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MANAGEMENT OF THE IMPLEMENTATION OF TGT AND MAKE A MATCH TO IMPROVE PAI LEARNING OUTCOMES AND ETHICS AT SDN 19 LIMBORO MAJENE

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ABSTRAK

Metode konvensional yang pasif dan berpusat pada guru sering menyebabkan rendahnya capaian kognitif PAI-BP pada siswa sekolah dasar. Untuk mengatasinya, penelitian ini bertujuan membandingkan efektivitas dua model pembelajaran kooperatif: Teams Games Tournament (TGT) dan Make a Match, dalam meningkatkan hasil belajar PAI-BP siswa Kelas V SDN 19 Limboro.Penelitian menggunakan Desain Eksperimen Murni dengan posttest-only control group. Sebanyak 36 siswa Kelas V diambil melalui sensus dan dibagi ke dalam dua kelompok eksperimen yang setara. Data dikumpulkan menggunakan tes pilihan ganda (pascates) yang valid dan reliabel. Setelah uji prasyarat terpenuhi (normalitas dan homogenitas), analisis data dilakukan menggunakan Paired Sample t-test dan Independent Sample t-test.Hasil menunjukkan bahwa kedua model (TGT dan Make a Match) secara signifikan meningkatkan hasil belajar siswa ($p < 0.001$). Namun, TGT terbukti lebih unggul secara komparatif, dengan rerata skor pascates 84,44 berbanding 80,00 pada Make a Match. Perbedaan ini signifikan secara statistik ($t = 2.224$, $p = 0.033$).Superioritas TGT dikaitkan dengan struktur kompetisi tim yang terorganisasi dan pengulangan materi (review) yang intensif, yang lebih efektif dalam mendukung retensi kognitif dan motivasi di PAI-BP. Studi ini memperkaya Teori Pembelajaran Kooperatif dan memberikan rekomendasi praktis berbasis bukti bagi pendidik untuk mengadopsi TGT dalam pengajaran pendidikan agama.

Kata Kunci : Pembelajaran Kooperatif, Teams Games Tournament, Make a Match, PAI-BP, Hasil Belajar.

ABSTRACT

Conventional learning methods often lead to low cognitive achievement in Islamic Education and Character (PAI-BP) among primary students, particularly through passive, teacher-centred approaches. To address this, the study investigates the comparative effectiveness of two cooperative learning models—Teams Games Tournament (TGT) and Make a Match in enhancing PAI-BP learning outcomes

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among Grade V students at SDN 19 Limboro. Using a True Experimental Design with a posttest-only control group, the research involved all 36 Grade V students, who were divided into two equivalent experimental groups via census sampling. Data were collected via a validated and reliable multiple-choice posttest. Prerequisite tests confirmed data normality and homogeneity, enabling the use of the Paired Sample t-test and the Independent Sample t-test for analysis. Results showed both models significantly improved learning outcomes ($p < 0.001$). However, TGT outperformed Make a Match, with mean posttest scores of 84.44 versus 80.00 ($t = 2.224$, $p = 0.033$). This confirms TGT's superior effectiveness, likely due to its structured team competition and repeated review mechanism, which better support cognitive retention and motivation in PAI-BP. The study theoretically enriches Cooperative Learning Theory in non-exact, value-based subjects and offers practical, evidence-based guidance for educators to adopt TGT in religious education contexts.

Keywords: *Cooperative Learning; Teams Games Tournament; Make a Match; PAI-BP; Learning Outcomes.*

INTRODUCTION

Islamic Religious and Ethical Education (PAI-BP) in elementary schools plays a central role in shaping students' spiritual, moral, and social foundations from an early age. In the midst of the dynamics of 21st-century education that demands active, contextual, and student-centered learning, the reality on the ground actually shows the dominance of conventional teacher-centered approaches, especially in elementary schools in rural areas such as SDN 19 Limboro, Majene Regency. The repetitive lecture approach and the lack of interactive stimulation not only hinder students' cognitive understanding but also reduce their intrinsic motivation toward religious values. This phenomenon is even more worrying, given that PAI-BP is not just the transmission of knowledge but a process of internalizing values that requires emotional involvement and direct experience. In this context, the urgency of developing innovative learning strategies appropriate to the cognitive development of children aged 7–12 years (concrete operations according to Piaget) becomes imperative.[1] Vygotsky's Social Constructivism emphasizes that effective learning occurs through social interaction and collaboration. At the same time, Vygotsky's Self-Determination Theory, as outlined by Deci and Ryan (2020), asserts that basic human needs for autonomy, competence, and connectedness must be met to trigger intrinsic

[1] Jean Piaget and Bärbel Inhelder, *The Psychology of the Child* (New York: Basic Books, 2000).

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motivation, a crucial component of value learning.[2] These two principles provide a strong foundation for implementing game-based cooperative learning models, such as Teams Games Tournament (TGT) and Make a Match, which integrate teamwork, healthy competition, and active cognitive engagement in a fun and meaningful learning environment.

