MEASURING THE IMPACT OF JIGSAW TECHNIIQUE FOR COMMUNITY LANGUAGE LEARNING IN DIPLOMA OF MEDICAL EDUCATION: A FUTURE CHALLENGE ENGLISH STUDY

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ABSTRAK

Pendidikan medis modern menuntut pergeseran dari pembelajaran pasif ke aktif untuk membangun kompetensi profesional, namun mahasiswa EFL di Indonesia sering menghadapi kendala signifikan dalam keterampilan berbicara, seperti keterbatasan kosa kata dan rendahnya kepercayaan diri. Penelitian kuasi-eksperimental ini bertujuan untuk mengevaluasi dampak penerapan teknik *Jigsaw* dalam *Community Language Learning* (CLL) terhadap kemampuan berbicara mahasiswa Diploma, dengan fokus pada aspek kosa kata, akurasi, kelancaran, dan pengucapan. Studi ini melibatkan 48 mahasiswa Universitas Bima Internasional yang dibagi secara acak menjadi kelompok kontrol (N=20) dan kelompok eksperimen *Jigsaw* (N=28), menggunakan desain metode campuran yang mengintegrasikan tes kuantitatif dan observasi kelas. Hasil analisis data menunjukkan perbedaan statistik yang signifikan yang mengungulkan kelompok *Jigsaw*, di mana mahasiswa dalam kelompok ini menunjukkan kinerja berbicara yang jauh lebih baik dibandingkan kelompok kontrol pada seluruh kompetensi yang diuji. Temuan ini mengonfirmasi bahwa teknik *Jigsaw* CLL efektif dalam meningkatkan kemahiran lisan, mengubah mahasiswa menjadi pembelajar aktif, serta mengurangi kecemasan dalam berkomunikasi. Oleh karena itu, metode ini direkomendasikan sebagai strategi pedagogis esensial untuk meningkatkan kualitas pembelajaran bahasa Inggris dalam konteks pendidikan medis.
Kata kunci: *Keterampilan Berbicara; Jigsaw; dan Pembelajaran Bahasa Komunitas*

ABSTRACT

Modern medical education demands a shift from passive to active learning to build professional competence, yet EFL students in Indonesia often face significant barriers to speaking skills, such as limited vocabulary and low self-confidence. This quasi-experimental study aimed to evaluate the impact of implementing the Jigsaw technique in Community Language Learning (CLL) on the speaking skills of Diploma students, focusing on vocabulary, accuracy, fluency, and pronunciation. The study involved 48 Bima International University students who were randomly divided into a control group (N=20) and a Jigsaw experimental group (N=28). The study used a mixed-methods design integrating quantitative testing and classroom observations. The data analysis revealed a statistically significant difference favoring the Jigsaw group, with students in this group demonstrating significantly better speaking performance than the control group across all tested competencies. These findings confirm that the Jigsaw CLL technique is effective in improving oral proficiency, transforming students into active learners, and reducing communication anxiety. Therefore, this method is recommended as an essential pedagogical strategy for improving the quality of English language learning in medical education contexts.
Keywords: *Speaking Skills; Jigsaw; and Community Language Learning*

INTRODUCTION

Modern medical education currently places a very strong emphasis on developing supportive and conducive learning environments, specifically designed to help students transform into professionals who are not only well-informed but also practically competent. Effective teaching strategies have become a fundamental and non-negotiable element in achieving these ambitious goals. The medical sector is a dynamically changing field where evidence-based procedures have replaced more traditional, general approaches. In line with this evolution, the pedagogical paradigm in medical science is undergoing a significant shift from passive, teacher-centered methods toward active, student-centered, and team-based learning approaches. This fundamental change aims not only to meet didactic targets but also to foster the vital competencies required by contemporary physicians, such as teamwork, effective interpersonal communication, and clinical leadership. These skills are crucial for navigating increasingly complex and evolving healthcare practices, although there remains ample room for the implementation of fresher and more innovative strategies (Anastasia & Puspadewi, 2025; Araújo et al., 2024; Yune et al., 2023).

