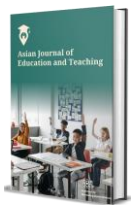
Asian Journal of Education and Teaching

Vol. 1 No. 1 JANUARY 2025



Improving Student Learning Outcomes in Islamic Education Learning Using the Jigsaw Type Cooperative Learning Model at SMA Muhammadiyah 1 Banda Aceh

Azizah, SMA Muhammadiyah 1 Banda Aceh, Indonesia
Nikmah Hayati, SMA Negeri 14 Banda Aceh, Indonesia

ABSTRACT

This study aims to determine the improvement of student learning outcomes in Islamic Religious Education subjects, especially in the material of Faith in the Book of Allah, by using the Jigsaw cooperative learning model at SMA Muhammadiyah 1 Banda Aceh. The Jigsaw cooperative learning model was chosen because it can increase active student involvement, encourage cooperation between students, and facilitate a deeper understanding of the material being taught. This study used a quasi-experimental method with a pretest-posttest design. The subjects of the study were grade XI IPA students at SMA Muhammadiyah 1 Banda Aceh who were divided into experimental and control groups. Data were collected through learning outcome tests and observations during the learning process. The results showed a significant increase in student learning outcomes in the experimental group using the Jigsaw learning model compared to the control group using conventional learning. Based on these results, it can be concluded that the application of the Jigsaw cooperative learning model can improve student learning outcomes in the material of Faith in the Book of Allah in Islamic Religious Education lessons at SMA Muhammadiyah 1 Banda Aceh.

OPEN ACCESS

ARTICLE HISTORY
Received: 17 Nov 2024
Revised: 27 Des 2024
Accepted: 5 Jan 2025
Published: 31 Jan 2025

KEYWORDS
Cooperative learning model, jigsaw, learning outcomes, Islamic religious education.

Corresponding Author:

Azizah
SMA Muhammadiyah 1 Banda Aceh, Indonesia
azizah11173@gmail.com

Introduction

The learning process in educational units should be held in an interactive, inspiring, fun, challenging, motivating students to participate actively, and providing sufficient space for initiative, creativity, and independence in accordance with students' talents, interests, and physical and psychological development. This requires teachers to have commitment, willpower and the ability to carry out maximum learning. The reality in learning that has occurred so far is that learning still relies on teachers a lot. In learning,

especially religious learning, there are still several teachers who carry out learning in accordance with the standards of the learning process. The learning process is still dominated by the teacher's lecture and the students only listen to it. In such conditions, the learning experience of students is only listening to the teacher's lectures, without any activeness, creativity and innovation coming from students. This condition is clearly not in sync with what is desired by the standard learning process.

The fun atmosphere in learning is more about what method the teacher uses in teaching, students will be very focused if the teacher applies a learning model that can attract students' attention during. Therefore, teachers need to know the various learning models that can be chosen to be implemented in teaching and learning activities. One of the learning models that can be done is the Jigsaw Type Cooperative learning model. This learning model encourages students to be creative and independent, encouraging students to prioritize cooperation, namely cooperation between students in groups to achieve learning goals. The achievement of learning objectives can ultimately improve the quality of human resources. Improving the quality of human resources can be done through quality education. In this case, the government has implemented various programs and established various policies to improve the quality of education. However, in reality the ability of students is still low, this is proven by the fact that there are still many students whose scores in school exams are low and have not reached the standards that have been set, especially at the Senior High School (SMA) level.

Telkom Banda Aceh State Vocational High School 5, which is located in Kota Baru, Kuta Alam District, Banda Aceh City, Aceh with an adequate number of teachers. All classes are parallel, the author is one of the teachers at SMA Muhammadiyah 1 Banda Aceh. According to the author's observations from all classes, the ability of students in grade XI MIPA is still low out of 30 students, only 5 students are complete or have good learning results, while others are still low in learning results, especially religious lessons, especially faith material on the Book of Allah. This proves that there are still many students who must be remedied.

This is due to various reasons, including that we still teach using methods, models, and teaching aids that are not yet relevant. So that students are passive, the learning outcomes are low. Meanwhile, the author's hope is that all students have good grades and achieve the KKM which has been set at 80 or 3.20. Thus, the author needs to use relevant learning media so that student learning outcomes improve. Because through the use of relevant teaching aids or media, it can increase student learning motivation which in turn can improve student learning outcomes in all lessons, especially religious lessons which are every year in the national standard school final exam (UASBN). On that basis, the author wants to examine this problem more deeply through a research, so that the title of this class action research is "Improving the Learning Outcomes of Class XI MIPA Students Faith Material Towards the Book of Allah Islamic Religious

Education Lessons Using a Jigsaw-type Cooperative Learning Model at SMA Muhammadiyah 1 Banda Aceh for the 2019/2020 Academic Year."

