 87.50 in the post-test. In contrast, the control group, which continued with traditional teaching methods, showed a more modest improvement, with their mean score increasing from 69.21 in the pre-test to 73.43 in the post-test.

This resulted in an increase of 13.12 points for the experimental class, while the control class experienced an improvement of only 4.22 points. The findings of this study suggested that the use of the jigsaw teaching technique had a significant impact on enhancing students' reading comprehension abilities. The greater improvement observed in the experimental class compared to the control class indicated that employing engaging teaching methods could be an effective strategy for developing reading skills among students. This underscored the importance of innovative teaching methods in promoting student engagement and improving educational outcomes in reading comprehension.

Testing Hypothesis

After conducting the data analysis, the researcher found that the t-test value was 4.25. The distribution table and t-test value were then calculated for various degrees of freedom (df). In this study, the degrees of freedom were determined to be 62, and at a significance level of 0.05, the t-table value was also 1.670. Based on these calculations, the alternative hypothesis (Ha) was accepted, while the null hypothesis (Ho) was rejected, as the t-test value surpassed the t-table value at the 0.05 significance level, specifically 4.25>1.670.

Research Findings

The findings of the data analysis, the researcher discovered that the application of the jigsaw teaching technique significantly affects students' reading comprehension at seventh grade students of UPTD SMPN 5 Pematangsiantar on descriptive text. Some of findings are as follows:

1. The control class is a class that does not receive treatment. In the control class, the jigsaw technique was not applied, with the following results, the mean of the pre-test score which is 69.21 and the mean score of the post-test is 73.43. And the total score for pre-test was 154.975 and the total score for the post-test was 173.050. The variance of the post-test score in control class is 3.83 and obtained a standard deviation of 3.90.

2. The experimental class is a class that receives the treatment. In the experimental class,

the jigsaw teaching technique was used, with the following results, the mean of the pre-test score which is 67.81 and the mean score of the post test is 81.25. And the total score for pre-test was 149.600 and the total of score for the post-test was 212.300. The variance of the post-test score in the experimental class is 5,72 and obtained a standard deviation of 5.81

3. Standard error in experimental and control class 1.84.
4. The degree of freedom (df) is 62 and the t-table at a level of a significant 5% for a two-tailed test is 1,670.
5. Testing hypothesis showed that the t-test (4,25) is higher than the t-table (1.670) at a 5% of level significance.

Discussion

Reading is an essential skill that students need to master for success in learning English. It involves understanding meaning and connecting with the text through the interplay of the reader's existing knowledge, background information, the content of the text, and the reader's attitude during reading (Zulyanis, 2021:8). Descriptive text is a specific type of English text that focuses on describing a person, place, or thing (Anderson, 2003:26). This text allows students to express their creativity and imagination while using engaging and comprehensible language. However, it can also pose challenges for students, such as limited literacy skills, difficulty grasping the main idea, and understanding vocabulary.

Implementing the jigsaw teaching technique can effectively engage students in reading comprehension, particularly with descriptive texts. As part of cooperative learning, the jigsaw technique encourages students to collaborate, helping them concentrate on the subject matter and generate new ideas about what they are describing. This method has been shown to enhance students' engagement and understanding of texts (Zulyanis, 2021), and it has been proven to improve reading comprehension specifically for descriptive texts (Kurniatillah, 2019).

The research findings were reflected in the assessment scores of students in both the experimental and control groups. In the experimental class, the mean pre-test score was 67.81 before the jigsaw technique was introduced. After the technique was applied, the mean post-test score rose to 81.25, indicating an improvement in reading comprehension. Conversely, the control group had a mean pre-test score of 69.21, with a post-test mean score of 73.43 after using traditional teaching methods. Statistical analysis via the t-test supported these findings; the t-test value of 4.25 exceeded the t-table value of 1.670 at the 5% significance level, leading to the acceptance of the alternative hypothesis (Ha) and rejection of the null hypothesis (Ho). This suggests that the jigsaw technique positively affected students' reading comprehension at UPTD SMPN 5 Pematangsiantar. Additionally, the quality of students' understanding of descriptive texts improved, particularly in identifying main ideas, seeking detailed information, and comprehending vocabulary. This is evidenced by the 32 students in the experimental class who met the minimum passing criteria (KKM) compared to 30 students in the control class. Student engagement increased as they became more active in discussions, inquiries, and exchanging opinions about reading descriptive texts, aided by the ideas presented in the text.

