

The Impact of Jigsaw Method on Students' Interactive Communication Abilities

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Abstract

The impact of the Jigsaw cooperative learning approach in enhancing the interactive communication skills of seventh-grade students at SMP Muhammadiyah 14 Makassar is examined in this article. Fluency, pronunciation, grammar, vocabulary, and content are the five communication indicators where students' performance is analyzed in this quantitative study using a pre-experimental design with pre-test and post-test evaluations. After using the Jigsaw technique, students' interactive communication skills significantly improved, according to the results, which were analyzed using descriptive statistics and the Wilcoxon Signed-Ranks Test. According to these results, students' verbal engagement and communicative ability in English language classes are significantly enhanced by structured peer cooperation.

Keywords: *Jigsaw Method, Interactive Communication, Cooperative Learning, Speaking Skills*

Introduction

For junior high school pupils in Indonesia, where English is a foreign language, interactive communication is still a difficult but necessary ability. This skill includes not just the ability to express ideas verbally but also the ability to actively participate in group conversations, listen intently, reply effectively, and interact confidently with peers. Due to their limited vocabulary, lack of confidence, and nervousness while speaking in front of others, many students find it difficult to succeed in these areas. Their general communication skills are so frequently compromised, which has an impact on their academic achievement as well as their ability to engage with others in the classroom.

The Jigsaw approach, which was first presented by Elliot Aronson in 1970, is one of the cooperative learning systems that have been investigated to address these issues. Through organized cooperation in expert and home groups, this approach places a strong emphasis on peer teaching. In order to promote equal participation, mutual accountability, and active engagement, each student is in charge of understanding a certain section of the content before sharing it with their group. In addition to being exposed to the material more thoroughly, students must be able to confidently and properly communicate what they have learned.

The quantifiable effects of the Jigsaw approach on students' interactive communication skills in an English language learning environment are the main topic of this study. The study is to ascertain if this collaborative approach significantly improves communication skills like vocabulary, grammar, pronunciation, fluency, and content delivery by employing pre-tests and post-tests based on CEFR criteria. It is anticipated that the results would offer insightful information to teachers looking for practical ways to enhance their students' speaking abilities and classroom engagement.

Method

This study used a pre-experimental design with a one-group pre-test and post-test paradigm, utilizing a quantitative research approach. This design's primary goal was to assess whether using the Jigsaw approach might greatly enhance students' interactive communication skills when learning English. Thirty seventh-grade students were chosen via cluster random sampling for the study, which was carried out at SMP Muhammadiyah 14 Makassar. These pupils made up a single, complete class, which was used as the research sample.

Prior to the start of the treatment, the researcher gave the pupils a pre-test to gauge their communication abilities. Based on the Common European Framework of Reference (CEFR), the pre-test was created to assess five essential elements of interactive communication: content, grammar, vocabulary, pronunciation, and fluency. With a maximum possible score of 100, each component was weighted, with pronunciation and fluency receiving 25 points each, grammar and vocabulary receiving 15 points each, and content receiving 20 points. Following the pre-test, the Jigsaw technique was used to conduct the treatment phase across four classroom meetings.

Students were initially split up into home groups and assigned a certain subject to study for the course of the program. After that, they went to expert groups where they could talk about the same subject with peers who were allocated to the same material. They went back to their home groups to explain their role to other members when they had mastered the content. This cycle promoted active conversation as well as group learning. In order to encourage interactive speaking practice, the exercises included presenting everyday routines, creating dialogues, describing people and places, and providing directions.

The students were given a post-test that was structured similarly to the pre-test following the therapy session. SPSS software was then used to evaluate both sets of test results. In order to determine the mean, standard deviation, minimum, and maximum scores, the data analysis started with descriptive statistics. The data were then found to be non-normally distributed by a normality test utilizing the Kolmogorov-Smirnov method. In order to ascertain whether the difference between the pre-test and post-test scores was statistically significant, the researcher employed the Wilcoxon Signed-Ranks Test, a non-parametric statistical test. The goal of this analytical procedure was to present solid quantitative proof of the Jigsaw method's ability to improve students' interactive communication skills.

Results

According to the study's findings, students' interactive communication skills significantly and favorably improved after receiving instruction utilizing the Jigsaw technique. A comparison between the pupils' pre-test and post-test results led to this conclusion. The test showed 30 positive ranks, meaning that all 30 students achieved higher scores in the post-test compared to the pre-test. There were no ties and no negative ranks, emphasizing that the improvement was consistent across all participants. These results support the conclusion that the Jigsaw method is an effective instructional strategy for enhancing interactive communication skills in an English as a Foreign Language (EFL) classroom, particularly among junior high school students.

Table 1. Descriptive Statistics of Pre-test and Post-test Scores

Test Type	N	Min	Max	Mean	Std. Deviation
Pre-test	30	21	45	34.83	7.139
Post-test	30	25	48	38.07	7.007

The descriptive statistics for students' interactive communication scores before and after the intervention using the Jigsaw approach. Students' performance had largely improved, as evidenced by the average score increasing from 34.83 on the pre-test to 38.07 on the post-test. Additionally, both the lowest and highest performers saw improvements after the treatment, with the average score going up from 21 to 25 and the maximum score going up from 45 to 48.