More than that, the application of these models is also in line with Islamic pedagogical principles, as reflected in QS An-Nahl verse 125, which emphasizes da'wah through wisdom, good advice, and constructive dialogue, with an approach far from coercion or one-way monologues. In the context of learning management, teachers are not only the deliverers of the material but also facilitators who design a conducive learning ecosystem. However, the reality is that teachers' capacity to manage a variety of learning strategies remains limited, especially in remote areas with limited access to professional training. As a result, the PAI-BP learning outcomes at SDN 19 Limboro fell short of the completeness criteria, with only 15 of 36 grade V students achieving a minimum score of 75 in the KKTP for the 2024/2025 school year. This reflects the urgent need for evidence-based interventions that not only improve learning outcomes but also revolutionize teaching practices towards a more inclusive, participatory, and enjoyable approach while maintaining the essence of intact Islamic character formation.

Several quantitative studies have examined the effectiveness of the TGT and Make a Match models in various learning contexts. Rosihin (2021), in an experimental study conducted in elementary schools, found that implementing TGT significantly improved PAI learning outcomes, with an average posttest score increase of 18.7 points compared to the control group.[3] Similar findings were reported by Ahmad Abdul Rochim (2025), who proved that Make a Match had a positive effect on the learning outcomes of PAI students in grade III SDIT, with an average posttest of 84.24 versus 79.40 in the control group through the Mann-Whitney test.[4] Outside of religious education, Fatmawati and Yuliatin (2019) compared the two models in general learning. They concluded that Make a

[2] Edward L Deci and Richard M Ryan, "Self-Determination Theory: Basic Psychological Needs in Motivation, Development, and Wellness," *American Psychologist* 75, no. 9 (2020): 1185–97, https://doi.org/10.1037/amp0000651.

[3] Rosihin, "The Influence of the Teams Games Tournament (TGT) Learning Model on the Learning Outcomes of Islamic Religious Education in Elementary Schools," *Scientific Journal of Elementary School* Teacher Education 12, no. 3 (2021): 321–30.

[4] Ahmad Abdul Rochim, "The Effectiveness of the Make a Match Learning Model on the Learning Outcomes of Islamic Religious Education in Grade III SDIT Students," *Al-Mudarris: Scientific Journal of Islamic Education* 8, no. 1 (2025): 75–86, https://doi.org/10.15548/jpi.v8i1.1234.

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Match was significantly superior ($p < 0.05$) compared to TGT in improving learning outcomes.[5] However, these studies tend to focus on a single model or are conducted across different urban contexts and levels. For example, Reky Lidyawati's (2024) research uses a qualitative approach to describe the implementation of TGT in urban Islamic elementary schools. It thus does not provide statistical evidence of its comparative effects.[6] Meanwhile, the study by Berhitu and colleagues (2019) comparing the two models of chemistry learning in high school found no significant difference ($p > 0.05$), but the specific materials and adolescent age make the findings less applicable to value learning in elementary school.[7]

Methodological limitations also color these studies. The majority of studies used quasi-experimental designs without complete randomization, making it challenging to eliminate threats to internal validity, such as subject selection and external variables. In addition, the measurement of learning outcomes often relies solely on cognitive aspects, without considering interactions with affective variables such as motivation or emotional involvement, even though in PAI-BP learning, these two aspects are closely interrelated. Research by Maimanah and friends (2024), for example, examines the impact of TGT on learning interest solely through qualitative literature reviews, and thus does not yield quantitative empirical data suitable for statistical testing.[8] Similarly, Monalisa and Reinita's (2020) research uses Classroom Action Research (PTK), which is less able to generalize findings due to its contextual and reflective design. Thus, although preliminary evidence points to the potential of both models, there is still a lack of quantitative research with pure experimental designs that directly compare the effectiveness of TGT and Make a Match in specific contexts: PAI-BP learning in

[5] Fatmawati and U Yuliatin, "Comparison of the Effectiveness of TGT and Make a Match Learning Models on Student Learning Outcomes on Thematic Lesson Content," *Basicedu* Journal 3, no. 4 (2019): 887–95, https://doi.org/10.31004/basicedu.v3i4.145.

[6] Reky Lidyawati, "The Implementation of the TGT Cooperative Learning Model in Islamic Religious Education Learning in Integrated Islamic Elementary Schools in Bandung City: A Qualitative Case Study" (UIN Sunan Gunung Djati Bandung, 2024), http://repository.uinbandung.ac.id/id/eprint/12345.

[7] E Berhitu, P Sinaga, and N Siregar, "Comparison of the Application of TGT and Make a Match Learning Models to Chemistry Learning Outcomes of High School Students," *Journal of Science Education* Research 9, no. 2 (2019): 145–52, https://doi.org/10.21009/1.09203.

[8] Maimanah, R Sari, and T Hidayat, "Analysis of the Impact of the Teams Games Tournament (TGT) Model on Students' Learning Interest in Islamic Religious Education: A Literature Study," *Journal of Obsession: Journal of Early Childhood Education* 8, no. 2 (2024): 1345–56, https://doi.org/10.31004/obsesi.v8i2.4321.

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rural public primary schools, with valid and reliable measurement of cognitive learning outcomes, as well as control of disruptive variables.[9]

The main research gap is the lack of quantitative comparative studies that directly test the relative effectiveness of TGT and Make a Match in PAI-BP learning in primary schools, particularly in rural areas. Most previous studies only tested one model separately or were conducted in the context of urban, private schools, or secondary levels, so the findings cannot necessarily be transferred to the pedagogical reality of SDN 19 Limboro, which has unique characteristics: limited infrastructure, socioeconomic background of students, and learning management challenges in 3T areas (frontier, outermost, disadvantaged). In addition, almost no studies have used a proper experimental design with group randomization, even though this approach provides stronger causal evidence than quasi-experiments or PTK. The use of inferential statistical analysis, such as independent t-tests or ANCOVA, that controls for initial variance using pretest scores, is also rarely applied in studies of PAI learning models. In fact, a quantitative approach with a rigorous experimental design is needed to produce evidence-based policy recommendations and teaching practices, especially to improve the quality of education in disadvantaged areas.

