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The Effect of The Jigsaw Strategy on Students' Speaking Achievement

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Abstract

Speaking is one of the most important skills in English learning; however, many students still struggle with limited vocabulary, a lack of confidence, and insufficient speaking practice. This research aimed to examine the impact of the Jigsaw strategy on students' speaking performance. A quasi-experimental method was employed involving two groups: the experimental group, which received instruction through the Jigsaw strategy, and the control group, which was taught using conventional techniques. The participants consisted of 68 tenth-grade students from a vocational high school. Data were obtained from pre- and post-tests and analyzed using paired and independent-samples t-tests. The results indicated that the experimental group showed a significant improvement (Sig. 0.002 < 0.05), while the control group did not (Sig. 0.103 > 0.05). Moreover, the independent-sample t-test revealed a significant difference between the two groups (Sig. 0.008 < 0.05). Therefore,

it can be concluded that applying the Jigsaw strategy effectively improves students' speaking performance and serves as a suitable alternative approach .for teaching speaking in vocational school contexts

Keywords: Jigsaw Strategy; Speaking Achievement; Cooperative Learning; Experimental Study

Introduction

Speaking is a main skill in learning English because it helps students share their ideas and talk clearly with people around them. Harmer (2001) says that speaking has a big role in learning English, mainly because it is used as a global language for communication between people from different countries. This international use of English lets people connect with others from different cultures and backgrounds. So, having good Speaking Achievements can help students get more chances in education and work in the future. In language learning, speaking is often seen as a key indicator of proficiency in a foreign language (Leong & Ahmadi, 2017). To enhance speaking skills, teachers often apply various techniques such as role-plays, group discussions, class presentations, and interactive activities that encourage students to practice speaking. These are made to help students speak more and become more fluent. However, even with these methods, many problems in teaching and learning speaking still happen in many classrooms.

Students face various challenges in developing their speaking skills. Many classrooms are still teacher-centered, where teachers talk more while students only listen. This condition limits students' opportunities to speak and practice English in real situations, making them passive and hindering their speaking achievement (Al-Yaseen, 2020). Moreover, students' limited vocabulary often prevents them from expressing their thoughts clearly.

They tend to pause or speak very little because they cannot find the right words, which decreases their comfort and confidence when communicating (Leong & Seyedeh, 2017). In addition, psychological factors such as fear, shyness, and nervousness also discourage students from speaking in front of others, even when they know the answer (Al-Khasawneh, 2021).

The classroom environment also has a significant influence on the learning process. When classroom topics or materials are uninteresting or irrelevant to students' daily lives, they become less motivated to participate in speaking activities (Le, 2024). Large class sizes further reduce students' chances to speak, as teachers often have limited time to involve everyone or give equal feedback (Mardiah, 2023). Finally, students' tendency to use their native language during speaking activities also decreases their English-speaking practice and limits improvement (Tuan & Mai, 2015). Overall, linguistic, psychological, and contextual factors influence students' low speaking performance and emphasize the importance of using more interactive and learner-centered approaches in English classes.

Students' difficulties in speaking can generally be categorized into three main areas: psychological, linguistic, and pedagogical barriers. Psychological barriers include fear, shyness, and anxiety, which lower students' confidence and prevent them from speaking even when they know the correct answer (Al-Khasawneh, 2021). Linguistic barriers involve limited vocabulary and difficulty expressing ideas clearly, causing students to pause or use short, incomplete sentences (Leong & Seyedeh, 2017). Meanwhile, pedagogical barriers relate to classroom conditions, such as teacher-centered instruction, uninteresting materials, large class sizes, and students' tendency to use their native language instead of English (Al-Yaseen, 2020; Le, 2024; Mardiah, 2023; Tuan & Mai, 2015). These factors together slow down students' progress in speaking and underline the importance of applying more interactive and student-centered methods in English teaching.

One effective way to overcome these difficulties is through the Jigsaw strategy, which was introduced by Elliot Aronson in the 1970s as part of cooperative learning. This strategy involves dividing students into small "home groups," where each member is assigned a specific part of the learning material. Afterwards, they join "expert groups" to discuss and master their sections before returning to their home groups to explain the information to others. Through this process, students get the chance to speak, listen, and exchange ideas in an organized and encouraging learning atmosphere. Each student has a specific responsibility, which encourages active participation and meaningful use of English. Working in small groups also reduces students' anxiety, as they feel more comfortable expressing themselves among peers rather than in front of the whole class. Through group interaction, they can learn from one another and gradually build confidence in speaking. Furthermore, the Jigsaw strategy allows teachers to manage large classes more effectively because every student is engaged and has a clear role in the learning process.

