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The Effect of Using Jigsaw Type II Technique on Junior High School Students' Reading Comprehension Achievement

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Abstract

This study aimed to analyze the effect of the Jigsaw Type II Technique on the reading comprehension achievement of junior high school students. A quasi-experimental design with post-test only design was used to investigate whether Jigsaw Type II Technique had a significant effect on the Reading Comprehension Achievement of Junior High School Students at SMP 1 Kedungjajang. The total number of research participants was 51 students. The experimental class consisted of 25 students, and the control class consisted of 26 students. The research participants were selected using cluster random sampling by lottery based on the homogeneity test results. Class VII A (25 students) was designated as the experimental class, and Class VII C (26 students) was designated as the control class. The data for this study were collected from students' reading comprehension tests, interviews, and documentation. The reading comprehension test results were collected and analyzed using the independent sample t-test formula through the SPSS computing system. The result of this study is that the Jigsaw Type II Technique significantly affects the reading comprehension achievement of junior high school students. The findings of this study provide pedagogical and empirical implications. Pedagogically, English teachers can consider using Jigsaw Type II in teaching reading comprehension because it can positively affect teaching and learning.

Keywords: Jigsaw Type II Technique, Reading Achievement, Student Comprehension

Introduction

Reading is one of the most important skills, along with the three other skills needed to learn English. According to Grellet (1996), reading is a constant process of guessing, and what one brings to the text is often more important than what one finds. Constant process in reading must be done continuously to gain the meaning from a text or another source (Yiğit & Durukan, 2023). Reading is a language skill that must be mastered to gain information or new knowledge from written forms, such as textbooks and the Internet (Katemba & Samuel, 2017). In line with this, Grellet (1996) states that understanding a written text means extracting the required information as efficiently as possible. This means that the more people read written forms, the more knowledge and information they acquire. However, it is difficult to make people develop good reading habits; that is why the success of implementing reading programs will depend on the students' interests. In line with this idea, Gilakjani and Sabouri (2016) state that reading is an interactive process in which readers construct a meaningful representation of text using effective reading strategies. Reading is a simple activity but not as simple as it looks (Akkuş & Doymuş, 2022). In addition, reading is a complex process that requires the reader's active participation.

As reading skills are important in language learning, a teacher should use an effective technique to enhance students' reading comprehension (Gurk, 2016; Sutapa, 2020). Reading comprehension is an active thinking process through which a reader intentionally constructs meaning to better understand concepts and information presented in a text or a paragraph

(Kalsum, 2021; Namaziandost et al., 2020). This means that the reader interacts with the text to construct meaning. Pariati (2018) says that reading is an active skill that includes guessing, predicting, checking, and asking oneself questions. He also explains that reading comprehension is understanding a whole text. However, the issue of enhancing reading comprehension should be addressed from a new perspective of the teaching approach, which emphasizes a student-centered approach, engaging students actively involved in the learning process. Based on the issue, the Jigsaw Type II technique can be applied in teaching reading.

Jigsaw is one of the techniques in teaching English as a foreign language, especially in teaching reading comprehension skills. Aronson introduced Jigsaw in 1978 (Pariati, 2018; Widorini, 2018). The Jigsaw II technique directs students to work in groups of 6 persons in a home group. First, the teacher will distribute the whole text to the students to give them a glimpse of its content. Second, every member of each group will get a different paragraph from the teacher. Third, after having the paragraph, the students with the same paragraph will be sent to a new group called the expert group, where they discuss the paragraph to get the information. Fourth, after they discuss the paragraph within the expert group, the students will go back to the home group to tell the other members about the content of the paragraph they have discussed with the expert group before so that the other members will comprehend all the information of the whole text (Zulyanis & Natasha, 2024).

The jigsaw technique was first developed by Aronson (2000) and later by Slavin (2005), who designed a modified pattern of cooperative differential integration of information called Jigsaw Type II. Based on Tewksburry (2005), there are some advantages to using the Jigsaw Type II technique in the teaching-learning process, as follows:

1. The students can teach themselves instead of having material presented to them. The technique fosters depth of understanding.
2. Each student could practice self-teaching while doing the Jigsaw II Technique, which is the most valuable skill we can help them learn.
3. The students practice peer teaching, which allows them to comprehend the material at a deeper level than they typically do in their daily reading class.
4. Each student has a chance to contribute meaningfully in a discussion, something that is difficult to achieve in a large group discussion. Each student develops expertise and has something important to contribute.
5. Asking each group to discuss a follow-up question after individual presentations fosters real discussion.

