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A Comparative Analysis of Jigsaw, Team Games Tournament, and Conventional Approaches on Student Achievement in Islamic Religious Education at the Elementary Level

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Abstract: This study aims to compare the effectiveness of the Jigsaw, Team Games Tournament (TGT), and conventional learning models in improving Islamic Religious Education learning outcomes in third-grade elementary school students. Using a comparative quantitative research design, this study involved three whole classes, each of which implemented one of these learning models. Student learning outcomes were measured using a standardized assessment instrument after the learning process was implemented. The findings showed clear differences between the three models, with the TGT model producing the highest improvement in learning outcomes, followed by the conventional model, while the Jigsaw model showed the lowest results. These findings indicate that the competitive cooperative learning structure in TGT is able to increase engagement and understanding of religious concepts more effectively than the other two models. This study concludes that the TGT model is superior in supporting the achievement of Islamic Religius Education learning outcomes and has broader pedagogical significance because it can strengthen the cognitive, social, moral, and character-building aspects that are at the core of Islamic education. Therefore, the application of innovative and learner-centered learning strategies needs to be expanded to improve the quality of Islamic Religius Education learning at the elementary school level.
Keywords: Conventional; Islamic Religious Education; Jigsaw; Team Games Tournament

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INTRODUCTION

Islamic education emphasizes character building, social and moral teaching, and the pursuit of knowledge (Halstead, 2004). In addition, Islamic Religious Education also aims to transfer knowledge (ta'leem), shape manners and ethics (ta'deeb), and nurture character (tarbiyah). However, in practice at school, the focus is often more on the cognitive aspect (ta'leem) rather than integrating all three aspects in a balanced manner (Syarif, S., Ansyari, M., & Riau, 2023). In fact, this educational framework positions Islamic Religius Education not only as a cognitive activity, but also as a process of moral and social formation that is in harmony with Islamic values. This condition shows that there is a gap between the ideal objectives of Islamic Religius Education and the learning practices in the field.

A more concrete problem is evident in the low academic achievement of students in Islamic Education, as shown by various educational evaluation results. Based on the Ministry of Education and Culture's national report (2022), around 48% of elementary school students have not achieved the Minimum Passing Grade for Islamic Education. This significant proportion shows that the quality of learning still faces serious obstacles. In addition, observations of elementary schools show that the teaching process is often dominated by monotonous and boring methods, does not involve collaborative activities, and lacks space for interaction because it is teacher-centered and does not actively involve students (Istiqomah, 2020). These conditions can hinder students' motivation to learn and also reduce learning outcomes.

The difference between actual conditions and expectations shows that there is a gap that needs to be bridged. Choosing a learning model is one way for educators to guide students to achieve optimal learning outcomes, effectively achieve learning objectives, and prevent students from becoming bored (Harefa, et al., 2020). Educators have a variety of learning models to choose from for the teaching and learning process. Each model chosen will have a different impact on student activities and influence their cognitive development. In other words, choosing the right learning model can affect the extent to which students are actively involved in learning activities and how well they perform cognitively (Nurhasanan, 2020; Palahudin, P., & Ruswandi, 2021). In Islamic Religius Education learning, ideally models that encourage active interaction such as Jigsaw and Team Games Tournament (TGT) should be applied. However, conventional learning practices that make teachers the center of learning are still dominant, so the potential of cooperative learning models has not been fully utilized. For this reason, comparative research is needed to see the effectiveness of learning models more objectively.

Several previous studies have discussed learning models and proven the effectiveness of cooperative learning models, including research conducted by

Abriani et al (2024), which states that the application of the Jigsaw Cooperative Learning Model has been proven to significantly improve student learning outcomes in Islamic Religious Education lessons in grade III at SDN 227 Margahayu Utara, by increasing the level of mastery and deepening students' understanding of the subject matter.

Previous research that is also relevant to this study is the research conducted by Mahfutri et al (2023) which shows that the jigsaw cooperative method based on active learning has been proven to bring improvements in various positive aspects, such as learning activities in the classroom, discussion interactions between students, and between students and teachers. This also encourages active participation in the learning process in Islamic Religious Education subjects.