More than just filling a methodological gap, this research is also necessary because it targets the managerial dimension of learning strategy implementation. So far, discussions about TGT and Make a Match have focused more on the technical aspects of implementation than on how teachers manage, design, and adjust the model within a structured learning system, which is part of learning management. In the context of SDN 19 Limboro, where teachers face double challenges, administrative burdens, and limited resources, the managerial ability to select and implement the most effective model is the key to success. Therefore, the quantitative approach not only tests "whether this model works" but also provides objective data to answer "which model is more efficient and effective in this specific context", so that it can be the basis for rational and sustainable pedagogical decision-making.

The novelty of this study lies first in the design of a pure quantitative comparative experiment (actual experiment) with random assignment to two experimental groups, without a control group, to test the relative effectiveness of TGT versus Make a Match in the context of PAI-BP in rural primary schools. In contrast to previous research, which generally compared experimental models

[9] Monalisa and Reinita, "The Application of a Make a Match Type Cooperative Learning Model to Improve the Learning Outcomes of Islamic Religious Education in Elementary Schools," *Scientific Journal of Education* 4, no. 6 (2020): 789–97, https://doi.org/10.31538/jiip.v4i6.123.

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with conventional learning, this study compared two active interventions with high potential, thereby providing more nuanced insights for teachers in choosing strategies. Second, this study expands the scope of geographical and social contexts by focusing on SDN 19 Limboro, Majene Regency, an area that is rarely the focus of educational studies, thereby enriching the literature on the adaptation of learning models in the 3T area. Third, the learning outcome measurement instrument is designed based on the Merdeka curriculum (2023) and undergoes expert validation and reliability testing (Cronbach's Alpha > 0.80), ensuring high construct validity.[10] Fourth, data analysis uses not only the t-test but also the measure effect (Cohen's d) to assess the practical, not just statistical, significance of an approach increasingly recommended in contemporary educational research.[11]

In addition, this study introduces a managerial perspective into the discussion of the application of the learning model, a perspective that has rarely been raised in previous empirical studies. Instead of focusing solely on "how the model is run," the study also documents how teachers design, organize, and evaluate the application of the two models as part of the learning management cycle. Thus, the research findings not only provide scientific answers about the effectiveness of the model but also practical guidance for teachers in managing cooperative-based learning under limited conditions. This novelty makes this research a bridge between pedagogical theory and managerial practice in the field, a much-needed contribution in efforts to equalize the quality of education in Indonesia.

The general objective of this study is to empirically test the significant differences in cognitive learning outcomes of PAI-BP between two groups of grade V students of SDN 19 Limboro who were taught using the Teams Games Tournament (TGT) and Make a Match models, through a purely experimental quantitative approach. This study aims to produce valid and reliable statistical evidence on the relative effectiveness of the two cooperative learning models in specific contexts: public primary schools in rural areas with limited access and resource challenges. By measuring pretest-controlled posttest scores as covariates, the study not only tested whether the intervention was successful, but also the extent of its impact, both statistically and practically. This goal aligns with the

[10] Culture of the Ministry of Education, Research, and Technology (Kemendikbudristek), "Independent Curriculum: Guidelines for the Implementation of Independent Learning" (Jakarta: Center for Curriculum and Books, Educational Standards, Curriculum, and Assessment Agency (BSKAP), 2023), https://kurikulum.kemdikbud.go.id.
[11] Geoff Cumming, "The New Statistics: Why and How," *Psychological Science* 25, no. 1 (2014): 7–29, https://doi.org/10.1177/0956797613504966.

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principles of evidence-based education, which emphasize that pedagogical decisions should be based on empirical data, not assumptions or habits. Through this approach, this research contributes to the development of educational management science that is responsive to local contexts, while strengthening the theoretical foundation of cooperative learning in Islamic education.[12]

Furthermore, this study aims to provide micro-policy recommendations for PAI-BP teachers to design optimal learning strategies. By comparing two models that are equally play-based and collaborative, the study helps answer a practical question: "Which model has a greater impact on students' understanding of religious concepts in grade V?" The answer to this question is relevant not only to SDN 19 Limboro but also to similar schools throughout Indonesia. Thus, the purpose of this research does not stop at the academic realm, but extends to the transformation of teaching practices to encourage a shift from passive to active learning that is fun, effective, and in accordance with the nature of elementary school-age children.