The standard deviation decreased somewhat from 7.139 to 7.007 after the Jigsaw method was used, indicating that the pupils' results stabilized. These findings suggest that the method enhanced the group's students' ability to communicate interactively.

Table 2. Test of Normality

Test Type	Statistic	df	Sig. (p)
Pre-test	0.201	30	0.003
Post-test	0.269	30	0.000

Whether the results of the Kolmogorov-Smirnov normality test indicate that the data are regularly distributed. Both the pre-test ($p = 0.003$) and post-test ($p = 0.000$) have significance values below 0.05, indicating that the data are not regularly distributed.

As a result, a parametric test such as the paired sample t-test could not be used by the researcher. The Wilcoxon Signed-Ranks Test, a non-parametric test, was used to assess if the score improvement was statistically significant.

Table 3. Wilcoxon Signed-Ranks Test Result

N	Z	Asymp. Sig. (2-tailed)
30	-4.852	0.000

Because of the non-normal distribution of the data, the Wilcoxon Signed-Ranks Test was employed to compare the pre-test and post-test scores, as shown in Table 3. The alpha threshold of 0.05 is significantly exceeded by the Z-value of -4.852 and the 2-tailed Asymptotic Significance of 0.000.

This outcome demonstrates that the students' performance before and after the Jigsaw approach was applied differed statistically significantly. Consequently, the null hypothesis (H_0), according to which the Jigsaw approach has no discernible impact, is disproved. The Jigsaw technique significantly improved students' interactive communication skills, as indicated by the acceptance of the alternative hypothesis (H_1). Additionally, the test revealed 30 positive ranks, indicating that each of the 30 students had greater post-test results than pre-test scores. The fact that there were no negative ranks or ties highlighted how uniform the development was for every participant. According to these findings, the Jigsaw approach is a useful teaching technique for

improving students' interactive communication abilities in English as a Foreign Language (EFL) class, especially for junior high schoolers.

Discussion

The substantial improvement in students' post-test scores demonstrates that the Jigsaw technique successfully improves students' interactive communication skills. Following the treatment, all participants' performance improved, showing a steady improvement in vocabulary, grammar, pronunciation, fluency, and content all of which are critical for clear communication. The conclusion that the observed improvement is not a coincidence but rather the direct outcome of the structured peer connection and engagement promoted by the Jigsaw technique is supported by the statistical significance ($p = 0.000$).

These findings are consistent with cooperative learning's theoretical underpinnings, especially the idea of positive interdependence as introduced by Aronson (1978) and expanded upon in social constructivist frameworks like Vygotsky's sociocultural theory. By putting each student in the roles of both teacher and learner, the Jigsaw method fosters active listening, builds communication confidence, and raises students' sense of responsibility. Students are exposed to a variety of viewpoints and are required to clearly express what they understand through interactions with their peers in both expert and home groups, which inherently improves communication skills.

Furthermore, this study confirms earlier findings about the Jigsaw method's efficacy. For instance, Futihatun (2021) and Vanalita et al. (2014) discovered comparable gains in students' speaking and communication abilities when this approach was applied. Similarly, students' increasing fluency and clarity in presentations supported Fatmala's (2024) observation that students became more expressive and confident in both verbal and nonverbal communication. The findings of Hänze and Berger (2007), who maintained that cooperative learning promotes more structured and logical speech patterns, are similarly consistent with the improvement in coherence and cohesiveness in students' speaking.

The Jigsaw method's capacity to lessen communication fear is a major factor in its success in this situation. Students first discuss in smaller expert groups rather than having to speak in front of the entire class right away. This creates a low-risk atmosphere where they may practice and build confidence. This backs up the assertions made by scholars such as Huda (2011) and Roseth et al. (2019) that cooperative learning environments foster a positive learning environment and lessen speaking anxiety.

Furthermore, as Ekstedt & Skantze (2022) and Worthington & Bodie (2017) highlight, the Jigsaw method's structure encourages turn-taking and active listening. Effective interactive communication requires these two elements, and students' improved scores demonstrate their growth in these areas.

Conclusion

The Jigsaw technique dramatically enhances students' interactive communication skills in an English as a Foreign Language (EFL) classroom, according to the study's findings. By using the Jigsaw technique, students were able to listen intently, practice taking turns, participate more actively in group discussions, and confidently communicate their opinions. Students' speaking scores clearly improved, as seen by the quantitative data from the pre-test and post-test, which showed a mean increase from 34.83 to 38.07. All 30 subjects had this improvement. The observed improvements were not the result of chance, as statistical analysis using the Wilcoxon Signed-Ranks Test indicated that the difference between pre-test and post-test scores was statistically significant ($Z = -4.852$;

$p = 0.000$). Furthermore, the fact that there were only good ranks and no negative ranks served as more evidence that the treatment was beneficial to every kid.

Thus, it can be said that the Jigsaw approach is a useful and successful teaching technique for improving junior high school pupils' interactive communication abilities. It establishes a nurturing, student-focused learning atmosphere that promotes teamwork, involvement, and purposeful language use all of which are essential components of effective language learning.

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