Meanwhile, a meta-analysis study conducted by Zulyusri et al (2022) shows that the application of the Teams Games Tournament learning model has significantly improved student learning outcomes. After the treatment, the average student score reached 69.93%, while before the treatment it was only 55.75%, which means there was an increase of 14.18%. However, there were also findings that showed that learning models that allow students to actively participate in the learning process do not always produce better results than conventional learning models. Research conducted by Soro and Astari (2022) shows that each learning model applied, namely the discovery learning model and conventional learning, can affect students' mathematical communication skills, as evidenced by an increase in final test scores after learning. However, interactive models do not always produce higher achievements than conventional methods, depending on the characteristics of the students and the learning material. This can be seen from the similarity in final test scores between the experimental class using the discovery learning model and the control class using the conventional model.

Although there have been many studies examining the effectiveness of each learning model, comparative studies that directly compare Jigsaw, TGT, and conventional methods in the context of Islamic Religious Education at the elementary school level are still very limited. This gap is the basis for this research and the argument for why this research is important. Thus, this study aims to analyze the differences in Islamic Religius Education learning outcomes between the application of the Jigsaw, TGT, and conventional learning models in third-grade students at SDN 227 Margahayu Utara. The findings of this study are expected to contribute empirically to the development of more effective and evidence-based Islamic Religius Education learning strategies.

RESEARCH METHOD

This study uses a quantitative method with a comparative research design to examine the differences in Islamic Religious Education learning outcomes among three groups of students who received different learning models. In this design, the researcher uses statistical techniques to analyze data and test hypotheses, thereby drawing conclusions about the causal relationship or differences between the groups studied (Collier, 1995; Yıldız, A., Abderazek, H., & Mirjalili, 2019). The research location was SDN 227 Margahayu Utara, which was purposively selected because the school implemented various Islamic Religius Education learning models and had relatively stable academic characteristics, making it relevant as a representative of urban public elementary schools. The research subjects consisted of 96 third-grade students (32 students each for the Jigsaw, TGT, and conventional models). Third grade was chosen because at this level, basic Islamic Religius Education competencies require sufficient conceptual understanding, making students sensitive to differences in learning models (Slavin, 2020).

Learning outcomes were measured using a 25-item multiple-choice written test developed based on the Islamic Religius Education Basic Competency indicators. The instrument was validated through content validity by three Islamic Religius Education experts and reliability testing using Cronbach's Alpha with a reliability category based on a minimum threshold of 0.70 (Fraenkel et al., 2019). Data were collected after treatment was administered to each class during four meetings. Prior to analysis, prerequisite tests were conducted, including normality and homogeneity. Because the data distribution was not normal, the Kruskal–Wallis test was used as a nonparametric alternative to one-way ANOVA (Kariadinata dan Abdurahman, 2012; Gibbons, J. D., & Chakraborti, 2011). This test allows researchers to compare median differences between three groups more accurately without distribution assumptions. The analysis was performed using SPSS version 26. To maintain group equality, the school ensured that the three classes had the same curriculum, similar teacher proportions, and no acceleration or specialization programs, thereby reducing bias in initial differences between students.

RESEARCH RESULT AND DISCUSSION

Research Result

Data analysis was conducted to determine the differences in Islamic Religious Education learning outcomes across three learning models: Jigsaw, Team Games Tournament (TGT), and Conventional. Normality and homogeneity tests showed that some groups did not meet the assumptions of normality and variance was not homogeneous, so the Kruskal–Wallis test was chosen as a nonparametric alternative to ANOVA as recommended by Gibbons

& Chakraborti (2011). This step ensures the reliability of the test even if the data is not normally distributed. The first step is to formulate a hypothesis:

H_0: There was no difference in Islamic Education learning outcomes between students in classes that used the Jigsaw learning model and students in classes that used the TGT learning model and conventional classes.

H_1: There is a difference in Islamic Education learning outcomes between students in classes that use the Jigsaw learning model and students in classes that use the TGT learning model and conventional classes.

Table 1. Test of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Pembelajaran	Statistic	df	Sig.	Statistic	df	Sig.
Skor_HslBljr	JIGSAW	,164	31	,033	,946	31	,119
	TGT	,105	32	,200*	,955	32	,202
	KONVENSIONAL	,152	32	,059	,912	32	,013

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

c. Skor_HasilBljr is constant when Pembelajaran = 11,00. It has been omitted.

