



The Effectiveness of the Two Stay Two Stray (TSTS) Cooperative Learning Model on Students' Interest in Islamic Religious and Character Education

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Abstract

Keywords:

Two Stay Two Stray;
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Effectiveness

Student learning interest is one of the key factors in the success of the learning process, especially in Islamic Religious Education (PAI) subjects that emphasize the formation of values and character. Initial observations at SMP Negeri 1 Bandar Lampung showed low student involvement and interest in PAI learning due to the dominant use of conventional methods that are less interactive. This study aims to analyze the effect of the Two Stay Two Stray (TSTS) cooperative learning model on student learning interest in PAI subjects. The study used a quantitative approach with a quasi-experimental method through a post-test only control group design. The sample consisted of two classes, namely VII.9 as the experimental class that received the TSTS model treatment and VII.4 as the control class. Data were collected using a non-test questionnaire that measures two indicators of learning interest: involvement and interest. Data analysis included normality tests, homogeneity tests, and hypothesis testing using t-tests. The results showed a significant effect of the TSTS model on student learning interest with a significance value of 0.001 ($p < 0.05$). These findings confirm that the TSTS model is effective in creating a collaborative learning environment, increasing student participation, and encouraging interaction and information exchange between groups. Therefore, the TSTS cooperative learning model is worthy of recommendation as an alternative strategy to increase learning interest in Islamic Religious Education (PAI).

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INTRODUCTION

Students' learning interest plays a significant role in the learning process to achieve the desired educational goals (Nurhaeti et al., 2022; DJ Putri et al., 2022; Qistiyah et al., nd; Sitanggang & Rajagukguk, 2022) . This ability determines the extent to which a person can process and apply acquired knowledge in various situations. Hanipa also suggests that learning interest can be classified into four main domains: feelings of pleasure, involvement, interest, and attention (Cahyani Hidayah et al., 2023; Harefa et al., 2023; Mulia et al., 2023) .

These four domains reflect individual development formed through learning experiences. The domain of enjoyment indicates that when students enjoy a subject, they will learn voluntarily without coercion (Ariawan & I Kadek Suartama, 2024; Mahdalena, 2022) . Engagement relates to a person's interest in something that makes them active in related activities. Meanwhile, the domain of interest describes a student's motivation towards a particular object, activity, or emotional experience (Shofwan et al., 2021)(Aziz et al., 2024). The domain of attention relates to a student's ability to stay focused despite distractions. These four domains are interrelated and serve as important indicators in assessing learning success (Anjani.D, Sudarman, 2023).

Interest in learning is evident in students' engagement with the material, their focus during the learning process, and their active participation in activities such as discussions, Q& A sessions, and group work. Students with high interest tend to be more motivated, enjoy learning, and understand the material more easily (Andhika, 2021). Conversely, students with low interest tend to feel bored and unenthusiastic. Learning interest influences learning success because it is the primary driving force for active participation. Therefore, the learning model plays a crucial role (Raja et al., 2023). If the model used is unattractive, student interest in learning can decline. Therefore, selecting the right model is essential to support increased student interest and learning outcomes (Ilmiah et al., 2023).

On the other hand, learning interest is influenced by various factors, one of which is the learning model implemented by the teacher (Yusuf & Permatasari, 2023). Students who have a strong interest in a subject will be more enthusiastic and feel happy when learning it (Lubis & Syafriani, 2023). Conversely, if the learning method used is not appropriate, students will easily feel bored, tired, and even reluctant to participate in further learning. Therefore, it is important for educators to choose learning approaches and strategies that are appropriate, interesting, and relevant to the needs and characteristics of students (Siagian et al., 2023). By creating a fun and interactive learning atmosphere, students' learning interest can be increased, which ultimately has a positive impact on their overall learning outcomes.