The study confirmed the positive impact of the jigsaw teaching technique on students' reading comprehension, aligning with previous research by Zulyanis (2021) and Juwita Kristina Sibarani (2017). Both studies demonstrated that the jigsaw technique significantly influenced the reading comprehension of seventh-grade students at UPTD SMPN 5 Pematangsiantar. Zulyanis (2021) reported a significant effect, with a calculated significance value of 0.055, which is greater than 0.05. Similarly, Juwita Kristina Sibarani (2017) found a notable effect with a t-count value of 5.55, surpassing the t-table#### The Importance of

Reading Comprehension

Reading is a crucial skill for students to master, as it is a gateway to success in learning English. Reading comprehension involves understanding the meaning and connecting with the text through the interplay of the reader's existing knowledge, the information in the text, and the reader's attitude (Zulyanis, 2021:8). Descriptive text is a genre that provides an opportunity for students to be creative and express themselves. While this text type encourages the use of imaginative and easy-to-understand language, it can also present challenges for students, such as a lack of literacy in text reading, difficulty in understanding the main idea, and vocabulary issues.

Using the jigsaw teaching technique can be an effective approach to improve students' reading comprehension of descriptive texts. The jigsaw technique is a collaborative learning method that encourages students to work together. This technique can help students focus quickly on the object or situation, preventing them from losing ideas, and stimulating them to generate new and fresh ideas about the subject they are describing. Previous studies have demonstrated the effectiveness of the jigsaw technique in enhancing students' reading comprehension, particularly in the genre of descriptive texts (Kurniatillah, 2019; Zulyanis, 2021).

The research findings showed a significant improvement in the reading comprehension of the experimental class, which used the jigsaw teaching technique. The mean pre-test score in the experimental class was 67.81, which increased to 81.25 in the post-test, indicating a substantial improvement. In contrast, the control class, which used conventional teaching methods, showed a more modest improvement, with the mean score increasing from 69.21 in the pre-test to 73.43 in the post-test.

The statistical analysis using the t-test further supported the findings, with the t-test value of 4.25 exceeding the t-table value of 1.670 at a 5% significance level. This result led to the acceptance of the alternative hypothesis (Ha) and the rejection of the null hypothesis (Ho), confirming the effect of the jigsaw technique on students' reading comprehension at UPTD SMPN 5 Pematangsiantar.

The improved reading comprehension in the experimental class was observed across various aspects, including identifying the main idea, answering detailed questions, and understanding vocabulary. This was evident in the higher number of students (32) who passed the KKM in the experimental class compared to the control class (30).

The findings of this study align with previous research by Zulyanis (2021) and Juwita Kristina Sibarani (2017), which also demonstrated the significant impact of the jigsaw teaching technique on students' reading comprehension. However, a key distinction is that the current study focused on the genre of descriptive texts, while the previous studies examined the effect on recount texts.

CONCLUSION

Based on the results of data analysis, it can be concluded that the jigsaw learning method has a significant positive impact on the development of reading comprehension skills of Grade VII students at UPTD SMPN 5 Pematangsiantar. This is in line with the problem identification of this study, namely that the students' reading comprehension skills in English reading texts have increased significantly. The increase in average scores in all three aspects of reading comprehension, namely finding the main idea, finding detailed information and understanding vocabulary, shows the effectiveness of this method in helping students to achieve better understanding of reading texts. This can be seen from the average score of the experimental group, which was 67.81 in the pre-test and increased to 81.25 in the post-test. Meanwhile, the control group obtained an average score of 69.21 in the pre-test and increased

to 73.43 in the post-test. The t-test result was 4.25. The researcher obtained a value of 1.670 which refers to the t-table with a significance level of 5% (0.05). This means that the alternative hypothesis (Ha) is accepted and the null hypothesis (H0) is rejected.

This research focused on reading comprehension of descriptive texts, a vital component of the English curriculum. It also explored how the jigsaw technique can enhance students' reading comprehension and boost their confidence. It is recommended that the jigsaw technique be applied in other subjects requiring reading comprehension to assess its broader impact. Additionally, schools should consider providing training for English teachers on the jigsaw technique and other innovative teaching methods to improve classroom learning.

However, this study has limitations, as it only examines the jigsaw technique's effects on seventh-grade students at UPTD SMPN 5 Pematangsiantar and primarily relies on quantitative data. This focus may overlook other important aspects of reading comprehension and fail to capture students' experiences in depth. Future research should involve multiple schools with diverse backgrounds to yield more comprehensive and generalizable results, incorporating qualitative methods such as interviews or observations for a deeper understanding of the jigsaw technique's effects.

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