Based on the output display in Table 1, the normality test shows that the sig value in Kolmogorov-Smirnov for the jigsaw learning group is less than 0.05 or < 0.05, while the Shapiro-Wilk sig value for conventional learning is less than 0.05 or < 0.05. Therefore, the conclusion is that the distribution of Islamic Education learning score data in the Jigsaw, TGT, and Conventional learning classes is not normally distributed. The data distribution is as shown in the figure below:

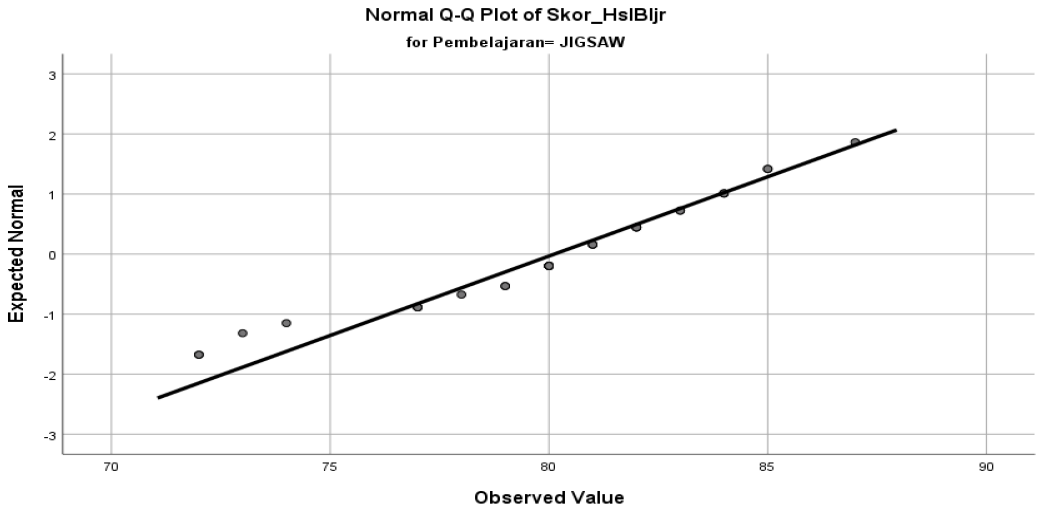

Figure 1. Normality Test Plot of Islamic Religious Education Learning Outcomes Using the Jigsaw Method

In Figure 1, the jigsaw method learning outcome scores show that the data (dots) are not scattered around the diagonal line, so the jigsaw method learning outcome score data are not normally distributed.