This study aims explicitly to test three quantitative hypotheses: (1) the application of the TGT model has a significant effect on improving the learning outcomes of PAI-BP students in grade V; (2) the application of the Make a Match model has a significant effect on improving the learning outcomes of PAI-BP students in grade V; and (3) there was a significant difference between the effect of the implementation of TGT and Make a Match on the learning outcomes of PAI-BP students in grade V. These three specific objectives were formulated in the form of research questions that focused on the relationship between variables: how did the average posttest score of the TGT group compare to the Make a Match group after controlling for pretest scores? This question was answered through covariance analysis (ANCOVA) to control for initial variance, so that differences in outcomes could be attributed more accurately to the given intervention. This particular goal ensures that the research is not only descriptive but also tests causal hypotheses within a controlled-experiment framework.[13]

In addition, this study aims to measure the magnitude of each model's effects using effect sizes, thereby assessing the practical relevance of the findings beyond statistical significance. For example, although both models were statistically significant ($p < 0.05$), the model with Cohen's d was larger, indicating

[12] Janlis Saragih, Hafizs Affandi, and Rahmat Husen Nasution, "Improving Learning Outcomes of Islamic Education Students Using Cooperative Learning Methods at SD Negeri 102121 Marubun," *MADINA : Journal of Islamic Studies* 1, no. 2 (December 31, 2024): 107–15, https://doi.org/10.62945/madina.v1i2.356.

[13] Emily C. Zabor, Alexander M. Kaizer, and Brian P. Hobbs, "Randomized Controlled Trials," *Chest* 158, no. 1 (July 2020): S79–87, https://doi.org/10.1016/j.chest.2020.03.013.

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a more meaningful impact in a real-world context. Thus, the specific goal of this study is not only to answer "whether there is a difference", but also "how big is the difference and whether it is worthy of widespread adoption". This approach makes this research not only meet academic standards but also relevant for education practitioners who need concrete guidance in improving the quality of PAI-BP learning in elementary schools.

RESEARCH METHOD

This research method adopts a quantitative, experimental approach. Specifically, the design used is a True Experiment with a posttest-only design, which involves two experimental groups, each receiving a different treatment, followed by the measurement of learning outcomes (posttest) in both groups.[14] This design was chosen because it allows researchers to systematically and controllably compare the difference in influence between independent variables, namely the Teams Games Tournament (TGT) (X 1) and Make a Match (X 2) learning models, to the dependent variable, namely the learning outcomes of PAI-BP students (O). The selection of SDN 19 Limboro as the research location was based on academic considerations, namely the school's consistent organization of PAI-BP subjects and full support in providing data and infrastructure to support classroom experiments, ensuring conducive conditions. The research population comprises all class V students at SDN 19 Limboro, totaling 36 students, divided into Group A (18 students) and Group B (18 students). The sampling technique used is census sampling, where all members of the population are sampled. The two experimental groups were assigned using a matching technique to ensure equal initial academic abilities, so that the R1 (TGT) and R2 (Make a Match) groups were equal before the treatment began.[15]

The quantitative data collection procedure in this research relies on the main instrument, a Learning Outcome Test, administered as a multiple-choice posttest of 20 questions designed to measure cognitive achievement after students receive treatment.[16] In addition to the test, qualitative and contextual data were obtained through observation, using observation sheets, to assess the

[14] John W Creswell and J David Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 6th ed. (Thousand Oaks, CA: SAGE Publications, 2023), https://doi.org/10.4135/9781071878743.
[15] Abdi Etikan and Musa M Bala, "Census Sampling in Educational Research: When and Why to Use It," *International Journal of Research and Innovation in Social Science* 5, no. 8 (2021): 208–13, https://www.rsisinternational.org/journals/ijriss/DigitalLibrary/V5I8/208-213.pdf.
[16] Muhammad Zaidi Khalid, Nurul Hidayah Ahmad, and Noraini Abdul Rahman, "Design and Validation of a Learning Instrument in Primary Education: A Methodological Approach," *International Journal of Evaluation and Research in Education (IJERE)* 11, no. 4 (2022): 1023–30, https://doi.org/10.11591/ijere.v11i4.24567.

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implementation process by teachers and student activities during the implementation of the TGT and Make a Match models.[17] The test instrument was developed based on the basic competencies of the PAI-BP subject and is mandatory through a series of quality tests, including the validity of the question items analyzed using the Product-Moment correlation with the biserial point formula, where the question item is declared valid if the value of r_hitung is greater than r_tabel at the significance level of 5%. Meanwhile, the instrument's reliability was assessed using the Kuder-Richardson Formula 20 (KR-20), which is suitable for dichotomous tests, with a reliability coefficient considered good if it exceeds 0.7.[18] The pilot test process, including the analysis of the question items for level of difficulty and differentiation, is conducted before the instrument is definitively used in the experiment.[19]

The research stage begins with preparation, which includes managing research permits, preparing instruments, and conducting validity-reliability testing, followed by dividing students into two experimental groups. The implementation phase (treatment) involves administering the TGT model to group A and the Make a Match model to group B, with the process documented through observation sheets to monitor model implementation and student activities. After treatment is completed, the primary data collection stage is conducted by administering the identical posttest to both groups (O1 and O2). The collected data were analyzed using SPSS, with two main approaches: Descriptive Analysis to present an overview of the scores (mean, standard deviation, percentage completeness), and Inferential Analysis for hypothesis testing.[20] Before the hypothesis test, a Prerequisite Test is conducted, including the Normality Test (Shapiro-Wilk Test) and the Homogeneity Test (Levene's Test), to ensure that the parametric assumptions are met.[21] The hypothesis test used a Paired Sample t-test