According to Al-Salkhi (2015), in the Jigsaw Type II technique, students are divided into heterogeneous groups; each group consists of 4-5 members, and the members of each group study the same subject, for example, a chapter in a textbook and each member concentrates on a specific part of the subject. After that, the members of different groups are assigned the same part to hold a discussion meeting. Then, each member joined his original group to explain what he had learned from his specific assignment. Finally, each member takes an individual test, and all member scores are used to calculate the score of each group. With this technique, students with different learning abilities can help each other to achieve their learning goals.

Some international and national researchers have investigated the effect of using the Jigsaw Type II Technique (Wardhani et al., 2014). Some research results concerning the Jigsaw Type II Technique were reported to give evidence about the effectiveness of this strategy. Kazemi (2012) investigated The Effect of the Jigsaw Type II Technique on the Learners' Reading Achievement in the Case of English as L2 in Iran, and a similar study was also conducted by Kardaleska (2013) in an ESP classroom in Macedonia. Those two researchers examined the Jigsaw Type II Technique with two different kinds of participants, namely University students

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and ESP students. However, both of the researchers had similarities in investigating the significant effect of the Jigsaw Type II Technique on the student's reading comprehension. The results showed that the use of the Jigsaw Type II Technique had a significant effect. However, few researchers still used the Jigsaw Type II Technique in teaching reading comprehension to senior high school students. Due to the results, this research aimed to fill the gap and investigate the effect of using the jigsaw type II technique on students' reading comprehension achievement in the seventh-grade students of Kedungjajang 1 Junior High School.

The purpose of this research is to analyze the effect of using the Jigsaw Type II Technique on the reading comprehension achievement of seventh-grade students. This study aims to determine whether this cooperative learning strategy can significantly enhance students' understanding of reading texts compared to more traditional instructional methods. By examining the outcomes of students taught using the Jigsaw Type II Technique, the research seeks to provide evidence on the effectiveness of collaborative learning in improving comprehension skills at the junior high school level.

Method

This research design was intended to determine whether or not teaching reading comprehension using the Jigsaw Type II technique has a significant effect on the seventh-grade students at SMP 1 Kedungjajang. Therefore, quasi-experimental research with a post-test-only control group design was chosen to be applied in this research.

In this research, the researcher chose two classes, one as the experimental and the other as the control classes. The two classes (the experimental and the control classes) were determined based on the result of the homogeneity test given to all students of the Seventh grade. The experimental class was taught reading comprehension using Jigsaw Type II Technique, whereas the control class was taught reading comprehension using question and answer. After selecting the experimental and the control classes, both were given different treatments. Then, the reading post-test was given to both classes to determine the significant difference in reading comprehension achievement between the experimental and control classes. The research design that was applied in this research can be illustrated as follows:

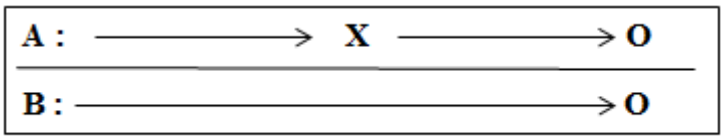


Figure 1. Research Design

Source: Cresswell (2017)

Notes:
A: Experimental Class
B: Control Class
X: Treatment
O: Post Test

Based on the above diagram, the researcher chose two classes, one as the experimental/treatment class and the other one as the control class. The two classes (the experimental and the control classes) were determined based on the result of the homogeneity test given to all students of the Seventh grade. The st scores were scores analyzed using Analysis of Variance (ANOVA). The experimental class was taught reading comprehension using

the Jigsaw Type II technique, whereas the control class was taught reading comprehension using question and answer.