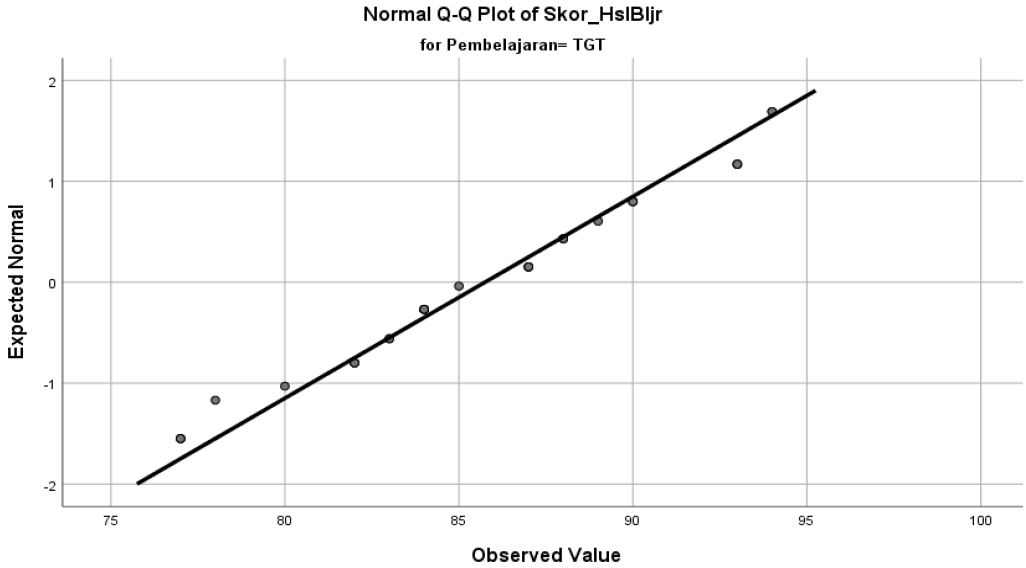

Figure 2. Normality Test Plot of Islamic Religious Education Learning Outcomes Using the TGT Method

In Figure 2, the TGT method learning outcome scores show that the data (dots) are scattered around the diagonal line, indicating that the TGT method learning outcome scores are normally distributed.

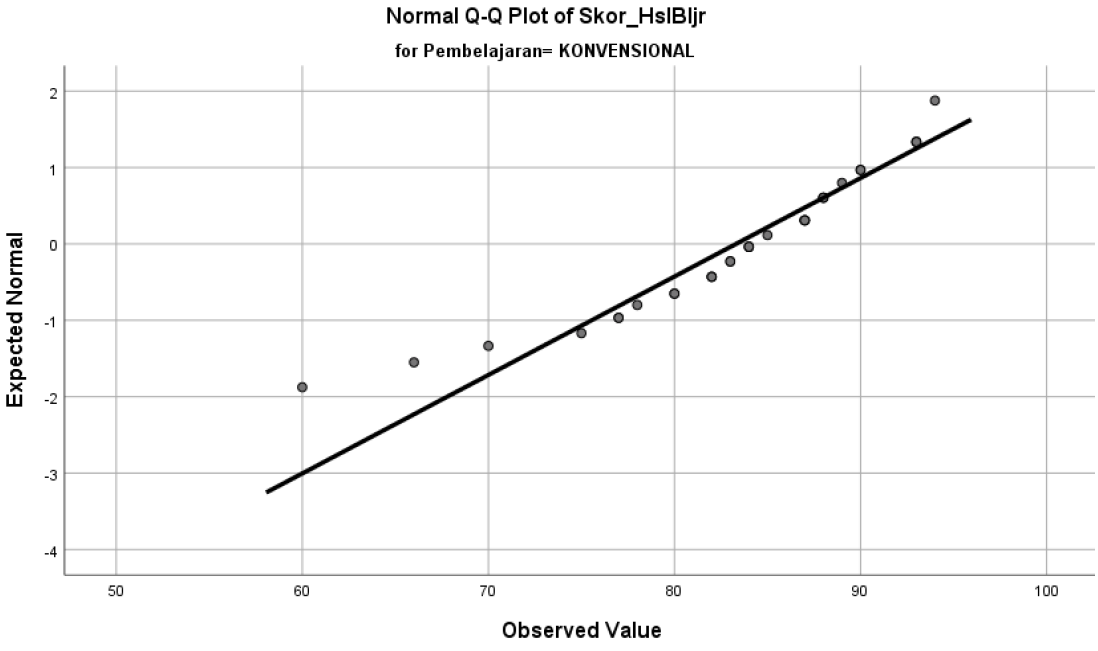

Figure 3. Normality Test Plot of Islamic Religious Education Learning Outcomes Using the Conventional Method

In Figure 3, the learning outcome scores for the conventional method show that the data (dots) are not scattered around the diagonal line, so the learning outcome score data for the conventional method is not normally distributed. The distribution visualization shows that the TGT group has a higher and more stable score distribution, while Jigsaw shows a lower and uneven distribution. The Q–Q plot graph also confirms that the distribution of Jigsaw and Conventional scores does not follow a normal pattern, while TGT approaches a normal distribution but still does not meet the overall assumptions, so the use of nonparametric tests is still necessary.

Table 2. Test of Homogeneity of Variancea

		Levene Statistic	df1	df2	Sig.
Skor_HslBljr	Based on Mean	4,854	2	92	,010
	Based on Median	4,395	2	92	,015
	Based on Median and with adjusted df	4,395	2	60,471	,017
	Based on trimmed mean	4,447	2	92	,014

a. Skor_HslBljr is constant when Pembelajaran = 11,00. It has been omitted.

