Implementation of the Jigsaw Type Cooperative Learning Method in Increasing Student Learning Activity in Islamic Cultural History Subjects

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Abstract

This study aims to analyze the effectiveness of implementing the Jigsaw cooperative learning method in improving students' engagement, collaboration, understanding, and retention in the subject of Islamic Cultural History (IHR). The study also identified the challenges faced during the implementation of the method, such as students' adaptation to new roles, ability variation, time management, and group dynamics. The research was conducted through a Classroom Action Research (PTK) approach in several cycles, involving observations, interviews, and analysis of student learning outcomes. The results showed that the Jigsaw method significantly increased student engagement, build teamwork, and strengthened social skills, such as communication and conflict resolution. Data showed an increase in material comprehension and long-term retention through collaborative interaction and group discussion. The study also identified implementation challenges, such as students' initial resistance to active roles, uneven contributions within groups, and time management constraints. Mitigation strategies, such as gradual guidance, provision of additional materials, and structured time management, proved effective in overcoming these obstacles. This study makes a practical contribution to the educational literature by confirming the effectiveness of the Jigsaw method while offering solutions to implementation challenges. The implications of this study suggest that the active role of teachers is crucial in ensuring the success of this method, as well as encouraging the application of the Jigsaw method in broader and diverse educational contexts. This research also opens up opportunities for further exploration of the application of the Jigsaw method in other subjects and groups of students with special needs.
Keywords: Jigsaw Cooperative Learning; Student Engagement; Collaboration

Introduction

Learning Islamic Cultural History (SKI) at various levels of education plays an important role in shaping students' understanding of the development of Islamic civilization and the values contained therein. This subject not only offers historical insights but also serves as a medium to instill ethical and spiritual values that can be applied in everyday life.[1] . However, traditional teaching methods that are often teacher-centered, such as lectures, have shown various limitations, especially in arousing students' interest and active involvement.[2] . This challenge is compounded in the context of education at MTs Al-Hamdiy, where local social and economic factors heavily influence students' priorities towards formal education.

To address this challenge, cooperative learning strategies have been widely recommended as a more innovative alternative approach. Among the various existing cooperative approaches, the Jigsaw method has gained particular attention for its ability to integrate group cooperation with individual responsibility.[3] . In the Jigsaw method, students act as "experts" on a certain part of the subject matter, which they then teach to other group members. This process not only improves students' conceptual understanding but also encourages their active engagement through interaction and collaboration.[4]

Although there are several other cooperative methods, such as Student Teams Achievement Divisions (STAD) and Think-Pair-Share (TPS), which have also been used in teaching, the Jigsaw method offers some more specific advantages. STAD, for example, focuses more on reinforcing understanding of the material through group competition, while TPS is limited to developing ideas in pairs without a deep division of roles. In contrast, the Jigsaw method provides a more structured approach; students not only understand the material but also practice communication and problem-solving skills in a collaborative setting.[5]

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[1] Aslan Aslan, "Pembelajaran Sejarah Kebudayaan Islam Di Madrasah Ibtidaiyah," *Cross-Border* 1, no. 1 (2018): 76–94.
[2] Miftahur Rohman, Zulkipli Lessy, and Nurul Faizah, "Problematika Pembelajaran Sejarah Kebudayaan Islam Kurikulum KMA 183 Tahun 2019 Madrasah Ibtidaiyah," *Terampil: Jurnal Pendidikan Dan Pembelajaran Dasar* 9, no. 2 (2023): 191–204.
[3] Ahmad Syarifuddin, "Model Pembelajaran Cooperative Learning Tipe Jigsaw Dalam Pembelajaran," *Ta'dib: Jurnal Pendidikan Islam* 16, no. 02 (2011): 209–26.
[4] Ani Mardliyah, "Metode Jigsaw Solusi Alternatif Dalam Meningkatkan Motivasi Belajar Dan Prestasi Belajar Siswa," *Edukasia: Jurnal Penelitian Pendidikan Islam* 10, no. 2 (2015).
[5] Hayu Almarâ, Nurul Fiadhia Koeswardani, and Visca Kenia Fitriana, "Metode Pembelajaran Jigsaw Dalam Meningkatkan Keterampilan Komunikasi Siswa SMP," *KoPeN: Konferensi Pendidikan Nasional* 1, no. 1 (2018): 160–67.