Student learning interest encompasses various interrelated aspects, one of which is intrinsic motivation, which is the drive from within students to learn due to curiosity and a desire to understand the material (Noge & Jewawa, 2021). Active participation in learning, such as

participating in discussions and class activities, is an important factor. Furthermore, a conducive learning environment, including support from teachers and parents, and adequate facilities, also strengthens student interest (Setiawati et al., 2024). Interesting and innovative learning methods help create a fun and interactive learning atmosphere. Material that is relevant to everyday life also makes students more connected and motivated (Sibersema & Tarigan, 2024). If all these factors are met, student learning interest will increase and have a positive impact on their academic achievement.

However, problems related to student engagement and engagement still arise in the learning process. This disconnect arises when students perceive the material as less relevant to their lives, resulting in low learning interest. Meanwhile, engagement relates to the extent to which students actively participate in learning; methods that are less varied and interactive often make them passive and less likely to participate. Therefore, teachers need to implement learning strategies that are more interesting, relevant, and provide space for active participation so that students' interest in learning can increase optimally.

To increase students' interest in learning, particularly in reading and writing, a learning model is needed that is engaging, easy to understand, and encourages collaboration. An appropriate, integrated, and comprehensive approach is key to overcoming low learning interest. One effective cooperative model is Two Stay Two Stray (TSTS), which is able to increase involvement, interest, communication, independence, and critical thinking skills through discussion and interaction between groups, thereby broadening understanding and enriching students' knowledge.

The Two Stay Two Stray (TSTS) cooperative learning model is a group-based learning method that is effective in improving students' problem-solving abilities while encouraging active collaboration in the learning process (Farid & Sudarma, 2022; Nur Hidayah et al., 2023). Through discussions and exchanges of ideas among group members, students not only share knowledge but also learn to be responsible and work together in completing assignments (Purnomo Aji & Sri Wulandari, 2021). This approach indirectly helps improve reading comprehension and student engagement in the material being studied (Anjani et al., 2021; Azmi Ramadani & Aeni Rahman, 2024). Furthermore, TSTS is flexible and can be applied to various subjects, making it relevant for use in various learning contexts (Elisabeth Syalom Hutauruk et al., 2023).

The implementation of the TSTS (Two Stay Two Stray) cooperative learning model allows students to work together in groups to understand and complete the material provided (Firdaus & Hayati, 2022; Nuryyati, 2023). After mastering the topic, they share their knowledge with other groups (Putri Nurwijayanti et al., 2023). In this process, 2-3 students from each group visit other groups to record the results of the discussion, while the remaining members are tasked with receiving guests and conveying the information that has been discussed (Giawa et al., 2022; Harleni, 2020). This interaction is expected to increase student learning interest through active participation and a more dynamic learning atmosphere.

The results of research conducted by several research experts, Yeni Puji Astuti (2024), Masniyati Paulutu (2020), Chentaca Desdemona Zagita (2024), Sova Lailaturrahma (2023), Elsa Aritonang (2023), Previous research relevant to this study shows that the TSTS (Two Stay Two Stray) cooperative learning model is effective in increasing students' interest in learning. This

model has been applied to various subjects such as science, informatics, physics, mathematics, and sociology, as well as at various levels of education from elementary to high school. Various studies were conducted in a number of schools to assess the effectiveness of TSTS in improving conceptual understanding and interest in learning. The results show that this cooperative approach is able to encourage students to be more active in learning, involved in group discussions, and understand the material better.

Although the TSTS (Two Stay Two Stray) cooperative learning model has been widely researched, there are still gaps in its application to Islamic Religious Education subjects. Most previous studies have focused on general subjects and focused more on conceptual understanding and learning outcomes, while aspects of learning skills in value- and moral-based education have rarely been studied. Therefore, this study aims to fill this gap by examining the effectiveness of the TSTS cooperative model in improving students' learning skills in Islamic Religious Education subjects, while developing indicators that are appropriate to their characteristics.