In the Test of Homogeneity of Variance display, there is one test tool used, namely the Levene test. The output shows a Sig Based on Mean value of 0.010. This value is less than 0.05 (< 0.05). This means that the variances of the three data groups are not homogeneous. The next step is to test the hypothesis. To test the hypothesis, a non-parametric statistic is used, namely the Kruskal-Wallis test.

H0 : There is no difference in Islamic Education learning scores between students in classes that use the Jigsaw method and students in classes that use the TGT learning method and conventional classes.

H1: There is a difference in Islamic Education learning scores between students in classes that use the Jigsaw method and students in classes that use the TGT learning method and conventional classes.

Table 3. Ranks

	Pembelajaran	N	Mean Rank
Skor_HslBljr	JIGSAW	31	31,50
	TGT	32	60,06
	KONVENSIONAL	32	51,92
	Total	95	

Table 3 above shows that the mean rank of the conventional method is lower than the mean rank of the TGT method and higher than that of the Jigsaw method. The mean rank of the TGT method is higher than the mean rank of the Jigsaw method. Next, to see whether there are differences between the three groups, we look at the following Output display:

Table 4. Kruskal Wallis Test

	Skor_HslBljr
Kruskal-Wallis H	17,987
df	2
Asymp. Sig.	,000
a. Kruskal Wallis Test	

b. *Grouping Variable*: Pembelajaran

Interpretation of the Kruskal-Wallis test.

The Kruskal-Wallis test produced a significance value of p = 0.000 (< 0.05), so it was concluded that there was a significant difference in PAI learning outcomes between the three learning models. This finding answers the research objective that teaching techniques do produce different outcomes among student groups. To find out which groups are specifically different, a Post Hoc Test was conducted using the Mann Whitney U Test because the normality of the data was not fulfilled, while the homogeneity of variance was fulfilled.

Table 5. Comparison of Learning Outcomes Scores Using the Jigsaw and TGT Methods

	Pembelajaran	N	Mean Rank	Sum of Ranks
Skor_HslBljr	JIGSAW	32	22,78	729,00
	TGT	32	42,22	1351,00
	Total	64		

From the Rank output, we can see that the mean rank value for students in the Jigsaw learning model class is 22.78, which is smaller than the mean rank value for students in the TGT learning model class, which is 42.22 (22.78 < 42.22). Furthermore, to prove that the difference in the mean rank of the two groups above is statistically significant, see the following table:

Table 6. Statistical Comparison of Islamic Education Learning Outcomes between Jigsaw and TGT Learning Models

	Skor_HslBljr
Mann-Whitney U	201,000
Wilcoxon W	729,000
Z	-4,191
Asymp. Sig. (2-tailed)	,000
a. Grouping Variable: Learning	

Based on Table 6, which shows the Test Statistic output above, it can be seen that the Sig.2-tailed value is 0.000, which is smaller ( ) than 0.05. Thus, Ho is rejected and H1 is accepted, so it can be concluded that there is a difference in Islamic Education learning outcomes between those who learn with the Jigsaw and TGT learning models.

Table 7. Comparison of Learning Outcomes Scores between the Jigsaw Method and the Conventional Method

	Pembelajaran	N	Mean Rank	Sum of Ranks
Skor_HslBljr	JIGSAW	32	26,11	835,50
	KONVENSIONAL	32	38,89	1244,50
	Total	64		

From the Rank output, we can see that the mean rank value for students in the Jigsaw learning model class is 26.11, which is smaller than the mean rank value for students in the Conventional learning model class, which is 38.89 (26.11 38.89). Furthermore, to prove that the difference in the mean rank of the two groups above is statistically significant, see the following table:

Table 8. Results of the Independent Samples t-Test on Islamic Education Learning Outcomes Using Jigsaw and Conventional Models

	Skor_HslBljr
Mann-Whitney U	307,500
Wilcoxon W	835,500
Z	-2,754
Asymp. Sig. (2-tailed)	,006
a. Grouping Variable: Learning	

Based on Table 8, the Test Statistic output above shows that the Sig.2-tailed value is 0.006, which is smaller than 0.05. Thus, Ho is rejected and H1 is accepted, so it can be concluded that there is a difference in Islamic Education learning outcomes between those who learn with the Jigsaw and Conventional learning models.