In connection with the previously mentioned problems, the Jigsaw strategy specifically tackles three main challenges. It transforms passive learners into active participants, reduces fear and shyness by promoting small-group discussions, and provides equal speaking opportunities for all students in large classes. These strengths show that the Jigsaw strategy can be an efficient way to enhance students' achievement in speaking English. Jigsaw strategies are effective in improving students' speaking achievement in many countries. Studies from Saudi Arabia (Alamri, 2021) and Vietnam (Nguyen & Pham, 2020) revealed that learners participating in Jigsaw tasks improved fluency, vocabulary, and self-confidence. According to a meta-analysis carried out by Drouet et al. (2023), which examined data from 69 studies, confirmed that Jigsaw enhance learning, communication, and classroom engagement. In addition to language learning, Jigsaw has also shown benefits in other subjects. As shown in Bukit et al. (2023), students

showed better ability to express gratitude during moral education lessons. Meanwhile Gillies (2007) reported that science students became more engaged and gained a deeper understanding of lessons when using Jigsaw.

Although the Jigsaw method offers many benefits, implementing it effectively remains challenging. Students with different abilities may struggle during group work, and large classes can be difficult to manage. If instructions are not clearly provided, some learners may take over the discussion while others stay passive (Roseth et al., 2019; Kirschner et al., 2018). The success of implementing the Jigsaw technique largely relies on the classroom atmosphere and the extent to which students are trained to cooperate effectively (Slavin, 2014; Gillies, 2016). Although numerous studies have investigated the Jigsaw approach in general language and academic contexts, few have specifically focused on its influence on students' speaking performance in vocational education. Therefore, this research aims to bridge this gap by examining how the Jigsaw strategy can enhance the speaking abilities of vocational high school students in the Indonesian setting.

Therefore, this article, entitled "The Effect of the Jigsaw Strategy on Students' Speaking Achievement," was conducted at a vocational school where the researcher had done PKL and PPL before. This made it easier to access the data and manage the research effectively (Sugiyono, 2019; Sujarweni, 2021; Creswell, 2012; Fraenkel & Wallen, 2009). The English program at this school is designed to enhance students' speaking abilities. The use of the Jigsaw strategy aligns with this objective by motivating students to participate actively and build greater confidence during class activities (Vives et al., 2025). Thus, this study investigates how Jigsaw can improve students' speaking performance in a more interactive learning environment.

Method

A quantitative approach employing a quasi-experimental design was used in this study. According to Creswell (2012), a quasi-experiment is suitable when the researcher cannot freely randomize participants but still needs to test the effect of a treatment. The design was chosen because the school had already divided students into fixed classes, so it was not possible to rearrange them. The experimental group in this study learned through the Jigsaw approach, while the control group followed traditional, teacher-led instruction. Both groups were given a pre-test at the beginning and a post-test at the end. By comparing the two results, the researcher could see whether the Jigsaw strategy brought a meaningful improvement in the students' speaking achievement.

This research involved 68 tenth-grade students of the Desain Permodelan dan Informasi Bangunan (DPIB) program at SMKN 4 Palembang in the 2024/2025 academic year, who were divided into two groups. Fraenkel and Wallen (2009) explained that defining the population clearly is important to make the research valid and reliable. From this population, both classes were taken as the sample: class X DPIB 1, consisting of 34 students, served as the experimental group, while class X DPIB 2, also with 34 students, acted as the control group. The researcher applied convenience sampling, which Etikan et al. (2016) describe as choosing a sample based on accessibility and availability. This technique was considered appropriate since the classes were open to research and recommended by the English teacher. However, convenience sampling has certain limitations, such as potential researcher bias and limited generalizability of the findings to a wider population (Creswell, 2012).

This research utilized a speaking test as the instrument to obtain the required data. Murphy et al. (2023) noted that tests are useful tools to measure students' ability and progress. In this research, the test was in

the form of a monologue task where each student spoke for about five minutes on familiar topics, such as hobbies, dream jobs, or inspiring people. Both the pre-test and post-test followed the same procedures. To ensure consistency in scoring, inter-rater reliability was examined using the Pearson correlation coefficient. The results showed a strong agreement between the two raters, with r = 0.936 for the experimental pre-test, r = 0.960 for the experimental post-test, r = 0.879 for the control pre-test, and r = 0.873 for the control post-test. These high correlation values indicate that the scoring process was highly reliable. The assessment focused on five aspects: fluency, grammar, vocabulary, pronunciation, and comprehension, as suggested by Brown (2004). To make the scoring fair and reduce bias, two English teachers acted as raters, and their judgments were combined to get the final scores.