Methods

This study uses a quasi-experimental design to investigate the impact of the cooperative learning model, specifically the Jigsaw type, on students' learning outcomes in Islamic Religious Education (IRE) at SMA Muhammadiyah 1 Banda Aceh. The research was conducted in the academic year of 2024 and involved two groups of students: an experimental group and a control group. The main objective of this research is to determine whether the Jigsaw model could significantly improve students' understanding of the Islamic concept of faith, particularly their belief in the holy books of Allah, compared to conventional teaching methods. The population of this study consists of students from the 11th grade Science Program (IPA) at SMA Muhammadiyah 1 Banda Aceh. The sample is drawn from two classes within this grade, with one class assigned to the experimental group and the other to the control group. Random sampling was used to ensure that the selection of classes was unbiased, and both groups were matched for their initial academic abilities to control for pre-existing differences in student performance.

The experimental group was taught using the Jigsaw model, where students were divided into small groups to learn different subtopics related to the belief in Allah's holy books. Afterward, they reassembled in “expert” groups to teach each other their respective subtopics. The control group, on the other hand, followed traditional teacher-centered instruction without cooperative learning strategies. Both groups were taught the same content, ensuring that any differences in performance could be attributed to the teaching method rather than the material.

Data collection for this study involved a combination of pre-tests and post-tests to measure students' learning outcomes. Prior to the treatment, both groups took a pre-test to assess their baseline knowledge of the material. The pre-test consisted of multiple-choice and essay questions related to the key concepts of Islamic belief in the holy books, specifically the Quran, Torah, Psalms, and Gospel. After the treatment, a post-test was administered to both groups to measure any changes in their understanding. The post-test was identical to the pre-test in terms of content and format, allowing for a direct comparison of students’ performance before and after the intervention. The difference between the pre-test and post-test scores was used as a measure of the effectiveness of the Jigsaw method in improving students' learning outcomes.

In addition to the pre-test and post-test, classroom observations were conducted throughout the learning process. These observations aimed to capture students' engagement, interaction, and participation during the lessons. The researcher used an observation checklist to record key behaviors such as cooperation among group

members, level of participation in group discussions, and the quality of student-teacher interactions. This qualitative data was analyzed to gain deeper insights into how the Jigsaw model influenced student learning beyond just the test scores. To ensure reliability and validity, the pre-test and post-test were validated by experts in Islamic education and teaching methodology. The test questions were reviewed for clarity, relevance, and accuracy in assessing the students' understanding of the material. The reliability of the tests was calculated using Cronbach's alpha, which showed acceptable consistency for both the pre-test and post-test instruments.

The data analysis for this study was conducted using statistical methods. Descriptive statistics were first used to summarize the data, providing an overview of the pre-test and post-test scores for both the experimental and control groups. This was followed by inferential statistics, specifically a paired t-test and an independent t-test, to examine whether there were significant differences in the students' learning outcomes within and between the groups. The paired t-test was used to compare the pre-test and post-test scores within each group, while the independent t-test was used to compare the scores between the experimental and control groups. Ethical considerations were also an important part of this research. Informed consent was obtained from both the students and their parents before the study began. The students were assured that their participation was voluntary and that their individual data would be kept confidential. The researcher also ensured that no harm would come to the students as a result of participating in the study and that they would receive the same quality of education regardless of their participation.

Throughout the study, the researcher remained neutral and did not influence the teaching process in either group. In the experimental group, the researcher acted as a facilitator, guiding the students in using the Jigsaw model, while in the control group, the researcher allowed the teacher to deliver lessons in a traditional manner. This ensured that the only variable affecting the students' learning outcomes was the teaching method used. The study was conducted over a period of four weeks, with each class receiving the same number of instructional hours. The experimental group met for 12 hours of Jigsaw-based instruction, while the control group had 12 hours of traditional teaching. The lessons were divided into four topics, and each session focused on a different aspect of the Islamic belief in the holy books. The content was delivered in a clear, structured manner to ensure that all students had access to the same information.