Table 9. Comparison of Learning Outcomes Scores between TGT and Conventional Methods

	Pembelajaran	N	Mean Rank	Sum of Ranks
Skor_HslBljr	TGT	32	34,95	1118,50
	KONVENSIONAL	32	30,05	961,50
	Total	64		

From the Rank output, we can see that the mean rank value for students in the TGT learning model class is 34.95, which is greater than the mean rank value for students in the conventional learning model class, which is 30.05 (34.95 > 30.05). Furthermore, to prove that the difference in the mean rank (ranking) of the two groups above is statistically significant, see the following table:

Table 10. Independent Samples t-Test Results for Islamic Religious Education Learning Outcomes Using TGT and Conventional Models

	Skor_HslBljr
Mann-Whitney U	433,500
Wilcoxon W	961,500
Z	-1,058
Asymp. Sig. (2-tailed)	,290

a. Grouping Variable: Learning

Based on Table 10, the Test Statistic output above shows that the Sig.2-tailed value is 0.290, which is greater than 0.05. Thus, Ho is accepted and H0 is rejected, so it can be concluded that there is no difference in Islamic Religious Education learning outcomes between those who learn with the TGT and conventional learning models.

Thus, the TGT learning model has been proven to provide a stronger boost to improving Islamic Religious Education learning outcomes compared to the other two models, in line with a number of previous findings such as meta-analyses. Zulyusri et al. (2022) which states that TGT effectively improves academic performance through educational competition and collaboration

mechanisms. These results answer the research objective that there are significant differences in PAI learning outcomes based on the learning model used. The findings indicate that learning strategies involving educational games, healthy competitive interaction, and group work—as in TGT—are more in line with the characteristics of elementary school students than the Jigsaw model, which requires independent reading skills and more complex delivery of material between students.

Discussion

The results of the study indicate that there are significant differences in Islamic Religious Education (IRE) learning outcomes between the three learning models applied, namely Jigsaw, Team Games Tournament (TGT), and conventional learning. The TGT model produced the highest score, followed by conventional learning, while Jigsaw ranked lowest. These findings are interesting, especially since a number of previous studies have stated that Jigsaw tends to significantly improve student learning outcomes (Lutfi et al., 2024; Anwar, 2023). Therefore, a discussion is needed to critically explain why the Jigsaw model in this study is not in line with previous empirical findings.

The jigsaw learning model in Islamic Religious Education lessons has been proven effective in improving student learning outcomes, engagement, and critical thinking skills. By dividing the material into small sections that are studied in groups, students not only gain a deeper understanding of the material, but also learn to take responsibility for their own understanding and that of their group members, thereby creating an active, collaborative, and interactive learning environment (Julian et al, 2025; Lutfi et al, 2024). In addition, this model is also effective in improving students' focus, motivation, and participation during the learning process, as well as fostering mutual respect and social skills (Anwar, 2023; Siregar, R., & Hogi, 2024). Thus, the jigsaw model is highly recommended as an innovative learning strategy in Islamic Religious Education to improve the quality of education holistically. However, in this study, the low performance of the jigsaw model can be interpreted through several possibilities, including:

Academic readiness and learning maturity of third-grade elementary school students.

The Jigsaw model requires independent reading skills, careful understanding of subtopics, and more mature communication skills. At the elementary school level, especially in third grade, these skills are still developing (Slavin, 2019). Hal ini sejalan dengan penelitian yang dilakukan oleh Sudrajat (2023), bahwa implementasi Jigsaw pada kelas rendah SD sering terkendala

karena siswa belum mampu mengelola tanggung jawab individual dalam kelompok secara optimal.

Complexity of PAI material

PAI material contains abstract concepts and is value-laden, requiring direct explanation from teachers. If the material is divided too technically or abstractly, the expert groups in Jigsaw fail to build a deep understanding (Hamalik, 2017).