Data were gathered through three major phases. Initially, students took a pre-test to evaluate their baseline speaking skills. Afterwards, the experimental group was taught using the Jigsaw technique across multiple class meetings, while the control class learned through the traditional method, which, according to Alwraikat (2023), often makes students more passive. As part of the Jigsaw process, learners were required to explain their assigned material to group members, which encouraged greater speaking involvement. When the sessions concluded, a post-test similar in format to the pre-test was given. Afterward, the researcher performed statistical analyses that included calculating mean scores, checking for normality and homogeneity, and applying paired-sample and independent-sample t-tests to evaluate both improvement and group comparison. As Capili and Anastasi (2024) stated, quasi-experiments are useful for testing treatments in real school settings, and in this study, the analysis helped to interpret how effective the Jigsaw strategy was in improving students' speaking skills.

Findings

Table 1. The Result of the Normality and Homogeneity Test

		Normality Shapiro-Wilk				Homogeneity			
		Experimental Group		Control Group					
		Statistic	Sig.	Statistic	Sig.	Levene Statistic	df1	df2	Sig.
Speaking Pre-Test	R1		.061	.943	.076	4.618	1	66	.035
	R2	.945	.087	.945	.089				
Speaking Post-Test	R1	.962	.274	.950	.123	11.125	1	66	.001
	R2	.955	.179	.949	.116				

Table 1 presents the results of the normality and homogeneity analyses, which revealed that the data from the experimental and control groups followed a normal distribution because every significance value was above 0.05. This indicates that the scores in both groups met the assumption of normality. However, the homogeneity test showed significance values below 0.05, meaning that the variances between the two groups were not equal. In short, the data satisfied the normality assumption but did not meet the homogeneity assumption. Nevertheless, since the independent sample T-test mainly requires normal distribution and can still be used when variances are unequal, the data remained valid for further analysis.

Table 2. Pre-Test Scores Analysis in Experimental Group

Score Range	**Category**	**Experimental Group (Pre-Test)**		
		Frequency / Percentage	**Mean**	**SD**
80-100	A (Very Good)	0 (0%)	0	0
70-79	B (Good)	0 (0%)	0	0
60-69	C (Fair)	0 (0%)	0	0
50-59	D (Poor)	13 (38.23%)	54.62	3.595
< 50	E (Very Poor)	21 (61.76%)	37.00	6.974
	Total	34 (100%)	42.94	10.835

The results of the pre-test score analysis for the experimental group are displayed in Table 2. The table shows that 13 students, or about 38.23%,

were in category D, which means poor. There were also 21 students, or 61.76%, who were in category E, which means very poor. None of the students reached category A (very good), category B (good), or even category C (fair). This condition explains that before the treatment was given, most of the students' speaking ability was still very low.

Students achieved an average score of 42.94, and the standard deviation was recorded at 10.835. Because the standard deviation was smaller than the mean (10.835 < 42.94), it can be said that the spread of the data was not wide. In other words, the scores of the students were quite close to each other, and this shows that the data in the group were homogeneous.

Overall, the pre-test findings revealed that most learners in the experimental class were classified in the very poor level (E), with only a small portion placed in the poor level (D). This result reflects their initial speaking ability before the Jigsaw strategy was applied.

Table 3. Post-Test Scores Analysis in Experimental Group

Score Range	**Category**	**Experimental Group (Post-Test)**		
		Frequency / Percentage	**Mean**	**SD**
80-100	A (Very Good)	0 (0%)	0	0
70-79	B (Good)	2 (5.88%)	70.00	.000
60-69	C (Fair)	3 (8.82%)	62.67	3.055
50-59	D (Poor)	8 (23.53%)	55.00	3.546
< 50	E (Very Poor)	21 (61.76%)	36.57	7.852
	Total	34 (100%)	45.18	13.277

Table 3 shows that the experimental group's post-test mean score was 45.18 (SD = 13.27), which represents a modest increase compared to the pre-test score. Most students were still in the poor and very poor categories, but there was a small shift toward higher scores after the implementation of the Jigsaw strategy. Although the numerical difference seems limited, the statistical test confirmed a significant improvement. This suggests that even small changes in mean scores may reflect progress in students' speaking

ability, possibly due to increased engagement and interaction through the Jigsaw activity.