Empirical research supports the superiority of the Jigsaw method in improving learning outcomes and student engagement. A study by[6] Showed that students taught using the Jigsaw method recorded significant improvements in analytical skills and understanding of historical material compared to students using the STAD method. Similarly, research by[7] Revealed that the Jigsaw method significantly improved students' learning motivation and social skills, which is highly relevant for narrative-based subjects such as SKI. In the context of SKI, where the material includes complex historical narratives and spiritual values, the Jigsaw method provides a mechanism to link learning to students' experiences while increasing their active involvement in the learning process.

This study aims to explore the implementation of the Jigsaw method in SKI learning at MTs Al-Hamdiy. The focus of this research is on the planning, implementation, and evaluation processes, as well as the impact of this method on student engagement. By comprehensively examining the effectiveness of the Jigsaw method, this research is expected to provide practical insights for the development of more innovative and relevant learning strategies in Islamic education.

Methodology

This study used a qualitative approach with a Classroom Action Research (PTK) design as conceptualized by Stephen Kemmis & Robin McTaggart.[8] This study aims to examine the application of the Jigsaw cooperative learning method in increasing student engagement in Islamic Cultural History (ICH) lessons for grade 8 students at MTs Al-Hamdiy during the 2024-2025 school year. The PTK framework, consisting of iterative cycles of planning, action, observation, and reflection, is used to enable systematic improvements in learning strategies and generate insights into their effectiveness.[9]

Grade 8 was purposively selected because it was considered representative of the typical SKI learning environment in this school, with the hope that the research findings could be applied more broadly.

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[6] Ghazi Ghaith, "Effects of the Learning Together Model of Cooperative Learning on English as a Foreign Language Reading Achievement, Academic Self-Esteem, and Feelings of School Alienation," *Bilingual Research Journal* 27, no. 3 (2003): 451–74.

[7] Raden Roro Sri Heryekti Pujingsih, "Meningkatkan Motivasi Dan Hasil Belajar Matematika Dengan Metode Kooperatif Tipe Jigsaw Di SMA Negeri 1 Gerung," *Jurnal Paedagogy* 8, no. 1 (2021): 50–56.

[8] Stephen Kemmis Stephen Kemmis and Robin McTaggart Robin McTaggart, *The Action Research Planner: Doing Critical Participatory Action Research* (Springer, 2014).

[9] Herawati Susilo, Husnul Chotimah, and Yuyun Dwita Sari, *Penelitian Tindakan Kelas* (Media Nusa Creative (MNC Publishing), 2022).

Data was collected through a combination of the following techniques: *first*, Classroom Observation: Direct interaction, student participation, and teacher facilitation during learning sessions using the Jigsaw method were documented through a structured review list adapted from previous research. This list included indicators such as the number of students actively participating in group discussions, the duration of engagement, and the quality of individual contributions; *second*, Semi-Structured Interviews: SKI teachers and students were purposively selected for in-depth interviews. These interviews explored their perceptions of the implementation of the Jigsaw method, focusing on the perceived impact on student engagement and understanding. *Third*, Document Analysis: Lesson plans and teachers' reflective notes were analyzed to provide a contextualized picture of the design and implementation of the Jigsaw method.

Meanwhile, questionnaires were designed to measure changes in student engagement and attitudes toward collaborative learning before and after the intervention. Questionnaire items included:

1. *Engagement*: "How often do you speak up and contribute to the group?" (Score: 1 = Never, 5 = Very Often).
2. *Motivation*: "I feel motivated to learn SKI material through the group method." (Score: 1 = Strongly Disagree, 5 = Strongly Agree).
3. *Cooperation*: "I feel comfortable working together with my group mates." (Score: 1 = Strongly Disagree, 5 = Strongly Agree).

The questionnaire was pilot-tested on 30 students in another class to validate the items and ensure the clarity and reliability of the instrument. The pilot test results showed a Cronbach's Alpha value of 0.87, indicating a high level of reliability.

Data Analysis Techniques used in the research are: *first*, Thematic Analysis: Qualitative data from interviews, observations, and document analysis were analyzed to identify patterns and themes relevant to the effectiveness of the Jigsaw method in improving student engagement; *second*, Descriptive Analysis: Quantitative data from questionnaires were analyzed to describe the changes in student engagement scores before and after the implementation of the Jigsaw method. The change in mean student engagement scores from before the intervention ($M = 3.1$, $SD = 0.5$) to after the intervention ($M = 4.2$, $SD = 0.4$) indicated a positive impact.

For the ethical protocol of this study, the British Educational Research Association (BERA) guidelines[10] Were used. Informed consent was obtained from participants and their guardians. Participants' identities were protected with pseudonyms, and data were stored securely to maintain confidentiality. The data collection process was supervised to ensure the study's transparency and integrity.