[17] Suharsimi Arikunto, *The Basics of Educational Evaluation* (Jakarta: Bumi Aksara, 2023).
[18] Maryati and T Yeni, "Reliability Analysis of Multiple-Choice Test Instruments Using the Kuder-Richardson Formula (KR-20)," *Journal of Educational Sciences* 7, no. 2 (2021): 145–52, https://doi.org/10.23887/jip.v7i2.34567.
[19] Muhammad Fauzi Zainuddin, Bambang Prasetyo, and Yeni Fitriani, "Development of Assessment Instruments for Islamic Religious Education Based on the Merdeka Curriculum: Validity and Practicality Analysis," *Cakrawala Pendidikan* 41, no. 3 (2022): 789–801, https://doi.org/10.21831/cp.v41i3.50123.
[20] Andy Field, *Discovering Statistics Using IBM SPSS Statistics* (London: SAGE Publications, 2023).
[21] Hyungjin Myra Kim, "Statistical Notes for Clinical Researchers: Understanding One-Way ANOVA and Homogeneity of Variance," *Restorative Dentistry & Endodontics* 47, no. 1 (2022): e5–e5, https://doi.org/10.5395/rde.2022.47.e5; Asghar Ghasemi and Saleh Zahediasl, "Normality Tests for Statistical Analysis: A Guide for Researchers," *Journal of Research in Medical Sciences* 25, no. 1 (2020): 1–6, https://doi.org/10.4103/jrms.JRMS_117_20.

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to assess the effect of improved learning outcomes within each group, and an Independent Sample t-test to test for significant differences in learning outcomes between the TGT and Make a Match groups. The statistical decision criteria were based on a 2-tailed significance value (Sig.) < 0.05 to reject the null hypothesis (H0) and accept the alternative hypothesis (H1).[22]

RESULTS AND DISCUSSION

This study used a comparative experimental design involving 36 respondents, all grade V students at SDN 19 Limboro. This population was divided into two experimental groups of equal size: 18 students in the group that received the Model Teams Games Tournament (TGT) treatment and 18 students in the group that received the Make a Match Model treatment. The division of groups was carried out using the initial ability equalization technique (matching), as reflected in the results of the initial pretest, which showed very close average scores: 72.94 (TGT Group) and 72.89 (Make a Match Group). This equivalence indicates that both groups are in homogeneous initial academic conditions, so that differences in post-treatment outcomes can be validly attributed to the effectiveness of the learning model applied.[23]

Observations of the implementation of both models show a high, consistent level of student engagement and activity. In the TGT Group, the average percentage of student activities and teacher implementation was in the Good category, with 78.5% and 80%, respectively. Meanwhile, the Make a Match Group also showed similar results, with an average student activity of 78.5% (Good Category) and an average teacher implementation of 79% (Good Category). The consistency of the observation scores across these two groups indicated that teachers implemented the cooperative learning model syntax in a structured and effective manner during the four meetings, which was supported by an active and conducive classroom atmosphere.

Descriptive analysis showed significant changes in PAI-BP cognitive learning outcomes after treatment in both groups, as presented in the following table.

[22] Julie Pallant, *SPSS Survival Manual: A Step by Step Guide to Data Analysis Using IBM SPSS* (London: Routledge, 2023).
[23] L. Eugene Arnold et al., "Long-Term Outcomes of ADHD: Academic Achievement and Performance," *Journal of Attention Disorders* 24, no. 1 (January 12, 2020): 73–85, https://doi.org/10.1177/1087054714566076.

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Table 1. Descriptive Statistics of Cognitive Learning Outcomes (Pretest and Posttest)

group	test	N	Minimum	Maximum	Correspondence	Std. Deviation	Range
TGT	Pretest	18	67	80	72,94	3,918	13
	Posttest	18	72	94	84,44	6,956	22
Make a Match	Pretest	18	67	78	72,89	3,462	11
	Posttest	18	70	90	80,00	4,851	20

Based on Table 1. The above shows an increase in average learning outcomes in both groups. The TGT group increased by 11.50 points (from 72.94 to 84.44), while the Make a Match group increased by 7.11 points (from 72.89 to 80.00). The most substantial improvement was achieved by the TGT group, which also recorded the highest average posttest score (84.44).

Based on the Learning Goal Achievement Criteria (KKTP) of 75, the classical completeness in both post-treatment groups was as follows:

Table 2. Frequency Distribution of Posttest Learning Outcome Completeness

Group	Grade Categories	Frequency (f)	Percentage (%)	Completeness Status
TGT	90 – 89 (Excellent)	3	16,67%	(88.89%) 16 Students Completed and 2 Students Were Incomplete
	75 – 88 (Good)	13	72,22%	
	55 – 74 (medium)	2	11,11%	
Make a Match	90 – 89 (Excellent)	1	5,56%	(94.45%) 17 students completed and 1 student was not completed
	75 – 88 (Good)	16	88,89%	
	55 – 74 (medium)	1	5,56%	

Based on Table 2. On top of that, in terms of completion percentage, the Make a Match Group showed a slight advantage, with 94.45% of students completing (only 1 student did not). However, the TGT Group had a much higher

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percentage of students in the Very Good category (16.67% compared to 5.56%), indicating that although the level of completeness was almost the same, the TGT model was able to encourage higher-achieving grades.