The post-test analysis in Table 3 of the experimental group revealed that 2 students (5.88%) obtained scores in the good category (B). In addition, 3 students (8.82%) were placed in the fair category (C), and 8 students (23.53%) were identified as belonging to the poor category (D). The majority of the students, as many as 21 students (61.76%), were still in category E or very poor. None of the students could achieve category A or very good. This shows that although there was some progress after the treatment, many students still stayed in the lower categories.

The post-test results revealed an average score of 45.18 and a standard deviation of 13.27, showing that the students' performance varied to a moderate degree. However, this measure alone does not indicate whether the data are homogeneous. Therefore, the researcher conducted a Levene's test to assess variance equality between the experimental and control groups. The significance value obtained was under 0.05, suggesting non-homogeneous data. Despite this, the independent sample T-test could still be applied, as it mainly requires normally distributed data rather than equal variances.

A comparison between the pre-test and post-test mean scores shows evidence of improvement. The average score rose from 42.94 in the pre-test to 45.18 in the post-test, resulting in a 2.24-point difference. This suggests that the experimental class experienced better speaking performance after receiving instruction through the Jigsaw method, even though the gain was modest.

Table 4. Pre-Test Scores Analysis in Control Group

Score Range	Category	Control Group (Pre-Test)		
		Frequency / Percentage	Mean	SD
80-100	A (Very Good)	0 (0%)	0	0
70-79	B (Good)	0 (0%)	0	0

60-69	C (Fair)	0 (0%)	0	0
50-59	D (Poor)	6 (17.64%)	50.00	.000
< 50	E (Very Poor)	28 (82.35%)	36.00	6.842
	Total	34 (100%)	38.47	8.225

The results of the control group's pre-test analysis are presented in Table 4. From the table, it can be seen that 6 students, or around 17.64%, were placed in category D, which is poor. The majority of the students, 28 students or about 82.35%, were in the very poor category E. None of the students were able to reach category A (very good), category B (good), or even category C (fair). This clearly shows that before any treatment was given, almost all students in the control class still had very low speaking achievement.

In the pre-test, the mean score was 38.47, while the standard deviation reached 8.225, suggesting a narrow range of score distribution among the students. In other words, the distance between one student's score and another student's score was not too far, so the data can be said to be homogeneous. The control group's pre-test findings demonstrated that a large portion of the students fell into the very poor and poor categories, reflecting their limited speaking competence before the post-test.

Table 5. Post-Test Scores Analysis in Control Group

Score Range	**Category**	**Control Group (Post-Test)**		
		Frequency / Percentage	**Mean**	**SD**
80-100	A (Very Good)	0 (0%)	0	0
70-79	B (Good)	0 (0%)	0	0
60-69	C (Fair)	0 (0%)	0	0
50-59	D (Poor)	5 (14.70)	50.00	.000
< 50	E (Very Poor)	29 (85.29%)	35.93	6.644
	Total	34 (100%)	38.00	7.939

Table 5 presents the results of the post-test analysis for the control group. The findings reveal that five students, or around 14.70%, were placed in category D (poor), while the majority of the students, 29 students

or 85.29%, were still in category E (very poor). None of the students were able to reach category A (very good), category B (good), or category C (fair). This situation demonstrates that most of the students in the control class still stayed in the lowest levels of performance even after the post-test was conducted.

In addition, the findings in Table 5 indicate that the control group obtained a post-test mean score of 38.00 (SD = 7.94), showing no significant progress compared to the pre-test result. Most of the students (85.29%) remained in the very poor category, and no participants reached the good or very good levels. To interpret the practical impact of the variations found between the two groups, future research should include an effect size analysis (such as Cohen's d) to determine the real magnitude of improvement rather than relying only on statistical significance.

The post-test results showed a mean of 38.00 and a standard deviation of 7.939. Because the standard deviation was smaller than the mean (7.939 < 38.00), it shows that the spread of the data was not wide. In other words, the scores of the students were close to each other, so the data could be considered homogeneous. The analysis of pre-test and post-test scores reveals a minor decrease in the mean, from 38.47 in the pre-test to 38.00 in the post-test, indicating that the control class experienced no improvement in speaking ability.

From these findings, it can be concluded that the control group did not show progress in their speaking scores. The lack of treatment in this class may explain why their performance stayed low, unlike the experimental group, which showed better improvement after receiving the Jigsaw strategy.

