Acta Pedagogia Asiana

Research Article
Volume 3(2), 2024, 55–64
https://doi.org/10.53623/apga.v3i2.401

The Jigsaw Learning Model to Promote Engagement in the English Language Classroom: A Teacher's Reflection

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SUBMITTED: 11 January 2024; REVISED: 6 February 2024; ACCEPTED: 11 February 2024

ABSTRACT: Learning activities employing the lecture model have induced boredom among students and resulted in poor participation in the classroom, including in the English as a foreign language class. Low student participation in classrooms may impede the development of their skills. The jigsaw cooperative learning model provides an opportunity for students to collaborate and actively participate. This collaborative action research aims to assist students in addressing engagement issues in English lessons through the jigsaw cooperative learning model. The collaborative action research involved a cohort of 36 primary school students, comprising 20 females and 16 males, in the city of Purwokerto, Indonesia. Data was collected through observation, and the observational data obtained were then analyzed using descriptive statistics. After three cycles, student engagement increased from 56% (baseline) to 65.56%, 75.56%, and 79.44%, respectively. The desired criteria for intervention success (75%) were met in cycle 2, leading to the conclusion of the investigation in cycle 3. Based on the results, it can be inferred that the adoption of the jigsaw learning model has effectively enhanced student engagement in the English language class. Practical implications of the study are then presented.

KEYWORDS: Jigsaw; cooperative; learning model; student engagement; English; class

1. Introduction

Today's education is rapidly advancing with the integration of technology. Proficiency in English communication is vital for students, enabling seamless interaction with people from diverse countries and cultures. This proficiency opens doors to international relations, cross-country collaboration, and a comprehensive understanding of the global landscape [1], particularly beneficial for students aspiring to participate in international activities and programs. Therefore, teaching English in schools is indispensable [2]. Teachers must equip students with robust language skills to navigate the evolving educational landscape effectively, especially in the realm of education. Engaging in effective English instruction allows students to develop their speaking, listening, reading, and writing skills. Active participation in the learning-teaching process is a crucial aspect of effective learning. Low participation can impede students' ability to develop English language skills [3]. The cooperative, or collaborative, learning model provides advantages for both students and teachers [4]. In this model, students collaborate to enhance their understanding of the material, fostering diverse

groups intentionally. Discussions among peers can significantly improve comprehension [6]. The cooperative learning model is extensively utilized for student-centered activities, addressing challenges encountered by teachers in engaging students [7]. The cooperative learning model operates based on four fundamental principles: (a) Positive dependency, emphasizing the group's success relying on each member's efforts; (b) Individual responsibility, where each member contributes to group success according to their assigned task; (c) Face-to-face interaction, encouraging discussions within groups; and (d) Participation and communication learning, allowing students to engage in group discussions.

The jigsaw model stands out among cooperative learning models. Jigsaw encourages student participation and mutual assistance in learning the content. Characterized by early groups or origins and groups of experts, the jigsaw learning approach utilizes a "zigzag" pattern, requiring students to collaborate to achieve objectives [8]. This model positively impacts students' academic performance, peer interaction, and engagement in the learning process [9]. The jigsaw model aims to enhance students' responsibility for their learning and that of others. Students not only learn the material but also must teach it to their group members, fostering interdependence and cooperative responsibility [10]. Additionally, the jigsaw model positively impacts academic achievement, social interaction, and participation levels [11]. The implementation of the jigsaw model involves several stages [10]. The initial stage includes grouping students into heterogeneous small groups. Each member is assigned a specific topic to study within their expert groups. After mastering the material, representatives return to their initial groups to explain the content to their peers. The final stage includes assessing understanding through tests or quizzes. One advantage of the jigsaw model is the improvement of student participation. Each member plays a crucial role in building collective understanding within the group, fostering peer teaching [12]. Research indicates that peer teaching is more effective than teacher-led instruction, as students better understand their peers' thoughts and ideas [13]. Different task assignments for each group member promote increased participation, motivation, and responsibility [14]. The jigsaw learning model also enhances students' verbal communication in English language learning. Through discussions with classmates, students practice speaking, listening, and interacting in English, crucial components of learning a foreign language.