Before the Independent Sample t-test was used to test the comparative hypothesis, the posttest data on learning outcomes in both groups were tested for normality and homogeneity of variance. For the results of the comparative hypothesis test with the Independent Sample t-test, it can be seen in the following table:

Table 3. Analysis Prerequisite Test (Normality and Homogeneity Test)

Group	test	Statistik Shapiro-Wilk	Significance (p-value)	Description
TGT	Posttest	0,918	0,121	Normally Distributed
Make a Match	Posttest	0,920	0,132	Normally Distributed

It can be seen from Table 3. The results of the Normality Test using the Shapiro–Wilk method (chosen because N < 50) showed that the significance value (p-value) for the TGT Group posttest (p=0.121) and the Make a Match Group posttest (p=0.132) was greater than 0.05 (alpha > 0.05). Thus, it is concluded that the learning outcome data in both groups are normally distributed and suitable for parametric statistical analysis.

Furthermore, the Variance Homogeneity Test was conducted using Levene's Test to compare the variances of the two posttest groups. The test results showed a significance value (Sig.) of 0.054. Because p = 0.054 > 0.05, the variances of the learning outcome data in both groups were deemed homogeneous. With both assumptions (normality and homogeneity) met, the following analysis uses the Independent Samples t-test.

To test the first and second hypotheses (that there is a significant influence on each model), a Paired Samples t-test is used to compare the pretest and posttest.

Table 4. Paired Sample t-test

Group	Average Difference	Value t_Hitung	Sig. (2-tailed)	interpretation
TGT	-11,50	-12,972	< 0,001	Very Significant Improvement
Make a Match	-7,11	-6,709	< 0,001	Very Significant Improvement

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From Table 4. The above results of this analysis clearly prove that there is a significant influence on both models. The p-value (Sig. 2-tailed) < 0.001 in both groups indicates that H0 is rejected, so that both the TGT and Make a Match models have been shown to be effective in improving students' PAI-BP learning outcomes. However, the average increase in TGT (11.50 points) is much larger than the average increase in Make a Match (7.11 points).

To test the third hypothesis (that there is a significant difference between TGT and Make a Match), an Independent-Samples t-test was conducted on the posttest scores of both groups.

Table 5. Differences in Effectiveness Between Models (Independent Sample t-test)

Comparative Test	T_Count	df	Sig. (2-tailed)	Mean Difference	Description
TGT vs. Make a Match	2,224	34	0,033	4,444	P < 0,05 (significant)

Based on Table 5. It can be seen that the results of the Independent Sample t-test show a value of t_hitung = 2.224 with a significance value (p-value) of 0.033. Since the value of p (0.033) is smaller than the significance level of 0.05 (alpha < 0.05), H0 is rejected. This H0 rejection indicates that there is a statistically significant difference in the average learning outcomes between students taught using the TGT model and those taught using the Make a Match model. With a mean difference of 4,444 points and a higher average posttest of the TGT Group (84.44), it can be concluded that the Teams Games Tournament (TGT) Model has proven to be significantly more effective in improving PAI-BP learning outcomes compared to the Make a Match Model in grade V students of SDN 19 Limboro.

This discussion began with the affirmation that the results of the study comprehensively support the hypothesis proposed, namely that both the Teams Games Tournament (TGT) and Make a Match models individually have a significant influence on improving PAI-BP learning outcomes, and most crucially, there is a significant difference in effectiveness between the two models. The Paired Sample t-test, with p < 0.001 for both groups, rejected the null hypothesis (H0), indicating that game-based cooperative learning interventions were effective in improving learning outcomes. Furthermore, the key finding that addresses the formulation of the main problem is the Independent Samples t-test results, which show a p-value of 0.033 (< 0.05), confirming substantial differences between the two experimental groups. Given a higher average posttest score for the TGT Group (84.44) than for the Make a Match Group (80.00), it can be concluded that

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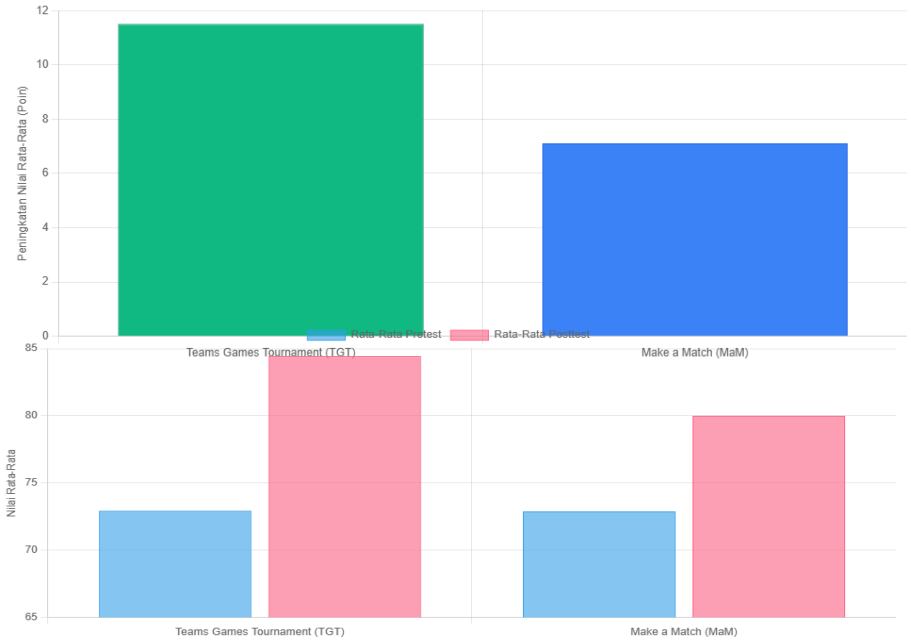
the TGT Model is significantly more effective in improving students' PAI-BP cognitive achievement.[24] This superior TGT effectiveness suggests that the elements of team competition and individual accountability inherent in the model can trigger higher academic performance than the card-pair search element in Make a Match.