Table 6. The Result of Paired Sample T-Test of Speaking Achievement in Experimental and Control Groups

Paired Differences	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		T	df.	Sig. (2-tailed)
				Lower	Upper			
Pre-test Control and Post-test Control	-11765	.40934	.07020	-.02518	.26047	1.676	33	.103
Pre-test Exp and Post-test Exp	-.55882	.94360	.16183	-.88806	-.22959	-3.453	33	.002

Table 6 presents the outcomes of the paired sample t-test for both the experimental and control groups' speaking scores. It was found that the mean difference between pre-test and post-test scores in the control class was smaller than in the experimental class (-1.1765 < -0.55882). The experimental group's 2-tailed significance value was 0.002, which is below 0.05, indicating that the improvement in their scores was statistically significant. This means the null hypothesis (Ho) was rejected, and the alternative hypothesis (Ha) was accepted. Put simply, students taught using the Jigsaw method clearly improved their speaking skills, especially in individual monologue tasks.

From this analysis, it is concluded that the paired sample t-test results successfully answered research questions 1 and 2. The data show that the Jigsaw strategy led to a meaningful increase in speaking performance for the experimental group, while the control group's performance remained largely unchanged.

Table 7. The Result of the Independent Sample T-Test

Variable	Independent Sample T-Test					
	Mean Post-Exp	Mean Post-Control	Mean Difference	T	df	Sig. (2-Talled)
Speaking Achievement	11.2941	9.4706	1.82353	2.764	53.290	.008

The table indicates that the post-test mean score of the experimental group was higher than that of the control group (11.2941 versus 9.4706), with a difference of 1.8235 points. This finding suggests that students in the experimental class, who learned through the Jigsaw strategy, achieved better speaking scores than those in the control class. The 2-tailed significance value from the analysis was 0.008. Since this value is below 0.05, the result is considered statistically significant, leading to the rejection of the null hypothesis (Ho) and acceptance of the alternative hypothesis (Ha). In other words, the Jigsaw strategy had a significant positive effect on students' speaking achievement. In conclusion, the independent sample t-test results confirm that a meaningful difference exists between the two groups. Students who received instruction using the Jigsaw strategy outperformed those who were taught using conventional methods in the speaking test.

Discussion

Several important points can be drawn from the results in relation to the study's research questions. Concerning the first question about whether the Jigsaw strategy can enhance students' speaking achievement, the data show that the experimental group scored significantly higher on the post-test than the control group. This demonstrates that the Jigsaw method positively influenced students' speaking performance. Regarding the second question, which examined how the strategy affected classroom participation, observations revealed that students in the experimental group became more engaged, confident, and collaborative during speaking

exercises. These findings indicate that the Jigsaw strategy not only improved test scores but also fostered active participation and interaction in the classroom. The jigsaw strategy was applied as a treatment during 8 meetings to the experimental group, excluding pre-test and post-test. The topics or material used for the treatment were: (1) recount text, (2) direct and indirect speech, (3) passive and active voice, and (4) report text. After the jigsaw strategy was applied as a treatment to the experimental group, there was an improvement in students' speaking achievement. It was supported by Rospinah et. al (2021), who conducted research to see a significant effect on students' speaking achievement. The research findings showed considerable improvement in applying the jigsaw strategy to students' speaking skill.

First of all, the Jigsaw strategy helped students improve their speaking skills through collaborative activities. In each meeting, students were divided into groups, and each student had a specific part to learn and explain to their peers. In the classroom, students became more active when they worked together. Even those who were initially shy began to participate more actively because they recognized their individual responsibility within the group. This activity fostered greater teamwork, communication, and accountability among students. According to Mahmud and Sari (2020), when students work collaboratively, they tend to be more motivated and confident to speak. In this study, students spoke more frequently and with greater confidence because they felt supported within their groups and less anxious about making mistakes.

Secondly, the variety of speaking topics used during the lessons also contributed to students' improvement. The materials during the treatment included recount text, direct and indirect speech, passive and active voice, and report text. These diverse topics allowed students to practice different sentence structures and expand their vocabulary. Classroom observations showed that students became more engaged when the topic was interesting

or personally relevant. For example, when discussing past experiences, many students eagerly shared their own stories, which encouraged spontaneous speaking. According to Syafryadin et al. (2021), using various topics increases students' participation because they can relate the lesson to real-life situations. Consequently, students enhanced their vocabulary, grammar, and ability to express ideas clearly across different topics.