Amidst this changing academic landscape, scholars are implementing various pedagogical approaches to enhance the quality of learning, one of which is Community Language Learning (CLL), which has proven capable of significantly improving students' academic performance. Community Language Learning is a novel approach to active learning involving groups of students working collaboratively to solve complex problems and complete specific activities or tasks to meet established learning objectives. This method relies heavily on students' active efforts to debate and discuss assigned subjects—a much larger portion than the reliance on one-way lectures and explanations from instructors. Through this method, students are encouraged to develop critical thinking skills, effective listening abilities, respect for team members, knowledge sharing, and full ownership of their education, or self-directed learning. It is important to note that the achievement of these competencies is closely linked to the enhancement of students' cognitive development and professional identity. The theoretical foundation of this methodology is rooted in Vygotsky's social constructivism, which posits that social contact between individuals is the primary driver of effective learning (Pratiwi, 2025; Saïd et al., 2022; Taber, 2020).

Although active learning methods are increasingly promoted, speaking ability remains a formidable challenge for English as a Foreign Language (EFL) speakers in general. Various academic observations indicate that EFL students often experience tangible difficulties in speaking accurately and fluently. They typically appear hesitant and reluctant to participate in interactive speaking exercises within the classroom. This phenomenon creates a serious barrier to the language acquisition process, given that speaking ability is a primary indicator of functional language mastery. These difficulties relate not only to the technical aspects of the language but also to students' confidence and psychological comfort when producing the target language in front of others. In the context of medical education, which demands precision in communication, the inability to speak fluently can hinder a prospective doctor's ability to engage with global literature and international peers. Therefore, overcoming barriers in EFL speaking proficiency is an urgent priority to ensure that students do not merely understand theory passively but are actively able to articulate their understanding (Al-wossabi, 2024; Pratiwi & Trisanti, 2025; Seraj & Habil, 2021; Wang & Sun, 2024).

In-depth analysis indicates that several complex factors contribute to the speaking deficiencies of EFL students. A lack of exposure to language use in real contexts, teaching strategies that do not meet student needs, weak listening skills, and an inadequate vocabulary are among the primary causes of this proficiency gap. EFL teachers, including those in Asian countries such as Japan, often recommend the need for more intensive practice to improve oral communication proficiency. Furthermore, one of the greatest issues facing EFL learners is their inability to construct even a single complete sentence without making grammatical errors. This deficiency is often linked to a misconception among students that knowing English is merely an administrative requirement to pass exams rather than a tool for communication to be used in daily contexts. This exam-oriented mentality drastically reduces students' motivation to practice speaking spontaneously, thereby inhibiting the development of natural fluency that should be built through routine and meaningful interaction (Jendli & Albarakati, 2024; Liao, 2025; Lim et al., 2022; Nadia & Amalia, 2025).

The necessity of speaking English fluently is an absolute requirement in Indonesia, much as it is in many other countries in the globalized world. However, speaking proficiency remains a persistent and common issue in Indonesian schools and universities. Excessive shyness and psychological reluctance are identified as the primary reasons why EFL students in Indonesian universities tend to be passive and unwilling to speak. The hesitation of Indonesian students to participate in oral activities often stems from low language skills, cultural modesty, and a deep-seated fear of speaking incorrectly or making mistakes in front of others. As a result of these psychological and technical barriers, Indonesian EFL students often appear unable to practice their speaking skills optimally. Yet, practice is the primary key to enhancing language proficiency, expanding exercise possibilities, and ultimately improving their own academic achievement. This cycle of fear and lack of practice creates a stagnation that must be broken through learning method interventions designed to create a safe space for students to express themselves.