Cooperative learning approaches like the jigsaw model overcome barriers to learning, promoting social interaction, collaboration, and active engagement. This inclusive and supportive learning environment positively impacts students' understanding and academic achievement. In group activities, the participation of every member is crucial, encompassing attentive observation, engagement in activities, and active involvement in discussions [15]. Student engagement plays a pivotal role in the teaching and learning process, as it is essential for learning to bring about behavioral changes. Active participation is a prerequisite for effective learning activities, and without it, the learning process cannot take place [16–17]. Consequently, students' participation is regarded as a fundamental and vital concept in the implementation of the learning process. In the classroom, student participation is crucial for creating a dynamic learning environment. Student engagement, demonstrated through physical and mental involvement in activities, is a key aspect [18]. Responsible engagement in the learning process leads to optimal learning outcomes, and the level of participation serves as a direct indicator of student engagement. Various forms of student participation include acting confidently in their ability to understand the material, independently acquiring knowledge,

fulfilling teacher-assigned duties, engaging in group learning, experimenting with topics independently, and communicating ideas both vocally and in writing [16].

Cooperative learning, particularly the jigsaw model, is highlighted as an effective approach to make the classroom more student-centered. Jigsaw promotes positive interdependence among students, individual accountability, and interactive engagement to enhance student learning. Additionally, it proves to be suitable and supportive in the language classroom setting. However, the author's participatory observations during guided learning activities revealed suboptimal student participation. Some group members were actively involved, while others remained passive, possibly influenced by traditional lecture-based teaching methods. The reliance on outdated lecture models, where students are expected to passively absorb information, can lead to boredom and decreased activity. To address this, teachers should design student-centered classes, selecting suitable learning models aligned with the subject matter to achieve positive outcomes [19–20]. Recognizing these challenges, it becomes evident that researching low student engagement in classrooms is crucial. An intervention is necessary in the context of English language teaching and learning. The jigsaw cooperative learning model, with its distinctive characteristics, is chosen to address the student engagement issue in the English language classroom for the current study. Therefore, the research question is formulated: Is the jigsaw cooperative learning model effective in promoting student engagement in the English language teaching and learning process? The action hypothesis posits that the adoption of the jigsaw learning model in the English language classroom will lead to improvements in student engagement.

2. Materials and Methods

2.1. Research design.

This study utilized action research, a method aimed at exploring immediate solutions to "concrete problems" [21]. In a classroom context, action research involves collaborative efforts among teachers, school principals, university-based educators, stakeholders, and students. In this particular study, one of the authors assumed the role of a classroom teacher, collaborating with a team comprising a professor, a senior teacher, and a pre-service teacher. The design of the classroom action research comprises cycles, each progressing through planning, acting, and reflecting stages [22]. Observations are conducted concurrently with the implementation of actions or interventions.

2.2. Participants.

The participants in this study constituted a cohort of students identified as class 8G at a state primary school in the city of Banyumas, Central Java Province, Indonesia. The cohort consisted of 20 females and 16 males, deliberately chosen due to their reportedly low engagement levels in comparison to eight parallel cohorts attending English class with the same teacher (purposive sampling).

2.3. Data collection and instrument.

The data for this study was collected through observation, a technique well-suited for capturing information on processes and behaviors [23]. To document the observational data related to

planning, acting, and reflecting activities during the classroom investigation, an observation sheet was employed. This sheet consisted of statements on one side and a 1-to-5 rating scale on the other. The statements were formulated based on the relevant theoretical framework addressing student engagement in the English language classroom.

2.3. Data analysis.

Data analysis in this study involved the use of descriptive statistics. Descriptive statistics offer straightforward summaries of both the sample and the measures, providing essential insights into the data, such as distribution, percentage ~~frequency~~ (%), ~~and~~ central tendency (e.g. mean), and graphical ways of describing or displaying data [24]. Each item ~~(statement)~~ on the observation sheet was scored according to the guidelines outlined in Table 1.

Table 1. Score guidelines.