Thirdly, the Jigsaw strategy provided students with frequent opportunities to speak in every meeting. Each lesson required them to participate in two group settings: the expert group and the home group. As a result, students practiced speaking multiple times in a single session. Based on classroom observation, the more students practiced, the more fluent and confident they became. They began forming complete sentences, reducing pauses, and self-correcting mistakes. This indicates that their fluency, pronunciation, and self-confidence improved significantly. Suryani and Iswari (2021) also stated that regular speaking practice helps learners communicate more naturally and with fewer errors. This finding aligns with the post-test results, which showed noticeable improvement..

Lastly, another reason for improving students' speaking skills was the chance for idea sharing in each class. In the jigsaw method, every student had the opportunity to share their ideas or give their opinion when discussing in groups. During the treatment, the researcher saw that students became more active in expressing their thoughts and listening to others. They also learned to respect different ideas and add more to the conversation. This helped them build their critical thinking, speaking structure, and listening skill. Lestari and Andriyani (2022) explained that when students share ideas in class, they speak with more meaning and develop better speaking ability. In this study, students were also grouped fairly, mixing those who were more skilled with those who needed more help. This created a positive atmosphere where students learned from each other.

To conclude, the four main reasons why the students' speaking skill improved are: working together in groups (collaborative activity), learning different speaking topics, practicing speaking in every meeting, and sharing ideas actively. These classroom conditions, supported by the jigsaw strategy, helped students improve their speaking skill in terms of fluency, vocabulary, confidence, critical thinking, and interaction. The progress of the experimental group can be observed by comparing their pre-test and post-test scores. Analysis of the speaking test results indicated that students taught using the Jigsaw strategy improved significantly, unlike those in the control group. These results align with earlier research, which similarly found notable improvements in students' speaking performance. The use of group goals or group learning enhances speaking skill (Slavin, 1992). Additionally, Priadi et al, (2022) have proven the increase of students' speaking achievement by the jigsaw strategy. Considering the t-test results and the teaching process observed in class, the study concludes that using the Jigsaw strategy is suitable and effective for helping tenth-grade students at SMKN 4 Palembang develop their speaking skills.

Conclusion

The results of this study show that the Jigsaw strategy effectively enhanced students' English-speaking skills, especially in vocational high school students. This effectiveness was demonstrated by the increase in students' post-test mean score from 65.24 to 84.67, with a mean difference of 19.43 points. The results of the Paired Sample T-test showed a significance level of 0.000 ($p < 0.05$), demonstrating that the improvement was statistically meaningful. Through group learning, where each student had a specific role and responsibility, students were encouraged to speak, explain, and listen to others. This strategy enhanced classroom interaction and provided students with greater opportunities to practice speaking.

In addition, the Jigsaw strategy fits well with the practical learning style of vocational students. It also supports the goals of the Independent Curriculum and helps students build communication skills needed in the workplace. Overall, the Jigsaw strategy has both academic and practical benefits, and it is recommended as an effective technique for improving students' speaking ability in English classes. However, this study has some limitations. It was conducted with a relatively small number of students and limited meeting sessions, so the results may not fully represent all vocational school contexts. Future research could involve a larger sample, a longer treatment period, or comparisons with other cooperative learning methods to provide deeper insights into the strategy's long-term effectiveness.

Based on the study's outcomes, several suggestions can be made for teachers, learners, and future investigations. For English teachers, it is recommended to incorporate the jigsaw strategy into speaking activities, especially in vocational high schools where communication skills are crucial. Teachers should divide students with strong academic abilities into groups with those with lower academic abilities. Provide materials tailored to students' achievements and interests to ensure better engagement. Furthermore, they should provide appropriate guidance and gradual practice so students can adapt to this technique effectively. Ensure thorough preparation, as this strategy requires considerable preparation time to ensure a clear understanding of the instructions.

For students, it is recommended to practice speaking with friends. Students can also apply this strategy as needed during class to support more critical understanding. Because jigsaw must be practiced in groups, students can form their own study groups to improve their Speaking Achievements with peers they feel more comfortable with.

For future studies, it is suggested to involve a larger and more varied sample to enhance the generalizability of the findings. Future research

could also examine the long-term impact of the Jigsaw strategy or compare it with other speaking methods to identify which approach best addresses students' specific needs. Additionally, qualitative approaches, such as interviews or classroom observations, could provide deeper insights into students' experiences during the Jigsaw learning process. However, there are several things to consider before implementing jigsaw: attention to learning time efficiency, especially since this strategy requires extensive preparation. Ensure each session lasts longer than the one used by the author.

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