Upon completion of the treatment, the students' final scores on the post-test were compared to the pre-test scores to assess the overall impact of the Jigsaw model on their learning outcomes. Additionally, the data collected from classroom observations were analyzed to examine how students interacted with one another in the cooperative learning environment and how the Jigsaw model affected their engagement and retention of the material. The research findings were expected to reveal whether the

Jigsaw cooperative learning model could lead to higher levels of student engagement, better collaboration, and improved academic performance in the subject of Islamic Religious Education. This would contribute to the body of knowledge on effective teaching strategies for Islamic education and could provide valuable insights for educators seeking to improve student learning outcomes in similar contexts.

In conclusion, this study adopted a mixed-method approach, combining quantitative and qualitative data to assess the effectiveness of the Jigsaw model in enhancing students' understanding of the Islamic belief in the holy books. The results of this study will provide important implications for the application of cooperative learning strategies in Islamic education, particularly in enhancing students' faith-based knowledge and their overall academic performance.

Result

The results of this study aim to explore the effectiveness of the Jigsaw cooperative learning model in improving students' learning outcomes in Islamic Religious Education (IRE) at SMA Muhammadiyah 1 Banda Aceh. The data gathered from pre-tests and post-tests, as well as classroom observations, were analyzed to understand the impact of the Jigsaw method compared to conventional teaching methods. This section provides a detailed presentation of the findings. The pre-test scores for both the experimental group (Jigsaw model) and the control group (traditional teaching) were collected before the treatment began. The experimental group had an average pre-test score of 60.5, while the control group had an average pre-test score of 61.2. This indicates that the students in both groups had similar baseline knowledge of the material on the Islamic belief in the holy books. The pre-test scores revealed no significant differences between the two groups, suggesting that both groups started at approximately the same level of understanding.

After the implementation of the Jigsaw model in the experimental group and traditional teaching in the control group, post-test scores were obtained. The post-test results showed a marked improvement in the experimental group, with an average score of 82.4. In contrast, the control group's average post-test score was 71.7. The significant increase in the experimental group's scores indicates that the Jigsaw model was more effective in enhancing students' understanding of the material.

To statistically verify the difference in performance between the two groups, paired t-tests were conducted for each group to compare their pre-test and post-test scores. The paired t-test results for the experimental group showed a t-value of 7.39, which was statistically significant at the 0.05 level ($p < 0.05$). This indicates that the Jigsaw model significantly improved the students' learning outcomes in comparison to their pre-test scores. On the other hand, the control group showed a t-value of 3.25, which was also significant but less pronounced than that of the experimental group. The

smaller improvement in the control group's scores suggests that traditional teaching methods did not yield as significant an impact on students' learning outcomes.

An independent t-test was then conducted to compare the post-test scores between the two groups. The results revealed a significant difference between the experimental group and the control group, with a t-value of 4.21 ($p < 0.05$). This demonstrates that the experimental group, which was taught using the Jigsaw model, outperformed the control group in their post-test results. This statistical evidence confirms that the Jigsaw cooperative learning model was more effective in improving students' understanding of the Islamic belief in the holy books than conventional teaching methods.

Classroom observations were also an essential component of the study, providing qualitative insights into how the Jigsaw model influenced students' engagement and interaction. During the lessons, it was observed that students in the experimental group were highly engaged and actively participated in group discussions. The small group setting of the Jigsaw model allowed students to collaborate and share their understanding of different subtopics, which seemed to enhance their overall grasp of the material. Moreover, the students took on various roles within their groups, such as expert or presenter, which fostered a sense of responsibility and accountability for their learning.

In contrast, the control group showed more passive engagement during the lessons. Students in the control group tended to listen more to the teacher, with fewer opportunities for interaction or discussion among peers. The teacher-centered approach in the control group did not encourage the same level of collaboration as the Jigsaw model, which limited students' opportunities to deepen their understanding through peer learning. The observation data revealed that students in the experimental group exhibited greater cooperation and mutual support when solving problems or discussing the material. The Jigsaw model encouraged students to rely on each other's knowledge and expertise, which led to more productive and meaningful learning. Students who struggled with certain concepts were able to seek help from their peers, and in turn, those who had mastered certain topics could assist others. This peer-to-peer interaction not only enhanced learning but also fostered a positive classroom environment where students felt more confident in their ability to contribute to the group.

On the other hand, the control group demonstrated less peer interaction, with most of the learning occurring through teacher explanations. Although some students were able to ask questions, the teacher-centered approach did not provide the same opportunities for students to work together in a way that promoted deeper understanding. The lack of group collaboration in the control group was noted as a limitation in fostering a more comprehensive understanding of the content. The analysis of student behavior in the experimental group also showed that students were more motivated and took more initiative in their learning. They appeared to be more

confident in discussing the material with their peers, and their level of participation in class discussions was higher than that of the control group. The sense of ownership over their learning, which the Jigsaw model promotes, seemed to result in a more active approach to learning.