Results

The primary data in this study were obtained through a reading comprehension post-test, which was administered to both the experimental and control groups following the treatment phase. The test was conducted on Thursday, May 2nd, 2019. A total of 51 students participated in the post-test, comprising 26 students from the experimental class and 25 students from the control class. The objective was to assess the impact of the instructional method used in each class on students' reading comprehension performance.

The post-test consisted of 20 multiple-choice items and was designed to evaluate two key aspects of reading comprehension: literal and inferential understanding. Students were given 80 minutes to complete the test. The uniform administration of the test across both groups ensured that the results could be fairly compared, providing valid and reliable data to measure the effectiveness of the Jigsaw Type II Technique compared to the question-and-answer technique used in the control class.

The reading post-test scores from the experimental and control classes were used as the data to investigate the effect of the treatment in using the Jigsaw Type II Technique in teaching descriptive text reading on the students' reading comprehension achievement. The post-test results were analyzed statistically using a t-test with an SPSS computing system with a 5% significance level to know whether there was a significant difference between the experimental and the control classes. The result of group statistics is shown in the table below.

Table 1. The Result Of The Student's Post-Test Score

	kelas	N	Mean	Std. Deviation	Std. Error Mean
Hasil	kelas 7a	26	83.2692	8.35970	1.63947
	kelas 7 c	25	80.0000	8.77971	1.75594

Source: primary data, 2024

Based on the results shown in Table 1, the mean score of students in the experimental class was 83.26, while the mean score in the control class was 80.00. This suggests that students who were taught using the Jigsaw Type II Technique achieved better reading comprehension outcomes compared to those taught using the traditional question-and-answer method. The difference in average scores indicates a potential advantage of implementing cooperative learning strategies in the classroom.

To determine whether the difference between the two groups was statistically significant, an independent samples t-test was conducted using the SPSS statistical software. This test was used to compare the post-test scores of the experimental and control classes, assessing whether the observed difference was due to the teaching technique rather than chance. The results of this analysis are presented in Table 2 and serve as the basis for drawing conclusions regarding the effectiveness of the instructional methods used.The result of the analysis is presented in Table 2 below.

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Table 2. The Output Of Independence Sample T-Test of Post-Test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
								95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	.014	.905	1.362	49	.179	3.26923	2.39998	-1.55371	8.09217
Equal variances not assumed			1.361	48.615	.180	3.26923	2.40233	-1.55940	8.09787

Source: primary data, 2024

According to the results presented in Table 2, the significance value (p-value) obtained from the independent samples t-test was 0.017, which is lower than the threshold of 0.05. This indicates that the difference in reading comprehension scores between the experimental and control groups was statistically significant. In other words, the use of the Jigsaw Type II Technique had a meaningful and positive effect on students' reading comprehension performance compared to the traditional question-and-answer method applied in the control class.

In hypothesis testing, the null hypothesis (H_0) is rejected when the p-value is less than 0.05, while the alternative hypothesis (H_1) is accepted. Since the p-value in this study is 0.017, which is lower than 0.05, the null hypothesis is rejected, and the alternative hypothesis is accepted. Therefore, it can be concluded that there was a significant effect of the Jigsaw Type II Technique on improving students' reading comprehension achievement.

Discussion

From the results of this study, the Jigsaw Type II Technique is one of the effective ways to teach reading comprehension. The results of this study showed that the experimental class taught using the Jigsaw Type II Technique scored better than the control class taught using the question-and-answer technique. This can be seen from the average value of the post-test, which shows that the experimental class obtained a higher average value than the control class (83.26 > 80.00). Based on the statistical analysis results, a significant value of 0.17 (<0.05) was obtained, which is smaller than 0.05, meaning there is a significant difference between the two classes. This is caused by increased mastery of the material provided so that students can solve the questions correctly, but both classes have different values. This is due to applying the jigsaw-type cooperative method given to the experimental class, which provides mastery and application of concepts that are more numerous and meaningful than the provision or treatment with conventional learning in the control class. The jigsaw-type cooperative method is a teaching method that increases students' sense of responsibility for their learning and the learning of others because the application of the Jigsaw type cooperative method carried out in learning triggers students' attraction or students' interest in finding what the teacher instructs in the tasks given in pairs and will be held accountable (Muntiani et al., 2019). In conclusion, the results of the data analysis proved that reading instruction using the Jigsaw Type II Technique significantly affected students' reading comprehension achievement at SMP 1 Kedungjajang, Lumajang.