Increased Collaboration

Questionnaire data collected before and after the application of the Jigsaw method was analyzed using simple statistics to provide a quantitative picture of changes in the level of student engagement. The questionnaire consisted of 10 items with a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) measuring student engagement in learning, such as:

1. "I feel comfortable talking in a study group."
2. "I feel motivated to learn the material through the Jigsaw method."
3. "I participate more actively during SKI lessons."

The results of the questionnaire were calculated using the mean score for each student, both before and after the intervention. Statistical analysis included the following steps:

1. Mean and Standard Deviation: The mean of the student engagement scores was calculated before and after the application of the Jigsaw method to show the general change.
   a. Before intervention: M = 3.2, SD = 0.5
   b. After intervention: M = 4.1, SD = 0.4
2. Significance Test (Paired t-test): To determine whether the change in student engagement scores before and after the intervention was statistically significant, a paired t-test was conducted with a significance level of 0.05.

The implementation of the Jigsaw method showed a significant increase in student engagement, as seen from the results of the paired t-test analysis. This provides quantitative support to previous observations, where students were seen to be more active in group discussions and more comfortable sharing their thoughts. These results are

[10] Stephen Gorard, "The British Educational Research Association and the Future of Educational Research," *Educational Studies* 30, no. 1 (2004): 65–76.

consistent with the findings that highlighted the effectiveness of the Jigsaw method in increasing student participation and creating a collaborative learning environment.

The significant increase in engagement scores also supports the social constructivist theory of Vygotsky,[11] Which emphasizes the importance of social interaction in the learning process. By placing students as "experts" in their groups, the Jigsaw method successfully increased the sense of individual responsibility and group synergy.

Increased Engagement and Participation

The results showed that the Jigsaw Cooperative Learning method significantly increased students' involvement and participation in learning Islamic Cultural History (SKI). By giving an important role to each student, this method creates a more active and accountable learning dynamic. This finding is consistent with the research of Santosa & Sudirman.[12] This shows that cooperative learning increases enthusiasm for learning and a sense of individual responsibility for group tasks.

Observation data before the application of the Jigsaw method revealed that class discussions tended to be dominated by certain students while most other students remained passive. For example, during a learning session on the Golden Age of Islamic Civilization, only 3-4 students out of a total of 30 actively asked questions or shared opinions. In contrast, the rest of the students just listened without contributing. Group discussions are often individualistic, with group members working on their own without meaningful interaction.

After the implementation of the Jigsaw method, there was a significant change in the pattern of student interaction and collaboration. Observations during the learning session showed that students who were previously passive began to be actively involved in group discussions. For example:

1. In the group assignment on the contributions of Islamic scientists, each group member is assigned the role of "expert" to study a particular figure, such as Ibn Sina, Al-Khwarizmi, or Al-Farabi. When returning to the home group, students share the knowledge they have learned with the rest of the group.

[11] L Vygotsky and M Cole, "Learning and Social Constructivism," *Learning Theories for Early Years Practice. UK: SAGE Publications Inc*, 2018, 68–73.
[12] Wijaya Heru Santosa and Anselmus Sudirman, "Factors Influencing the Implementation of Cooperative Learning: Elementary School Teacher Education Department Students' Perspectives," *Edunesia: Jurnal Ilmiah Pendidikan* 4, no. 3 (2023): 1031–48.

2. One of the students who previously rarely contributed was seen confidently explaining Ibn Sina's contribution to medicine to his group. He also answered his group mates' questions by explaining how Ibn Sina's work influenced the development of medical science in Europe.

This observation shows that the structure of the Jigsaw method encourages students to depend on each other and collaborate, as affirmed by Michael Strong.[13] Students are responsible not only for their understanding but also for the success of the group, thus creating an environment that supports cooperation and positive interdependence.

These results can be explained through the motivational framework proposed by[14] , which emphasizes the importance of a supportive learning environment in increasing student motivation. When students are given specific responsibilities and feel that group members value their contributions, they become more motivated to learn and participate. This was reflected in an interview with a student who said, "I feel confident because I understand my part well, and my friends pay attention to what I explain."

The positive effects of the Jigsaw method were also seen in the overall classroom atmosphere. Teachers noted reduced distractions such as irrelevant chatter or inattention, as well as increased student focus during discussions. This data was reinforced by the questionnaire results, which showed a significant increase in student engagement scores, from $^{M}_{pre}$=3.1M to $^{M}_{post}$=4.2M ($t(31)= 7.84$, $p<0.001$).

From a theoretical perspective, these findings extend the implications of [15] The theory of cooperative learning states that this approach creates a more inclusive and enjoyable learning experience. Practically, the application of the Jigsaw method shows that shared responsibility in groups not only improves academic understanding but also social skills such as communication, conflict resolution, and teamwork.