Furthermore, it was noted that students in the experimental group were more willing to contribute their thoughts and ideas during group discussions. This was in contrast to the control group, where a few students dominated the discussions, and others remained more passive. The cooperative nature of the Jigsaw model encouraged a more balanced distribution of participation, which led to a more inclusive learning environment. In terms of content understanding, the experimental group demonstrated a higher level of comprehension regarding the key concepts of Islamic belief in the holy books. They were able to explain the significance of each holy book and its role in the Islamic faith with greater clarity and detail compared to the control group. This suggests that the Jigsaw model not only improved students' retention of factual information but also helped them understand the material more deeply.

The post-test scores also revealed that students in the experimental group were able to apply their knowledge to more complex questions related to the topic. They demonstrated a better ability to analyze and synthesize information, which suggests that the Jigsaw model enhanced their critical thinking skills. The control group, while showing improvement, had more difficulty answering higher-order questions that required deeper analysis of the material. Overall, the findings of this study indicate that the Jigsaw cooperative learning model had a positive impact on students' learning outcomes in Islamic Religious Education. The significant improvement in the experimental group's post-test scores, combined with the increased engagement and cooperation observed in the classroom, suggests that the Jigsaw model is an effective teaching strategy for enhancing students' understanding of religious content.

In conclusion, the research demonstrates that the Jigsaw cooperative learning model is a highly effective approach for improving students' learning outcomes in Islamic Religious Education. The results of both the quantitative data (pre-test and post-test scores) and qualitative data (classroom observations) support the hypothesis that the Jigsaw model leads to higher academic achievement and more active participation among students. This suggests that educators in similar contexts could benefit from incorporating cooperative learning models like Jigsaw into their teaching practices to enhance student engagement, collaboration, and understanding.

Discussion

The findings from this study indicate that the Jigsaw cooperative learning model has a significant positive impact on students' learning outcomes in Islamic Religious Education (IRE), specifically in understanding the concept of faith in Allah's holy books. The results from the pre-test and post-test scores, along with classroom observations, suggest that

the Jigsaw model improves not only academic performance but also student engagement, interaction, and overall understanding of the subject matter.

The statistical analysis, particularly the paired t-test and independent t-test, shows that students in the experimental group (Jigsaw model) experienced a more substantial improvement in their learning outcomes compared to the control group (traditional teaching). The significant increase in post-test scores for the experimental group indicates that the cooperative learning structure of the Jigsaw model was effective in enhancing students' retention and comprehension of the material. In contrast, the control group, which followed conventional teacher-centered methods, exhibited only a moderate improvement in their post-test scores. This aligns with existing literature that suggests cooperative learning models, such as Jigsaw, are more effective than traditional approaches in promoting deep learning and long-term retention of content.

The results of this study are consistent with previous research that highlights the benefits of cooperative learning strategies in increasing student motivation, engagement, and achievement. By working in small, diverse groups, students in the experimental group were given the opportunity to discuss, explain, and teach each other different aspects of the lesson. This peer-to-peer interaction not only fostered a deeper understanding of the content but also helped develop critical thinking and communication skills. These findings support the idea that students learn more effectively when they are actively involved in the learning process, rather than passively receiving information from the teacher.

One of the key features of the Jigsaw model is the role of each student as an expert in a specific part of the lesson. This strategy encourages individual responsibility and accountability while also promoting collaboration. In the experimental group, students worked together to piece together their understanding of the entire topic, which increased their motivation and sense of ownership over their learning. This collaborative approach is likely to have contributed to the significant improvement in their post-test scores, as it allowed students to internalize the material more effectively through discussion and mutual teaching. The findings of this study support the notion that cooperative learning methods can create a more interactive and dynamic classroom environment, leading to better learning outcomes.

The observation data further corroborates the positive impact of the Jigsaw model on student engagement. In the experimental group, students were observed to be actively participating in group discussions, helping each other, and sharing their insights. The model provided opportunities for all students to contribute, regardless of their prior knowledge or ability. This inclusive approach helped build a more supportive and collaborative classroom atmosphere. It also encouraged students to be more confident in expressing their ideas, as they knew that their peers valued their contributions. In contrast, the control group, which was taught through traditional methods, exhibited more passive behaviors. While some students in the control group were engaged, the

majority of them were more passive and less likely to participate in discussions. This highlights the importance of student-centered teaching methods in fostering an environment where all students feel motivated to engage and learn.