One promising method within the Community Language Learning framework is the Jigsaw technique. This method helps students understand the reasoning behind scientific studies and enhances their ability to learn new things sustainably. The Jigsaw technique is a type of cooperative learning where each group member holds a piece of essential information required to complete a group task in its entirety, much like assembling pieces of a puzzle. This approach provides students with a golden opportunity to connect directly with one another, exchange words, question each other's opinions, and develop their skills in small groups. Furthermore, students are encouraged to listen actively, collaborate, and share their ideas aloud when using the Jigsaw technique. Previous research suggests that this strategy can improve various language skills of EFL learners. Findings from mixed-methods studies indicate that students' English acquisition can be greatly aided by this methodology, where the Jigsaw strategy successfully increases EFL students' engagement and enthusiasm, and is regarded as a practical method for completing language learning tasks and improving academic performance.

While the Jigsaw technique within Community Language Learning has been the subject of many studies showing positive results, there remains an urgent need for more specific further research. The majority of previous research may have addressed general effectiveness or broad student engagement; however, an in-depth investigation is still required to determine how this technique specifically affects the performance of EFL students in Indonesia in speaking tasks. Research focus needs to be directed toward detailed aspects of speaking proficiency, namely in encouraging the practice of appropriate vocabulary use, grammatical accuracy, fluency, and

pronunciation. The gap between the ideal expectation of fluent English-speaking graduates and the reality of current student abilities demands empirical proof of whether Jigsaw can be a comprehensive solution to overcome specific barriers in the Indonesian context. Therefore, this study aims to fill that gap by evaluating the effectiveness of the Jigsaw technique in improving specific components of speaking skills, providing significant novelty to the literature on language education in Indonesia.

METHOD

This study employed a mixed methods design that systematically integrated quantitative and qualitative approaches to gain a comprehensive understanding of the effectiveness of learning techniques. The operational design used was a quasi-experimental one, involving the active participation of Bima International University students, specifically from the Pharmacy and Medical Records study programs. The study subjects consisted of 48 first-year students in the 2024–2025 academic year, with demographic characteristics ranging from 18 to 19 years of age. These participants were then grouped into two treatment categories: a control group of 20 students and a Jigsaw experimental group of 28 students, with a gender composition that included both males and females. The study was conducted intensively over a full eight-week period to ensure the pedagogical intervention was optimally effective and had a measurable impact on the participants' target language skills.

The quantitative data collection procedure began with a pre-test administered to the entire sample to measure the basic level of speaking performance of non-native English students. The results of this pre-test were analyzed in depth to identify specific areas of weakness in the participants, which then served as the primary data base for the researchers in designing the learning implementation plan. Based on this diagnosis, Jigsaw technique activities were developed and integrated into the speaking class as a form of intervention. After the treatment series was completed, a post-test instrument was administered to evaluate the extent to which the activities helped students improve their speaking skills compared to the baseline. In addition to the performance test instrument, the quantitative data were also supplemented by distributing a feedback questionnaire containing closed-ended questions, which aimed to capture students' objective perceptions and opinions regarding the effectiveness of the applied method in improving their oral performance.

To complement the numerical data, qualitative data collection was conducted through structured classroom observations during the experimental sessions to monitor the learning process in real-time. These observations focused on three main activity phases: the first phase observed students' attention to topic instructions; the second phase monitored collaborative mechanisms in information gathering and group discussions; and the third phase assessed students' presentation of problem analysis and argument justification. Researchers recorded the dynamics of social interactions, from initial reluctance to increased participation in small group discussions and peer teaching sessions. These observational data were then validated through open-ended questionnaires and reflective debriefing sessions to capture students' attitudes and emotional responses. This combination of instruments allowed researchers to monitor learning progress, the impact of activities on self-confidence, and the transition of students' communication behavior within the Community Language Learning environment.