This study's significant results align with the results of research conducted by Asda (2022), which reported the effect of using the Jigsaw Type II Technique on student learning outcomes. The results of this study are also in line with the results of research conducted by Kalsum et al. (2021), who investigated the effect of the Jigsaw Type II Technique on reading comprehension skills in elementary school students. The results showed that using the Jigsaw Type II technique can affect reading comprehension skills in elementary school students. Furthermore, research by Priatna et al. (2024) found that there is an effect of applying the Jigsaw model in learning reading comprehension assisted by digital books.

The findings of this study provide empirical support for constructivist learning theories, which emphasize the importance of active student participation and social interaction in the construction of knowledge. The significant improvement in students' reading comprehension in the experimental group indicates that cooperative learning models—specifically the Jigsaw Type II Technique—are theoretically effective in enhancing cognitive processes involved in reading. This technique allows students to become both learners and teachers, which aligns with Vygotsky's theory of the Zone of Proximal Development, where students learn more effectively through peer interaction. The study reinforces the theory that knowledge is best constructed in a social and collaborative context, and that comprehension is deepened when learners are engaged in meaningful and purposeful tasks.

Furthermore, the results contribute to the theoretical discourse on reading comprehension, particularly in the context of second language learning. They suggest that strategic group work and peer-led instruction, as applied through Jigsaw, can facilitate both literal and inferential understanding, which are key components in reading proficiency. Thus, this study expands the pedagogical understanding of how structured collaboration affects different levels of comprehension.

Practically, this research offers valuable insights for teachers, curriculum developers, and education policymakers. For teachers, the study suggests that integrating the Jigsaw Type II Technique into reading instruction can be an effective method to increase student engagement, boost comprehension outcomes, and foster responsibility and collaboration within the classroom. It also provides a concrete strategy for differentiating instruction and encouraging student-centered learning.

For schools and education authorities, the findings support the inclusion of cooperative learning models in official curricula and teacher training programs. Given the significant gains in comprehension demonstrated in this study, there is a strong case for institutionalizing collaborative instructional methods, especially in subjects where understanding texts deeply is essential. Additionally, the Jigsaw technique is cost-effective, easy to implement across diverse learning contexts, and adaptable to both online and face-to-face learning environments, making it a highly versatile instructional tool.

Conclusion

Based on the results and discussion, the average value of the post-test shows that the experimental class obtained a higher average value than the control class (83.26> 80.00). Based on the statistical analysis results, a significant value of 0.17 (<0.05) was obtained, which is smaller than 0.05, meaning there is a significant difference between the two classes. This means that the reading comprehension skill test results for students taught with the jigsaw method are higher than those for students taught with the conventional method. This means that there is a significant influence between the use of the Jigsaw Type II Technique and the reading

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comprehension achievement of seventh-grade students at SMPN 1 Kedungjajang, Lumajang, in the 2018/2019 academic year.

References

Akkuş, A., & Doymuş, K. (2022). Effect of Subject Jigsaw and Reading Writing Presentation Techniques on Academic Achievement of 6th Grade. *Journal of Turkish Science Education*, *19*(2), 496–510.

Al-Salkhi, M. (2015). The Effectiveness of Jigsaw Strategy on the Achievement and Learning Motivation of the 7th Primary Grade Students in Islamic Education. *International Journal of Humanities and Social Science*, *5*(4).

Aronson, E. (2000). *The Jigsaw Classroom: Tips on Implementation*.

Asda, Y. (2022). Efektivitas Pembelajaran Model Kooperatif Tipe Jigsaw Untuk Meningkatkan Hasil Belajar Sejarah Kebudayaan Islam Pada Siswa Man Model Banda Aceh. *Jurnal Penelitian Tindakan Kelas Dan Pengabdian Masyarakat, 2*(3), 160–174.

Cresswell, J. W. (2017). *Research Design: Qualitative, Quantitative, and Mixed Method Approaches*. Sage Publications.

Gilakjani, A. P., & Sabouri, N. (2016). How Can Students Improve Their Reading Comprehension Skills? *Journal of Studies in Education*, *6*(2).