No	Score	Description
1	5	Very active
2	4	Active
3	3	Fairly active
4	2	Inactive
5	1	Very inactive

To determine student participation in the learning process, the observational data scores were processed with the following formula:

$$M = \frac{\sum x_i}{N}$$

Where M is average score of student learning activity, $\sum x_i$ is sum of student activity scores, and N is number of students

The data obtained from the analysis of average student participation was subsequently expressed in percentage (%). In defining the success criteria for this study, it was established that achieving a student engagement percentage of 75% would indicate the success of the action or intervention, allowing for the conclusion of the cycle. In the event that the intervention falls short of the predetermined success criteria, a revised action plan would be necessary before proceeding to the next cycle.

3. Results and Discussion

3.1. Results.

3.1.1. Pre-cycle.

The initial steps taken before the intervention included obtaining permission from the school principal and conducting a comprehensive discussion involving the entire investigation team. Subsequently, we proceeded to the next stage, organizing an open class for the rest of the team to observe in the designated classroom, 8G, which served as the study cohort. Following observation and reflection with the entire team, a consensus was reached that student engagement in the English class remained low, confirming the teacher researcher's initial assumption. Students tended to be passive and relied on other group members to complete tasks, as detailed in Table 2.

Table 2. Student engagement in pre-cycle.

No	Indicators	Score
1	Enthusiasm in attending lessons	95
2	Forming groups according to the teacher's instructions	94
3	Engaging in discussions with the group (initial and expert)	90
4	Asking questions when encountering difficulties	93
5	Taking responsibility for completing tasks	104
Total Score		476
Average		14
Percentage (%)		56
Category		Fairly Active

As indicated in the table, the student participation percentage was 56%, categorizing it as 'Fairly active,' significantly below the desired criterion of 75%. Considering this, the team decided to implement the jigsaw learning model as an intervention to enhance student engagement during English language lessons. Therefore, the score of 56% was considered the baseline. Through reflection, the team collectively agreed on the jigsaw cooperative learning model as the chosen intervention for improving student engagement.

3.1.2. Cycle 1.

As mentioned earlier, the classroom action research cycle involves the stages of action planning, action implementation, observation, and reflection. After thorough preparations, such as creating an observation sheet and lesson plan, during the action planning stage, the teacher researcher took on the task of implementing the jigsaw learning model in the English teaching and learning process on July 31, 2023. The other team members were invited to sit in and observe during the teaching and learning activities. While observing, they recorded data using an observation sheet prepared by the team beforehand. The observational data on student participation during the teaching session is presented in Table 3.

Table 3. Student engagement in cycle 1.

No	Indicators	Score
1	Enthusiasm in attending lessons	120
2	Forming groups according to the teacher's instructions	130
3	Engaging in discussions with the group (initial and expert)	102
4	Asking questions when encountering difficulties	114
5	Taking responsibility for completing tasks	124
Total Score		590
Average		16.39
Percentage (%)		65.56
Category		Fairly Active

The table illustrates that during the implementation of the jigsaw learning model in the English language teaching and learning process, there was an increase in student engagement from 56% (baseline) to 65.56%. However, this achievement did not yet meet the criteria for success. Throughout the cycle, the following observations were noted: (1) the teaching process faced slight hindrances as students were unfamiliar with the implementation of the jigsaw learning model; (2) a few students still remained passive; (3) the teacher researcher provided instructions for the activity after the grouping was made, disrupting the classroom environment, leading to the need for the teacher to draw students' attention and repeat explanations of the jigsaw learning model instructions. Consequently, the project would progress to another cycle. In the upcoming cycle, adjustments would be made by providing instructions for the group activities before students are grouped. This modification aimed to capture students' attention

and eliminate the need for repeated explanations. Additionally, the teacher would encourage students to be more active in the discussion activities, promoting a deeper understanding of the material among students themselves and other group members.