Students' interest in learning Islamic Religious Education at SMP Negeri 1 Bandar Lampung still varies, with some students appearing enthusiastic and others less interested. This low motivation often makes students passive, especially if the material is delivered monotonously or is less relevant. Suboptimal learning methods, such as a lack of variety and supporting media, also contribute to worsening student engagement. Therefore, this study is important to examine the effectiveness of the TSTS (Two Stay Two Stray) cooperative model in increasing learning interest, with the hope of creating a more interactive learning atmosphere and encouraging active student participation in Islamic Religious Education classes.

This research is expected to show how the application of the TSTS (Two Stay Two Stray) cooperative model can increase students' interest in learning Islamic Religious Education subjects. If proven effective, this method can be a reference for teachers to use more interactive and varied strategies, so that students are more motivated. In addition, the results of this study can also help schools design learning methods that suit students' needs, including the use of interesting media and approaches that encourage active participation. In this way, the learning atmosphere becomes more enjoyable and students' understanding of Islamic Religious Education can increase.

RESEARCH METHODS

This study uses a quantitative approach with a quasi-experimental type that aims to determine the effect of the Two Stay Two Stray (TSTS) cooperative learning model on interest in learning Islamic Religious Education and Character Building at SMP Negeri 1 Bandar Lampung. The experimental design used is *Post-Test Only Control Group Design*, where class VII.9 is designated as the experimental class that receives the TSTS model treatment, while class VII.4 is the control class taught with conventional methods. Sampling was carried out using a *simple random sampling technique* from all class VII, which consists of 336 students. Data was collected using a non-test instrument in the form of a questionnaire with indicators of student involvement and interest in learning, which had been tested for validity and reliability before being implemented.

The steps for implementing the TSTS cooperative model in the experimental class were carried out systematically in seven stages of action. First, the teacher provides a brief explanation regarding the teaching material that is in accordance with the learning outcomes. Second, students are divided into heterogeneous groups of four. Third, each group is given a worksheet to be discussed and understood together. Fourth, two students from each group become guests, visiting other groups and recording the results of the group's discussion, while the other two remain to explain the results of their group's discussion. Fifth, students return to their original groups to discuss the findings of the visit and improve their group discussions. Sixth, each group presents the results of their discussion and receives feedback from other groups. Seventh, the teacher provides guidance to summarize the discussion results and strengthen students' understanding. All of these processes are carried out over several meetings in Islamic Religious Education learning (Wardayadi, 2023).

After the treatment was completed, the researcher gave a post-test questionnaire to all students from both classes to measure their level of learning interest, which included indicators of involvement and interest in learning. The data obtained were then analyzed using prerequisite tests such as normality and homogeneity tests to ensure the feasibility of the inferential analysis. Hypothesis testing was conducted using a *pooled variance t-test* to determine the significance of the differences between the experimental and control classes. The statistical calculation results serve as the basis for drawing conclusions regarding the influence of the TSTS cooperative learning model on students' learning interest in Islamic Religious Education.

This research was conducted at SMP Negeri 1 Bandar Lampung. Data collection is carried out using various techniques, one of which is by distributing tests in the form of multiple choice questions arranged based on learning interest indicators. The test was then tested to determine its validity and reliability. The following is the data obtained from the results of the reliability test.

RESEARCH RESULTS AND DISCUSSION

Results

1. Validity Test

Table 1 Description of the Test Class Validity Test Results

No.	r Count	r Table (N=28, $\alpha=0.05$)	Information
1	0.383	0.355	Valid
2	0.615	0.355	Valid
3	0.282	0.355	Invalid
4	0.406	0.355	Valid
5	0.388	0.355	Valid
6	0.385	0.355	Valid
7	0.020	0.355	Invalid