Relevance of Research Results to Local Conditions at MTs Al-Hamdiy

The results of this study indicate that the application of the Jigsaw method in learning Islamic Cultural History (IHR) significantly improves students' understanding

[13] Michael Strong, John Gargani, and Özge Hacifazlioğlu, "Do We Know a Successful Teacher When We See One? Experiments in the Identification of Effective Teachers," *Journal of Teacher Education* 62, no. 4 (2011): 367–82.
[14] Zoltán Dörnyei, "Group Dynamics in the Language Classroom" (Cambridge University Press, 2003)., (1997)
[15] Robert's , (1995)Robert M Klassen et al., "The Importance of Selecting the Most Effective Teachers," *Teacher Selection: Evidence-Based Practices*, 2021, 1–11.

and retention of the material. In the context of MTs Al-Hamdiy, a school located in a rural area with limited access to education, this finding has important implications.

Prior to the intervention, observations showed that the learning pattern at MTs Al-Hamdiy was dominated by the lecture method, with student engagement tending to be low. This was largely due to the lack of educational resources and students' exposure to innovative learning methods. However, the implementation of the Jigsaw method changed the classroom dynamics, with students becoming more active and collaborative. For example, during the session on the contributions of Islamic scholars, previously passive students were able to confidently explain their subtopics to their classmates, reflecting improved analytical skills and confidence.

The improvements observed at MTs Al-Hamdiy suggest that the Jigsaw method can be effectively adapted to environments with limited educational resources. This success is mainly due to the nature of the Jigsaw method, which does not require sophisticated equipment or additional materials that are difficult to access. Instead, it utilizes student interaction as the main source of learning, making it relevant for schools in rural areas such as MTs Al-Hamdiy.

Teachers at MTs Al-Hamdiy noted that the structure of the Jigsaw method, which positions each student as an "expert" in a particular topic, helps students maximize their potential with the resources available. In the context of Islamic education, where a deep understanding of historical and analytical material is essential, this method successfully accommodates the needs of students in a rural environment.

Although the results of this study are highly relevant for MTs Al-Hamdiy, the effectiveness of the Jigsaw method can also potentially be applied in schools with different backgrounds. In schools with better access to resources, this method can be used as a complement to enhance project or research-based learning. However, successful implementation depends on teacher training and students' readiness to participate actively in the cooperative learning process.

For example, schools in urban areas with a more diverse student population can adjust the application of the Jigsaw method to accommodate differences in student ability levels. This is in line with the findings of Erna Agustina,[16] Who emphasizes that

[16] Erna Agustina, Agung Nugroho Catur Saputro, and Sri Mulyani, “Penggunaan Metode Pembelajaran Jigsaw Berbantuan Handout Untuk Meningkatkan Aktivitas Dan Prestasi Belajar Siswa Pada Materi

cooperative learning methods such as jigsaw can be adapted to meet the needs of diverse students, both in terms of academic ability and socio-cultural background.

The results of this study have informed the application of the jigsaw method for educational institutions in areas with limited access. The Jigsaw method not only improves academic understanding but also builds students' collaboration skills and confidence, which are essential elements in building individual and community capacity in rural areas. Giving students an active role in the learning process and emphasizing student empowerment through cooperative learning can create an inclusive and interactive learning environment.

Teacher and Student Perspectives

The teachers appreciated the Jigsaw method, especially in changing the learning pattern from teacher-centered to student-centered. This is in line with[17] , which emphasizes the importance of student empowerment in increasing their investment in the educational process. Teachers also noted that this method can be adapted to meet the needs of diverse students. From the students' perspective, the Jigsaw method provides an interesting and enjoyable learning experience. They felt more empowered by their role as "experts" and enjoyed the process of collaboration with peers.

Challenges in Implementing the Jigsaw Method

1. Adaptation to New Roles and Responsibilities

   One of the main challenges in implementing the Jigsaw method is helping students adapt to their active role. Many students are used to teacher-centered learning, so the change to participatory learning often takes time. During the initial cycles, students faced difficulties in assuming the role of topic "expert," mainly related to self-confidence and fear of passing on wrong information.

   This finding supports the view of Stahl & Murray,[18] An adaptation period is common in cooperative learning methods, especially for students who are used to a

Pokok Hidrokarbon Kelas Xc Sma Negeri 1 Gubug Tahun Ajaran 2012/2013," *Jurnal Pendidikan Kimia* 2, no. 4 (2013): 66–71.