3.1.3. Cycle 2.

Cycle 2 began on August 7, 2023. The data on student engagement obtained from the observation regarding the implementation of jigsaw learning model under this revised action is given in the Table 4. Based on the observation results, there was an increase in student engagement in the learning process, with a percentage score of 75.56. This indicates a rise compared to the previous attainment in cycle 1. The adoption of jigsaw cooperative learning model with adjustments in its implementation in the English language classroom to some extent seemed to show impact on the student engagement. Nevertheless, with some shared considerations and ideas the investigation was once again continued to cycle 3. During cycle 2, we noted that the group size was too big, with 6 students each so that in the process of discussion activities there were still students who remained less participative. From this note, the teacher researcher would make another revised action by forming smaller groups with maximum 4 students each. This adjustment aimed to ensure more effective and engaging discussion activities.

Table 4. Student engagement in cycle 2.

No	Indicators	Score
1	Enthusiasm in attending lessons	132
2	Forming groups according to the teacher's instructions	148
3	Engaging in discussions with the group (initial and expert)	127
4	Asking questions when encountering difficulties	122
5	Taking responsibility for completing tasks	151
Total Score		680
Average		18.89
Percentage (%)		75.56
Category		Active

3.1.4. Cycle 3.

Cycle 3 was conducted on August 23, 2023. Action planning was undertaken thoroughly with the whole team. The instructional documents and data collection instruments prepared at this stage were as follows: (1) Learning material to be taught; (2) Teaching module; (3) Student worksheets; (4) Observation sheets; and (5) Notes. The material to be taught for this period was "Recount Text." The instructional skeleton planned to be implemented with jigsaw learning model for this learning content was as follows: (1) The teacher researcher provides a student worksheet and gives instructions for the given tasks; (2) The teacher divides the students into nine groups; (3) The teacher instructs the students to form initial groups of 4 members each. Groups 1-4 (members A1, B1, C1, D1), groups 5-9 (members A2, B2, C2, D2); (4) The teacher allows the students to work on the assigned tasks with their expert groups. Expert groups consist of 8 members (A1, B1, C1, D1, A2, B2, C2, D2); (5) The teacher instructs the students to complete the tasks; (6) The teacher encourages the students to actively share ideas and opinions within their expert groups; (7) The teacher practices mobile teaching, monitors students' activity during group work, tracks progress, and provides guidance if needed; (8) The teacher asks each group to take turns reporting their work in their initial groups; and (9) The teacher asks one group to present the results of their discussion. Table 5 exhibits

the data obtained from the classroom investigation cycle 3 after the action scenario was executed.

Table 5. Student engagement in cycle 3.

No	Indicators	Score
1	Enthusiasm in attending lessons	141
2	Forming groups according to the teacher's instructions	156
3	Engaging in discussions with the group (initial and expert)	135
4	Asking questions when encountering difficulties	127
5	Taking responsibility for completing tasks	157
Total Score		716
Average		19.88
Percentage (%)		79.44
Category		Active

As depicted in the table, student engagement in the lesson increased to 79.44% overall, marking an upward trend from the baseline through the three cycles that followed with the adoption of the jigsaw collaborative learning model in the English class (Figure 1). These results align with the expectations of the action research team, as reflected in the predetermined minimum rate of 75% student engagement. The ascending trend indicates a positive impact of the intervention on enhancing student participation and engagement throughout the cycles.