RESULT AND DISCUSSION

Result

The study topics were addressed and the null hypotheses were tested using the findings of the independent-samples t-test. Table 1 shows the outcomes of the speaking competences (vocabulary, accuracy, fluency, and pronunciation) as well as the overall speaking performance.

Table 1. Independent sample T-test results

Speaking Proficiency	Groups	MeanStd. Deviation	t	df	Sig. (2-tailed)	Eta square
Speaking performance as a whole	Jigsaw group	61.809.50	2.260	26	.032	0.16
	Control group	51.5414.34				
Words and phrases	Jigsaw group	17.332.26	2.275	26	.031	0.17
	Control group	14.623.95				
Precision	Jigsaw group	16.073.01	2.315	26	.029	0.17
	Control group	13.153.65				
Fluency	Jigsaw group	15.072.09	3.010	26	.006	0.26
	Control group	11.773.61				
How to pronounce	Jigsaw group	14.732.99	2.171	26	.039	0.15
	Control group	12.003.67				

(n= Jigsaw group=26; Control group=22)

Overall speaking performance scores for the jigsaw group (M=61.80, SD=9.50) and the control group (M=51.54, SD=14.34) differed significantly, as seen in Table (1); t(26)= 2.260, p <.032; d= 0.16. This finding implies that the overall speaking performance of Indonesia EFL students was significantly impacted by the jigsaw CL approach. In particular, the results showed a substantial correlation between the speaking abilities of the Indonesia EFL students and their use of the jigsaw CL approach. As a result, the first null study hypothesis (H01) was disproved.

Additionally, the results demonstrated a significant difference in vocabulary as a speaking competency between the jigsaw group (M=17.33, SD=2.26) and the control group (M=14.62, SD=3.95); t (26) = 2.275, p <.0s31; d = 0.17. This finding implies that the jigsaw CL method has a noteworthy impact on Indonesia EFL students' vocabulary proficiency. The findings indicated a significant difference between the jigsaw group's (M=16.07, SD=3.01) and control group's (M=13.15, SD=3.65) speaking competency accuracy ratings; t (26) = 2.315, p <.029; d = 0.17. The findings showed that the accuracy competency of Indonesia EFL students' is impacted by the jigsaw CL approach.

Additionally, the jigsaw group's (M=15.07, SD=2.09) and the control group's (M=11.77, SD=3.61) fluency competency scores differed significantly; t (26) = 3.010, p <.006; d=0.26. Similarly, the results indicated a significant difference in pronunciation competency ratings between the jigsaw group (M=14.73, SD=2.99) and the control group (M=12.00, SD=3.67); t (26) = 2.171, p <.039; d = 0.15. These findings imply that the fluency and pronunciation skills of Indonesia EFL students' were significantly impacted by the jigsaw CL technique.

The results specifically showed that the jigsaw CL technique improved the speaking abilities of Indonesia EFL students' in the areas of vocabulary, fluency, and pronunciation. The second research null hypothesis (H02) was also disproved.

Table 2. Weekly speaking quiz average scores

Weekly Evaluations	Speaking Groups	Words and phrases	Precision	Fluency	How to pronounce
Initial Evaluation	Jigsaw Group	2.40	2.60	2.73	2.87
	Control Group	3.31	2.92	2.69	2.77
Second Evaluation	Jigsaw Group	2.73	2.53	2.87	3.13
	Control Group	2.85	2.54	2.31	2.31
Third Evaluation	Jigsaw Group	3.07	2.80	3.33	3.27
	Control Group	3.15	2.77	2.54	2.54
Fourth Evaluation	Jigsaw Group	3.27	3.40	3.60	3.40
	Control Group	2.85	2.69	2.15	2.31
Fifth Evaluation	Jigsaw Group	3.40	3.60	4.00	3.60
	Control Group	2.46	2.23	2.08	2.08

Additional information on the Indonesia EFL students' progress in each of the five evaluations of the four speaking competencies is given in Table (2). The findings show that there was a respectable improvement and shift in the performance level in favour of the jigsaw group when comparing the mean scores of the two groups in each competency on the first and fifth Evaluation. By the fifth Evaluation, the vocabulary mean scores had improved from the initial Evaluation 's 2.40 to 3.40.