Consistency in teacher facilitation

The Jigsaw model requires intensive supervision, scaffolding, and strict time management. If group coordination is not optimal, learning outcomes will be uneven (Arends, 2018). Research by Nurfadilah & Ramdhani (2022) shows that the effectiveness of Jigsaw is greatly influenced by the teacher's ability to control group dynamics.

Thus, the low learning achievement of the Jigsaw group in this study indicates a mismatch between the demands of the model and the abilities and characteristics of the students, including the readiness for its implementation in the classroom.

The TGT (Teams Games Tournament) learning model is a cooperative learning method that combines group learning with elements of competition. The TGT model consistently demonstrates high effectiveness because it combines cooperation and healthy competition. Competition packaged in the form of games has been proven to increase focus, intrinsic motivation, and learning retention (Slavin, 2015). In this model, students work together in teams to increase student participation and motivation to learn (Sari, A., Mulyadi, A., Suprima, S., & Hasibuan, 2023). This model helps students to express their opinions, work together, and understand the material more easily through a fun and competitive learning environment (Tamami, 2022; Zuschaiya, 2025). From the perspective of Islamic Education pedagogy, the TGT model is effective because it integrates the values of healthy competition, sportsmanship, responsibility, and cooperation, which are important moral dimensions in Islamic character education (Fitri, 2018).

Conventional learning models generally emphasize theoretical material delivery, memorization, and one-way explanations from teachers to students, resulting in minimal interaction and active involvement from students. However, this learning model still has a positive influence on student learning outcomes (Haq, Z., Putri, T., &, 2024). This is due to the role of teachers as authoritative sources of religious values, which are considered easier for elementary school students to understand. Direct explanations have proven to be effective for simple factual and conceptual material, and elementary school-aged students tend to be comfortable with structured learning. Thus, it has been

proven that interactive lectures remain relevant in Islamic education at the elementary level.

The implications of this study's findings indicate that Islamic Religious Education learning in elementary schools will be more effective if it uses competitive-educational models such as TGT, because it is in line with the cognitive development stage of students who are still in the concrete operational phase and therefore require structured, interesting, and game-based activities. Meanwhile, the Jigsaw model is more appropriate for higher levels when students' literacy, independence, and social responsibility skills are more developed. The integration of conventional and cooperative approaches is still necessary to balance the process of internalizing Islamic values through direct explanation with the strengthening of collaborative and competitive skills through group activities. In addition, these collaborative and competitive activities can be directed to foster Islamic moral values such as honesty, cooperation, sportsmanship, and responsibility, so that Islamic Religious Education learning not only improves cognitive aspects but also shapes students' character holistically. Therefore, the integration of conventional and innovative models is recommended to create a more holistic and effective Islamic Religious Education learning environment that can be applied contextually.

CONCLUSION AND IMPLICATION

Conclusion

This study confirms that the choice of learning model has a significant impact on the effectiveness of Islamic Religious Education in elementary schools. The Teams Games Tournament (TGT) model has been proven to yield the highest learning outcomes compared to the Jigsaw model and conventional approaches, indicating that elements of play, healthy competition, and structured cooperation are more in line with the cognitive development characteristics of elementary school students who need concrete and motivating activities. These findings make an important contribution to Islamic Religious Education pedagogy by showing that the integration of Islamic values can be strengthened through competitive activities that encourage sportsmanship, responsibility, and collaboration. Conversely, the low effectiveness of Jigsaw in this context indicates that this model requires more mature literacy, independence, and social responsibility skills, making it more suitable for application at higher levels of education. Overall, this study confirms that TGT is a more strategic approach to increasing engagement, motivation, and understanding of Islamic Religious Education concepts among elementary school students, and provides direction for the development of Islamic Religious Education learning models that are more adaptive and responsive to the developmental needs of students.

Implication

Based on the results of the study, comparing the application of the TGT learning model with other learning models can improve students' academic learning outcomes, especially in subjects that require a deep understanding of concepts such as Islamic Religious Education. With group discussions and evaluations in the form of tournaments, students find it easier to understand the material and show significant improvement. Therefore, efforts that need to be made by educators to optimize the implementation of the TGT learning model include providing supportive learning resources, encouraging positive communication among students, and improving understanding and skills (through training/workshops).

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