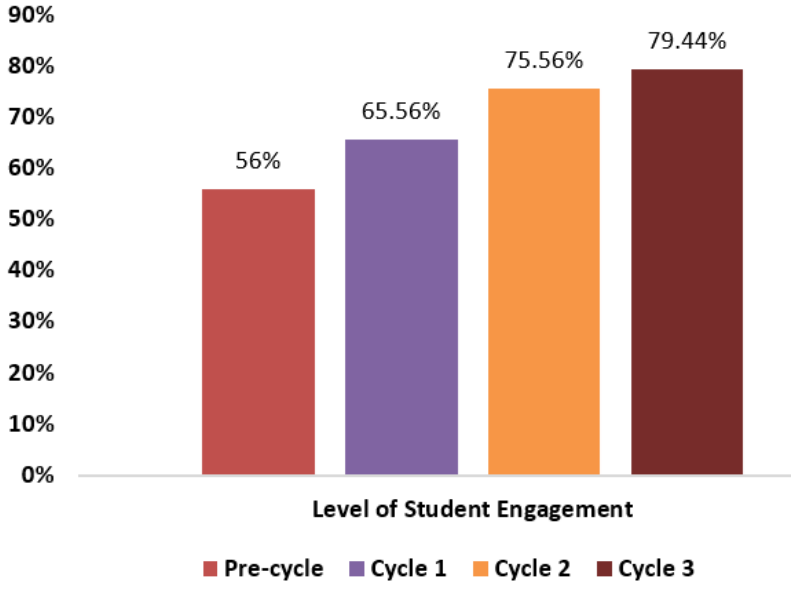

Figure 1. Student engagement in English class pre- and post-intervention.

3.2. Discussion.

Based on the outcomes of the classroom action research, it can be concluded that the jigsaw cooperative learning model has a positive impact on student engagement in English language lessons. The data collected through observational methods during the teaching and learning process revealed an increasing trend in student participation from cycle to cycle. Before the intervention, observations indicated low student engagement, with some students being passive and relying on their peers to complete group tasks. The initial student engagement rate was only 56%. Recognizing these challenges, the implementation of a cooperative learning model, specifically the jigsaw model, was deemed necessary to create an engaging classroom

environment that encourages active student involvement and enthusiasm in the learning process.

In the first cycle, both teachers and students were adapting to the jigsaw model, leading to some challenges. However, there was a notable increase in student participation by 9.56%, reaching 65.56%, classified as "Fairly active." While this improvement did not meet the predetermined success criteria, it highlighted the need for adjustments in the action plan. Cycle 2 saw improvements, including grouping students after explaining the discussion activities and providing a more interesting presentation of the material. The cycle achieved a 10% increase in student participation, reaching 75.56%, categorized as "Active." This success led to further refinements in terms of group size for cycle 3. In cycle 3, the teacher researcher limited the number of students in each group to a maximum of 4, aiming for more effective and dynamic discussions. The result was a 3.88% increase in participation, reaching 79.44%, categorized as "Active." This outcome aligned with the team's goal of achieving a 75% student-engagement rate. The study's findings are consistent with Nguru (2023), who reported increased student motivation and active participation in English language learning with different task allocations in the implementation of the jigsaw learning model. Peer-to-peer learning played a significant role in the discussion activities, contributing to improved student engagement in English lessons. Overall, the study concludes that the jigsaw learning model can effectively enhance student engagement in English language classes.

4. Conclusion

The findings of this study underscore the effectiveness of the jigsaw learning model in promoting student engagement in English language classrooms. The intervention plan, employing the jigsaw cooperative learning approach, yielded promising outcomes by enhancing student enthusiasm and active participation in English classroom activities. The success of this approach was achieved through collaborative, cyclical, and reflective action research, emphasizing the importance of teamwork over individual teacher routines to achieve teaching excellence. However, successful implementation may require substantial educator training and support. While the jigsaw learning model has proven to be effective in promoting student engagement, it should be viewed as one of many options available to teachers. Teachers of English are encouraged to be creative and experimental in their approaches. The study highlights the necessity of future research with similar contexts to explore whether the results are consistent across various settings. A valuable lesson from this study is that the benefits of the jigsaw model became apparent after adjustments and revisions were made during the course of classroom action research. This underscores the need to promote more action research in English language classrooms, as it encourages teachers to be explorative and reflective in their practices. It's important to note that data for this research was collected solely through observation and evaluated descriptively. As observation is the only method used, future researchers are encouraged to explore research results from additional perspectives, such as students' viewpoints through questionnaires or assess learning outcomes through tests. This multi-faceted approach could provide a more comprehensive understanding of the impact of the jigsaw learning model on student engagement in the English language classroom.

Acknowledgments

This paper would not have been possible without help and support of other parties. The researcher would like to sincerely thank Mrs. Endah Kurniasih, principal of the school where the study was conducted, for granting the research permit. Gratitude is also extended to the study cohort students whose learning activities were under investigation.

Competing Interest

We, authors, declare that there is no conflict of interest among us.

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