Grellet, F. (1996). *Developing Reading Skill: A Practical Guide to Reading Comprehension Exercises*. Cambridge University Press.

Gurk, N. K. (2016). The Effect of Cooperative Learning Techniques on Intermediate Iranian EFL Learners' Reading Comprehension And Reading Strategies. *Journal of Studies In Education.*, *3*(1).

Kalsum, U. (2021). Pengaruh Penggunaan Metode Jigsaw Dan Minat Baca Terhadap Keterampilan Membaca Pemahaman Pada Siswa Sekolah Dasar. *El-Ibitadiy : Journal of Primary Education*, *4*(2).

Kalsum, U., Miaz, Y., & Iswari, M. (2021). Pengaruh Penggunaan Metode Jigsaw dan Minat Baca Terhadap Keterampilan Membaca Pemahaman pada Siswa Sekolah Dasar. *Journal of Primary Education*, *4*(2), 201–208.

Kardaleska, L. (2013). The Impact of Jigsaw Approach on Reading Comprehension in an ESP Classroom. *The Journal of Teaching English for Specific and Academic Purposes*, *1*, 53–58.

Katemba, C. , V, & Samuel. (2017). Improving Student's Reading Comprehension Ability Using Jigsaw 1 Technique. *Acuity : Journal of English Language Pedagogy, Literature and Culture*, *2*(2).

Kazemi, M. (2012). The Effect of Jigsaw Technique on the Learners' Reading Achievement: The Case of English as L2. *MJAL 4:3 Autumn*.

Muntiani, Rufi'i, & Hari Karyono. (2019). Pengaruh Penggunaan Metode Kooperatif Tipe Jigsaw Dan K-W-L Terhadap Kemampuan Membaca Teks Report Siswa Kelas Ix Smp Negeri 2 Balongpanggang. *Jurnal Education and Development*, *7*(3).

Namaziandost, E., Gilakjani, A. P., & Hidayatullah. (2020). Enhancing pre-intermediate EFL learners' reading comprehension through the Jigsaw technique. *Cogent Arts & Humanities* , *7*(1).

Pariati, N. N. (2018). The Effect Of Jigsaw Technique And Students' Vocabulary Mastery On Reading Comprehension Of The Eighth Grade Students Of SMPN 4 Singaraja. *Yavana Bhāshā: Journal of English Language Educatio*n, *1*(2).

Priatna, Y. Z., Iswara, P. D., & Djuanda, D. (2024). Penerapan Model Jigsaw dalam Pembelajaran Membaca Pemahaman berbantuan Buku Digital. *Jurnal Studi Guru Dan Pembelajaran*, *7*(2), 736–748. https://doi.org/10.30605/jsgp.7.2.2024.4267

Slavin, R. E. (2005). *Cooperative Learning: Teori, Riset dan Praktik*. Nusa Media.

Sutapa, I. K. (2020). Model Pembelajaran Kooperatif Tipe Jigsaw II Terhadap Kemampuan Menulis dalam Bahasa Inggris Ditinjau dari Kreativitas. *Mimbar Pendidikan Indonesia*, *1*(3).

Tewksbury, B. (2005). *The Jjigsaw Technique*.

Wardhani, I. G. A., Marhaeni, N., & Artini, L. P. (2014). The Effect Of Jigsaw II and Students-Teacher Relationship On Students' Reading Comprehension. *Jurnal Pendidikan Dan Pembelajaran Bahasa Indonesia*, *3*(1).

Widorini, A. M. (2018). *The effect of using Jigsaw I on the reading comprehension achievement of junior high school students*.

Yĭğıt, F., & Durukan, E. (2023). Effect of Peer-Assisted and Learning Together Techniques on 6th Grade Students' Reading Comprehension Achievement and Attitudes towards Reading. *International Journal of Education and Literacy Studies*, *11*(1), 31–43. https://doi.org/10.7575/aiac.ijels.v.11n.1p.31

Zulyanis, F., & Natasha, H. (2024). The Use of the Jigsaw Technique on Students' Reading Comprehension. *Indonesian Journal of Integrated English Language Teaching*, *10*(1).