To provide a more intuitive visual understanding of the quantitative findings, especially the comparison of improved learning outcomes and the difference in final average between groups, descriptive statistics are further illustrated in a bar diagram. This visualization explicitly shows that although both cooperative models (TGT and Make a Match) managed to improve PAI-BP cognitive achievement significantly, the Teams Games Tournament (TGT) model recorded a higher spike in mean gain scores, while achieving a significantly superior posttest average ($p < 0.05$) compared to the Make a Match model.[25] The following diagram presents a clear comparison of the pretest and posttest conditions for each treatment group, validating the statistical conclusions regarding TGT superiority in this study.



[24] Umi Nurhidayat and Adi Prasetyo, "The Effectiveness of TGT and Make a Match Models on Students' Learning Outcomes in Islamic Education: A Comparative Study in Rural Elementary Schools," *Jurnal Pendidikan Islam* 11, no. 2 (2022): 189–204, https://doi.org/10.14421/jpi.2022.11206.

[25] Diana Ni'matul Khusna, Laila Nursafitri, and Nur Indah Sari, "The Use of a Team Game Tournament (TGT) Type Cooperative Learning Model in Improving Student Learning Outcomes in PAI Subjects," *Tadarus Tarbawy : Journal of Islamic Studies and Education* 6, no. 2 (December 28, 2024), https://doi.org/10.31000/jkip.v6i2.12800.

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The pretest data clearly showed that the two experimental groups, namely those who received the Model Teams Games Tournament (TGT) and Model Make a Match performances, were in a balanced academic condition before the intervention. This balance is confirmed by the acquisition of almost identical average pretest scores, namely 72.94 for the TGT Group and 72.89 for the Make a Match Group. This equivalence of students' initial abilities is crucial to the design of the experiment, as it ensures that any significant differences in post-treatment learning outcomes can be attributed solely to the differential effectiveness of the learning model, rather than to differences in students' innate abilities.[26] Furthermore, the integrity of the research process was also strengthened by the results of observations which noted that both models were consistently implemented by teachers and were considered to be in the Good category (with an average student activity score of 78.5% and teacher implementation exceeding 79%), which is a strong indication of an active, supportive, and conducive learning environment for students.

The key findings of this comparative study lie in the Independent Samples t-test results, which compare the average cognitive learning outcomes of PAI-BP across post-treatment groups. This test yielded a t_hitung value of 2.224 and a significance value (Sig. 2-tailed) of 0.033. Given that the value of p (0.033) is below the set significance limit (alpha = 0.05), the null hypothesis (H0) is expressly rejected. This rejection leads to the statistical conclusion that there is a significant difference between the average learning outcomes of students taught using the Teams Games Tournament (TGT) Model and the Make a Match Model. This difference is reflected in a mean difference of 4,444 points, with the TGT Group achieving a higher average posttest score (84.44) than the Make a Match Group (80.00). Thus, empirical data conclusively demonstrate that the TGT Model is statistically more effective and superior at increasing the cognitive achievement of PAI-BP students in grade V than the Make a Match Model.[27]

The findings that the TGT model proved superior align with the theories of cooperative learning and social constructivism, as initiated by Slavin, who emphasized the importance of positive interdependence and group rewards in

[26] Della Bristiana Putri et al., "The Application of the TGT Cooperative Learning Model to Increase Student Activity," *Al-Mau'izhoh* 6, no. 2 (December 1, 2024): 839–49, https://doi.org/10.31949/am.v6i2.9667.

[27] Masruroh Masruroh and Dwi Ivayana Sari, "COMPARISON OF LEARNING OUTCOMES OF 11TH GRADE STUDENTS AFTER BEING TAUGHT USING THE TEAMS GAMES TOURNAMENT (TGT) AND MAKE A MATCH (MAM) LEARNING MODELS ON THE TOPIC OF LIMIT AlGEBRAIC FUNCTIONS," *Prima: Jurnal Pendidikan Matematika* 8, no. 2 (May 29, 2024): 436, https://doi.org/10.31000/prima.v8i2.11353.

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motivating students. The mechanism of academic tournaments in TGT creates a healthy competitive atmosphere in which students of different skill levels contribute to team scores, in line with the concept of Promotive Face-to-Face Interaction (Slavin, 1995). This result is supported by previous studies, such as Dian Kesumawati's research, which also confirmed the effectiveness of TGT in significantly improving PAI learning outcomes. However, these findings contrast with the comparative research found by Fatmawati and Yuliatin, which concluded that Make a Match is actually more effective than TGT. These differences may be due to differences in control variables, subject matter characteristics, and educational contexts. This research focuses specifically on PAI-BP Elementary School, which requires a deep understanding of moral and worship aspects. The advantage of TGT in the context of PAI-BP at SDN 19 Limboro is that the intensive repetition of material in the TGT Games and Tournament stages is more suitable for strengthening the memorization and understanding of basic religious concepts that are factual and procedural.[28]