8	0.377	0.355	Valid
9	0.405	0.355	Valid
10	0.530	0.355	Valid
11	0.672	0.355	Valid
12	0.479	0.355	Valid
13	0.242	0.355	Invalid
14	0.637	0.355	Valid
15	0.378	0.355	Valid
16	0.668	0.355	Valid
17	0.614	0.355	Valid
18	0.124	0.355	Invalid
19	0.440	0.355	Valid
20	0.392	0.355	Valid

2. Reliability Test

Table 2. Description of Reliability Test Results

Reliability Statistics	
Cronbach's Alpha	N of Items
.753	20

Based on the results of the validity test on 20 statement items, it was obtained that 16 items were declared valid because they had a calculated r value greater than the r table (0.355). The valid items were 1, 2, 4, 5, 6, 8, 9, 10, 11, 12, 14, 15, 16, 17, 19, and 20. Meanwhile, 4 items, namely 3, 7, 13, and 18, were declared invalid because the calculated r value was below the r table. Furthermore, the results of the reliability test using the Cronbach's Alpha technique showed a value of 0.753 for 20 items, which was above the minimum threshold (0.6). This indicates that the instrument has a good level of reliability and is suitable for use as a measuring tool in research. Thus, the questionnaire instrument used was deemed adequate for evaluating the research variables. Subsequent data analysis was conducted on learning outcomes in grades 7.2 and 7.9 as the experimental classes and grade 7.4 as the control class in Islamic Religious Education, with the following interpretation of the results.

3. Normality Test

The normality test is used to determine whether the collected data is normally distributed. Data is considered normal if the significance value is > 0.05 . The following data shows the results of the normality test in this study:

Table 3. Description of Normality Test Results

Tests of Normality

	Group	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistics	df	Sig.	Statistics	df	Sig.
Interest in	Group	.157	32	.042	.954	32	.182
Learning	Group	.118	32	.200 *	.956	32	.208

Based on the results of the normality test in Table 3, it can be concluded that both groups of data are normally distributed. In the first group, the Kolmogorov-Smirnov significance value is 0.042, but the Shapiro-Wilk value is 0.182, which is greater than 0.05. Because the sample size is less than 50, the main reference is Shapiro-Wilk, so the data in the first group are declared normally distributed. Furthermore, in the second group, the Kolmogorov-Smirnov significance value is 0.200 and the Shapiro-Wilk value is 0.208, both of which are greater than 0.05. Thus, the data in the second group is also normally distributed.

4. Homogeneity Test

The Homogeneity Test is used to determine whether the variances of a number of research populations are the same (homogeneous) or not the same (non-homogeneous). Data is considered homogeneous if the Sig. value is > 0.05. The following are the data results of the Homogeneity Test in the study: Based on the results of the homogeneity test in table 5, all significance values (sig) were obtained $0.107 > 0.05$, which can be concluded that the results of the homogeneous variance data are the same (homogeneous). This shows that the homogeneity assumption in this study is met. The following are the data results of the Homogeneity Test in the study:

Table 4. Description of Homogeneity Test Results

Test of Homogeneity of Variances					
		Levene			
		Statistics	df1	df2	Sig.
Interest in Learning	Based on Mean	1,803	1	62	.184
	Based on Median	.933	1	62	.338
	Based on Median and with adjusted df	.933	1	55,333	.338
	Based on trimmed mean	1,667	1	62	.201

Based on the results of the homogeneity test in Table 5, it was found that all significance values (Sig.) were above 0.05, namely 0.184 based on the mean, 0.338 based on the median, 0.338 with adjusted df, and 0.201 based on the trimmed mean. Since all significance values were greater than 0.05, it can be concluded that the data meets the homogeneity assumption, which means the variance between groups is homogeneous. Thus, the data instrument in this study meets the requirements for further parametric testing. The following is the complete data from the homogeneity test in this study.

5. T-test

In this study, an *independent sample t-test* was used to evaluate the final abilities of the participants in the sample. The testing procedure was carried out by applying the *pooled variance formula* as the basis for calculations in hypothesis testing.