Furthermore, the jigsaw participants received accuracy scores of 2.60 on the first Evaluation and 3.60 on the fifth. The initial Evaluation 's mean score was 2.73, whereas the fifth Evaluation 's was 4.00, indicating an improvement in fluency. Similar acceptable improvement was shown by the mean pronunciation scores of the first (2.87) and fifth (3.60) examinations. Overall, the findings indicated a connection between Indonesia EFL students' performance in speaking competence and their usage of the jigsaw CL approach.

Discussion

Analysis of the statistical data using an independent-samples t-test revealed that the implementation of the Jigsaw Cooperative Learning approach has a significant impact on the speaking performance of EFL students in Indonesia. These findings explicitly reject the null hypothesis and confirm that the cooperative method is vastly superior to conventional methods in improving overall oral competence. The superiority of the experimental group was evident not only in the substantially higher final mean scores but also in the consistency of performance across all assessment indicators. This success can be attributed to a shift in the learning paradigm, where students are granted greater autonomy to participate actively in discussions—a sharp contrast to the control class, which tended to be passive. This approach creates a learning ecosystem where students feel responsible not only for their own mastery of the material but also for the success of their teammates. Consequently, the frequency of academic interaction increased drastically, speaking anxiety decreased, and the production of the target language became more intensive (Benitez-Correa et al., 2025; Mendo-Lázaro et al., 2022).

Specifically, the analysis of vocabulary and grammatical accuracy components showed that the Jigsaw method facilitates deeper language acquisition compared to traditional instruction. The significant increase in the experimental group's vocabulary scores indicates that the process of peer-teaching forces students to actively process new words and use them in relevant contexts to be understood by both expert and home group members. Similarly, improvements in accuracy imply that group interactions provide opportunities for students to monitor their own speech and receive corrective feedback from peers. In a Jigsaw environment,

the need to convey information precisely encourages students to pay closer attention to sentence structure and word choice (Banaruee et al., 2025; Mahmud & Wong, 2021; Odehova et al., 2022). These findings align with social constructivism theory, which posits that knowledge is constructed through meaningful social interaction. The implication is that mastery of micro-linguistic elements, such as lexicon and grammar, need not be achieved through mechanical rote learning but can develop naturally through the negotiation of meaning that occurs during well-structured cooperative activities (Gettliffe, 2020; Li & Jeong, 2020; Stefik & Price, 2023).

Furthermore, findings regarding improvements in fluency and pronunciation highlight the positive psychological impact of the Jigsaw method. Fluency recorded the strongest level of statistical significance among all variables, indicating that primary barriers to speaking— such as hesitation and excessive pausing—were effectively reduced. This is likely due to lower anxiety levels in small groups compared to speaking in front of the entire class. A supportive environment allows students to practice pronouncing words without excessive fear of negative judgment. Improvements in pronunciation were also supported by peer-correction mechanisms and guidance from the teacher, who monitored the discussions. When students interact in expert groups, they are exposed to various speech models and directly correct each other's phonological errors. This fact counters concerns that group work might lead to the fossilization of errors; on the contrary, intensive interaction actually accelerates the improvement of speech quality (Gedikli & Başbay, 2020; Suzukida, 2021; Tejedor-García et al., 2020).