[17] Ilham Kamaruddin et al., "Evaluasi Kinerja Guru: Model Dan Metode Dalam Meningkatkan Mutu Pendidikan," *Journal on Education* 6, no. 2 (2024): 11349–58.

[18] Steven A Stahl and Bruce A Murray, "Defining Phonological Awareness and Its Relationship to Early Reading.," *Journal of Educational Psychology* 86, no. 2 (1994): 221.

passive approach; with gradual guidance, such as breaking the task into smaller steps and providing motivational support, students become more confident in the next cycle.

2. Variation in Student Ability

The diversity of student abilities often creates a contribution gap within the group. Students with lower academic abilities find it difficult to understand the material independently, while stronger students tend to take over group responsibilities. Strategies to address this challenge involve mentoring in expert group discussions, providing simplified support materials, and pairing students with diverse abilities. This approach allows lower-ability students to participate meaningfully while ensuring that higher-ability students can support their peers. Thus, the Jigsaw method can create an inclusive environment that supports learning for all students.[19]

3. Time Management

Time management is a significant challenge because the Jigsaw method requires several stages of activities, such as expert group discussions, material preparation, and home group presentations. In the initial cycle, some groups took longer than planned, causing the class discussion to be rushed.

Sharan[20] Emphasizes that proper time allocation is very important in cooperative learning methods. To address this issue, teachers implemented more structured schedules, used timers, and set deadlines for each activity. This approach successfully improved time efficiency and ensured that all groups could complete their tasks without compromising the quality of the results.

4. Group Dynamics

The effectiveness of Jigsaw learning is also affected by group dynamics. Tensions or conflicts sometimes arise when group members disagree or feel that contributions are uneven. This issue often hinders group collaboration and productivity. To address this, teachers guide students in establishing clear roles within the group as well as practicing communication and conflict-resolution skills. This approach creates a more conducive collaborative atmosphere and allows groups to

[19] Robyn M Gillies, Adrian F Ashman, and Jan Terwel, "The Teacher's Role in Implementing Cooperative Learning in the Classroom: An Introduction," *The Teacher's Role in Implementing Cooperative Learning in the Classroom*, 2007, 1.
[20] Yael Sharan, "Cooperative Learning: A Diversified Pedagogy for Diverse Classrooms," *Intercultural Education* 21, no. 3 (2010): 195–203.

work harmoniously, as Johnson and Johnson (2009) argue that interpersonal skills are a key component in cooperative learning.

This research provides practical insights into the challenges that may arise in the implementation of the Jigsaw method, such as student adaptation to new roles, managing ability variation, time management, and group dynamics. In addition to identifying challenges, this study offers strategic solutions that can be applied in various educational contexts to ensure the success of this method. By integrating carefully designed intervention measures, this study reinforces previous findings of David W Johnson,[21] and Guan,[22] This shows that the Jigsaw method not only improves students' learning outcomes but also builds their social skills. An important implication of this study is the need for teachers to play an active role in managing such challenges to create inclusive, collaborative, and meaningful learning experiences.

Conclusion

This research underscores the effectiveness of the Jigsaw cooperative learning method in improving students' engagement, collaboration, understanding, and retention, particularly in the learning of Islamic Cultural History. This method is proven to not only improve students' learning outcomes but also build their social skills, such as communication, cooperation, and problem-solving, which are essential in holistic development.

The study also highlighted a number of challenges that arose in the implementation, such as students' adaptation to new roles, variations in students' abilities, time management, and group dynamics. With carefully designed intervention strategies, such as intensive teacher guidance, provision of additional materials, and more effective time management, these challenges can be overcome. This result confirms the importance of teacher guidance and active role in supporting the success of the Jigsaw method.

In general, this study makes an important contribution to the educational literature by not only proving the effectiveness of the Jigsaw method but also providing practical guidance to overcome implementation obstacles. The research encourages the use of the

[21] David W Johnson and Roger T Johnson, "Cooperative Learning: Successful Integration of Theory, Research, and Practice," *The Annual Report of Educational Psychology in Japan* 47 (2008): 4–8.
[22] Yanjun Guan et al., "Out-Group Value Incongruence and Intergroup Attitude: The Roles of Common Identity and Multiculturalism," *International Journal of Intercultural Relations* 35, no. 3 (2011): 377–85, https://doi.org/10.1016/j.ijintrel.2010.04.007.

Jigsaw method as an inclusive, collaborative, and meaningful pedagogical approach that is relevant in supporting learning in various educational contexts. The findings provide a strong basis for further research to explore the application of the Jigsaw method in other subjects, different cultural contexts, or groups of students with more specific needs.

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