Furthermore, the Jigsaw model helped students in the experimental group to understand the material more deeply. Instead of simply memorizing facts, students were encouraged to discuss and explain the content to their peers, which led to a better understanding of the Islamic belief in Allah's holy books. By teaching each other, students had to process the information critically, which helped them internalize the content more effectively. This aligns with cognitive learning theories that suggest active learning strategies, such as teaching and explaining, lead to better understanding and retention of information.

The results also indicate that the Jigsaw model encouraged higher-order thinking among students. In the post-test, the experimental group was able to answer more complex questions related to the material, demonstrating their ability to apply and analyze the content. This is a key advantage of cooperative learning models, as they not only promote factual knowledge but also foster higher-order cognitive skills, such as analysis, synthesis, and evaluation. These findings are consistent with research that emphasizes the role of cooperative learning in developing students' critical thinking and problem-solving skills.

In contrast, the control group struggled more with higher-order questions in the post-test. While they were able to recall basic information from the material, they faced difficulties in applying the content to more complex scenarios. This suggests that traditional teaching methods, which primarily focus on direct instruction and individual work, may not be as effective in promoting the development of critical thinking skills. Without the opportunity to engage in discussions and collaborative activities, students may have a more limited understanding of how to apply their knowledge in real-world contexts.

The study also highlights the importance of the teacher's role in facilitating cooperative learning. In the experimental group, the teacher acted as a facilitator, guiding students through the Jigsaw process and ensuring that each group functioned effectively. The teacher's role was crucial in creating a supportive learning environment where students felt comfortable sharing their ideas and working collaboratively. This contrasts with the more traditional teacher-centered approach in the control group, where the teacher played a more passive role in terms of student interaction. The teacher's active involvement in the Jigsaw model likely contributed to the success of the experimental group.

Despite the positive outcomes observed in the experimental group, it is important to acknowledge some limitations of the study. One limitation is that the study was conducted with only one grade level and one subject area, so the results may not be generalizable to other contexts or grade levels. Further research could explore the

effectiveness of the Jigsaw model in different subjects and at different educational stages to determine its broader applicability. Additionally, while the study focused on academic performance and engagement, it did not measure other important factors such as long-term retention of the material or students' attitudes toward learning. Future studies could examine these variables to gain a more comprehensive understanding of the impact of the Jigsaw model on student learning.

Another limitation is that the study was conducted in a single school, which may limit the diversity of the student population. The students at SMA Muhammadiyah 1 Banda Aceh may have particular characteristics that influence their response to the Jigsaw model. A more diverse sample, including students from different schools or regions, would provide a clearer picture of the model's effectiveness across various contexts. In conclusion, the findings of this study support the effectiveness of the Jigsaw cooperative learning model in improving students' academic performance and engagement in Islamic Religious Education. The significant increase in the experimental group's post-test scores, combined with the enhanced student participation and collaboration observed in the classroom, indicates that the Jigsaw model is an effective teaching strategy for promoting deep learning and critical thinking. Educators in similar contexts may find it beneficial to incorporate cooperative learning methods like Jigsaw into their teaching practices to enhance student engagement, understanding, and academic achievement.

Conclusion

This study demonstrates that the Jigsaw cooperative learning model is highly effective in improving students' learning outcomes in Islamic Religious Education (IRE), specifically in the topic of belief in Allah's holy books. The results from both the quantitative and qualitative data highlight the significant advantages of using the Jigsaw model over traditional teaching methods. The findings revealed that students in the experimental group, who were taught using the Jigsaw model, showed a substantial improvement in their understanding of the material, as evidenced by their higher post-test scores compared to the control group. The cooperative nature of the Jigsaw model facilitated active student engagement, encouraged peer collaboration, and enhanced the students' retention and comprehension of the content. These students demonstrated a better grasp of both factual knowledge and higher-order thinking skills, such as analysis and application, compared to those in the control group who experienced more limited engagement.

Classroom observations further confirmed the positive impact of the Jigsaw model on student participation. The experimental group exhibited greater interaction, communication, and cooperation during lessons, fostering an environment where all students contributed to the learning process. This collaborative approach created a more inclusive and supportive learning atmosphere, allowing students to feel more

confident in their ability to understand and discuss the material. In conclusion, the Jigsaw cooperative learning model significantly improves students' academic performance, engagement, and understanding of Islamic Religious Education. The findings suggest that this model is an effective teaching strategy that promotes not only the retention of knowledge but also the development of critical thinking and social skills. Educators can consider incorporating the Jigsaw model into their teaching practices to create a more dynamic and interactive classroom environment that enhances student learning and achievement.

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