Weekly evaluations conducted over five weeks provided longitudinal evidence regarding the stability of student learning progress. The data showed a consistent and linear upward trend in the experimental group from the first to the fifth evaluation, in contrast to the control group, which exhibited fluctuation and stagnation. By the fifth evaluation, the mean scores for all speaking components in the Jigsaw group far exceeded their initial scores, signifying solid retention and accumulation of skills. This phenomenon indicates that Jigsaw is not merely a short-term intervention with a temporary "shock effect," but rather a pedagogical framework that builds competence sustainably. The process of repeating material through expert group discussions and then re-teaching it in home groups reinforces students' long-term memory. This consistency proves that active student engagement at every stage of learning creates deeper cognitive traces, suggesting that regular collaborative activity is more beneficial than intensive but passive one-way instruction (Badhe et al., 2025; Dubinsky & Hamid, 2024; Sidgi, 2022; Vozzo et al., 2024).

The dynamics of heterogeneous groups, where students with varying language abilities were combined, proved to be a key factor for success rather than a hindrance. These findings challenge skeptical views suggesting that differences in ability levels might lead to confusion or the dominance of higher-achieving students. Conversely, in the context of this study, the mixed-ability structure triggered scaffolding mechanisms, where more proficient students provided assistance to their less proficient peers to ensure collective success (McLure et al., 2020; Riza & Mujiono, 2025; Webb-Williams, 2021). This shared sense of responsibility created a safe and inclusive environment, allowing all members to contribute according to their capacity. The teacher played a vital role in facilitating these dynamics by monitoring interactions and providing motivational interventions when necessary. This success demonstrates that with proper classroom management, the Jigsaw method can transform student diversity into a valuable learning asset, making it highly relevant for Indonesian EFL classrooms that often face wide disparities in language proficiency.

In conclusion, this research affirms that Jigsaw Cooperative Learning is a highly

effective pedagogical approach for enhancing the holistic speaking competence of EFL students. The implications of these findings suggest that foreign language educators in Indonesia should move away from the dominance of lecture-based methods and transition toward student-centered strategies. Teachers need to act as facilitators who design meaningful activities and provide autonomy while remaining ready to offer constructive correction. While this study shows positive results consistent with various previous studies, limitations regarding the participant context (specifically female students) and research duration should be considered. Nevertheless, the empirical evidence is strong enough to recommend Jigsaw as a solution to low oral participation in English classes. This method not only hones linguistic skills but also develops soft skills such as cooperation, leadership, and self-confidence, making it a powerful tool for preparing students for real-world global communication.

CONCLUSION

The goal of the current study was to find out if the jigsaw CLL approach significantly affected the speaking abilities of Indonesia EFL students' in terms of vocabulary, accuracy, fluency, and pronunciation. According to the findings, Indonesia EFL students' who received instruction using the jigsaw CLL methodology out performed those who received instruction using the traditional teaching approach in terms of their overall speaking performance and ability. Additionally, they outperformed those trained using the traditional teaching approach in the four speaking abilities. The jigsaw CLL approach should be a regular feature of EFL classrooms since it may benefit EFL students in a number of ways, according to the research findings. First, more autonomous language learning environments may be created in EFL classrooms by utilising the jigsaw CLL approach. Second, transforming pupils from passive to active learners is one of the goals of creative teaching methods. In keeping with this pattern, the jigsaw CLL method promotes active learning via pupils to support one another's learning. Thirdly, it enhances communication abilities and promotes engagement and communication in educational settings. Fourth, instructors' observations indicate that the jigsaw CLL approach is a useful method that may boost students' enthusiasm, boost their self-esteem in the classroom, and lessen their fear of taking part in class activities. Lastly, it has been demonstrated that the jigsaw CLL approach works well for improving speaking abilities, which are typically overlooked in Indonesia EFL classes. Additionally, it is advised that EFL teachers use the jigsaw CL approach to enhance the quality of learning, boost students' speaking abilities, meet their academic and social requirements, and lessen their anxiety while speaking in English. Furthermore, it is advised that more research be done in order to give Saudi EFL teachers and students effective methods for applying the jigsaw CLL methodology to improve students' oral English ability for usage in practical contexts.

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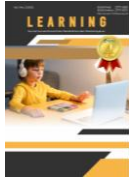
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