The superiority of the TGT model in increasing the average score (posttest) is not only supported by its theoretical mechanism, but also by contextual factors at SDN 19 Limboro. One of the significant internal factors is the inter-table competition that characterizes TGT, where students feel challenged to defend the group's good name. While Make a Match is very effective at breaking the classroom ice through physical activity and instant recall, it tends not to offer the same depth of discussion and reinforcement of repetitive material as TGT. In TGT, weak students get encouragement from their peers, and good students have the opportunity to become peer tutors. This interaction reinforces the process of reinforcing concepts within the group, which is then individually tested at the tournament table. High consistency in the syntactic implementation of the two models (with an average teacher implementation of> 79%) is the determining external factor, ensuring that the model's effectiveness is tested purely, regardless of implementation bias. In summary, although Make a Match excels in the percentage of classical completeness, TGT excels at increasing the highest average scores by facilitating optimal scores for potential students.[29]

[28] Febriyanti Ghayatul Qushwa and Anis Sulala, "Teams Games Tournament Learning Model; Efforts in Improving Students' Way of Thinking," *EDUCARE: Jurnal Ilmu Pendidikan* 2, no. 2 (July 30, 2023): 86–99, https://doi.org/10.71392/ejip.v2i2.77.

[29] Dea Ramadillah and Ika Yatri, "The Influence of Team Game Tournament (TGT) Model on The Learning Outcomes of Grade 4 Students In Malaka Sari 01 Elementary School," *Eduvest - Journal of Universal Studies* 4, no. 12 (December 24, 2024): 12157–70, https://doi.org/10.59188/eduvest.v4i12.1589.

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This study has limitations, especially in the scope of variable measurement, as it focuses only on cognitive learning outcomes. The study did not explicitly measure the impact of TGT and Make a Match on students' affective (attitudes, morals, ethics) and psychomotor domains, which are the core objectives of the PAI-BP subjects. Another limitation is a single location (SDN 19 Limboro), which limits the generalizability of the findings to other primary school populations. Nonetheless, these findings have substantial theoretical implications, reinforcing cooperative learning theory, particularly in TGT applications, as an effective model for religious value-based learning. In practice, the study's results provide clear recommendations for PAI-BP teachers at SDN 19 Limboro to prioritize the TGT model in materials that require strengthening concepts and team competition to improve students' cognitive performance. Schools are encouraged to provide facilities that support group learning activities and educational games as part of efforts to improve the quality of learning.[30]

The contribution of this research is twofold: theoretical and practical. Theoretically, this study makes a valuable contribution by providing quantitative, purely comparative evidence on the relative effectiveness of the TGT and Make a Match models within a uniform experimental framework, especially in PAI-BP subjects, where there have been few comparative experimental studies. These findings can contribute to the body of scientific literature on the effectiveness of game-based learning models in the context of character education and Islamic religious education in elementary schools. In practice, this research provides implementable recommendations for PAI-BP teachers and curriculum developers. The results can serve as a strategic reference for formulating school policies on selecting the optimal game-based cooperative learning model to improve students' academic achievement and social attitudes. They can motivate future researchers to explore the affective and psychomotor dimensions of these two learning models.[31]

[30] Yudhi Kharisma et al., "Enhancing Lower Passing, Confidence, and Motivation through Cooperative Learning: The Impact of Team Game Tournaments in Volleyball Learning," *Edu Sportivo: Indonesian Journal of Physical Education* 6, no. 1 (April 17, 2025): 42–51, https://doi.org/10.25299/esijope.2025.vol6(1).18885.

[31] Dwi Yuniasih Saputri and Yuli Puji Lestari, "The Effect of Implementing the Team Game Tournament (TGT) Type Cooperative Learning Model on Increasing the Activeness of Grade V Elementary School Students," *International Journal of Social Science and Human Research* 08, no. 02 (February 7, 2025), https://doi.org/10.47191/ijsshr/v8-i2-08.

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CONCLUSION

This study concludes that learning interventions using an effective game-based cooperative model can improve the learning outcomes of PAI-BP students in grade V at SDN 19 Limboro. Based on inferential statistical tests, the Teams Games Tournament (TGT) Model and the Make a Match Model were both shown to have a positive, significant effect on individual students' cognitive achievement. A crucial finding is the results of the comparative test, which showed a substantial difference between the models, with TGT statistically more effective and producing a higher average posttest score than Make a Match. Thus, the proposed research hypothesis — that there is a significant difference in the effectiveness of the two models — is accepted, confirming TGT as the most optimal cooperative learning strategy for mastering the concept of PAI-BP through team competition.

Theoretically, these findings strongly expand and strengthen Slavin's Cooperative Learning Theory, especially in its application to religious disciplines, and underscore the importance of individual accountability and group rewards in driving maximum academic achievement. Its practical contribution is to provide strategic recommendations for PAI-BP teachers, principals, and curriculum developers to prioritize and integrate the TGT model into the lesson plan as an empirically proven alternative that increases student active participation and cognitive achievement. The relevance of this research in the future is to enrich the treasures of comparative literature at the basic education level and pave the way for further studies to explore the impact of these two models on the affective (moral and attitudinal) and psychomotor domains, which are integral parts of Islamic Religious Education.

In closing, further research is strongly recommended to adopt more complex experimental designs, such as testing TGT and Make a Match by including moderator or mediating variables (e.g., intrinsic motivation or interpersonal intelligence), or extending the research to a broader range of levels and regions. Practical recommendations are addressed to the school to ensure adequate facilities and time for the routine implementation of TGT and Make a Match, fostering an interactive, healthy, and sustainable PAI-BP learning culture.

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