Table 6. Description of Hypothesis Test Results

Variables	Levene's Test F	Sig. Levene	t	df	Sig. (2-tailed)	Mean Difference	Standard Error Difference	95% CI Lower	95% CI Upper
Interest in Learning (Equal variances assumed)	1,803	0.184	2,092	62	0.041	2,469	1,180	0.109	4,828
Interest in Learning (Equal variances not assumed)	—	—	2,092	59,912	0.041	2,469	1,180	0.108	4,830

Based on the results of the hypothesis using the t test , it is known that the Levene's Test for Equality of Variances value shows an F value of 1.803 with a significance of 0.184. Because the significance value is greater than 0.05 , the assumption of equal variances assumed is met, so the t test analysis refers to the first row (equal variances assumed). Furthermore, the t value obtained is 2.092 with a degree of freedom (df) of 62, and a two-tailed significance value (Sig. 2-tailed) of 0.041. This significance value is smaller than 0.05 , so it can be concluded that there is a statistically significant average difference between the experimental group and the control group. The average difference (mean difference) between the two groups is 2.469 with a standard error of 1.180. The 95% confidence interval for the mean difference ranges from 0.109 to 4.828, and since this range excludes zero, it further confirms that the difference is statistically significant. Thus, it can be concluded that the applied learning model has a significant effect on student learning interest according to the tested variables. This finding supports the hypothesis that there is a significant difference between the experimental and control groups.

Discussion

This research was motivated by the low interest of students in learning Islamic Religious Education and Character Education subjects at SMP Negeri 1 Bandar Lampung. Based on observations and interviews with Islamic Religious Education (PAI) teachers, problems were identified, including low engagement and interest during the learning process. This is due to learning models that are still conventional, monotonous, and do not actively involve students. The limited variety of learning methods and media causes students to be less motivated to understand Islamic Education material that is of a value and moral nature. This condition demands the implementation of a more interactive learning model and involves direct student participation.

To address these issues, the researcher employed a quantitative approach with a quasi-experimental approach, involving two different classes: class VII.9 as the experimental class treated with the TSTS cooperative learning model, and class VII.4 as the control class. Data

collection was conducted using a non-test questionnaire that measured two main indicators of learning interest, namely engagement and interest. Data were analyzed using normality and homogeneity tests and hypothesis testing via t-test. This series of analyses aims to ensure the validity of the differences between the experimental and control classes regarding students' learning interests after the TSTS (Two Stay Two Stray) cooperative learning model treatment.

Statistically, a significant difference was found in the t-test results (Sig. 2-tailed = 0.041), descriptive data and observations of the learning process showed an increase in the quality of participation, involvement, and engagement in the experimental class. The TSTS (Two Stay Two Stray) cooperative learning model succeeded in creating a more lively, open, and collaborative learning atmosphere (Sihombing, 2025). Students appeared more enthusiastic in group discussions, active in group visits, and felt responsible for the tasks given. This success shows that the statistically significant results, pedagogically the TSTS (Two Stay Two Stray) cooperative learning model is able to foster real interest in learning in practice.

The success of the TSTS cooperative learning model in supporting learning interest lies in the strength of its syntax. It begins with a brief and focused explanation of the material by the teacher, followed by the formation of heterogeneous groups (Hasna et al., 2022; Risti et al., 2020). Syntax, such as providing worksheets for discussion and two students visiting other groups, stimulates curiosity, active participation, and responsibility among students. The students' roles as "guests" and "hosts" in the discussion create a mutually respectful and interactive learning atmosphere. This mechanism not only facilitates understanding of the material but also increases students' interest and emotional involvement in the learning process.

The initial condition of students who tend to be passive and less involved is the main challenge. The TSTS (Two Stay Two Stray) cooperative learning model strategically addresses this problem by providing space for participation for each student. The activity of visiting each other and exchanging information encourages students to be communicative and reflective about their understanding. Students are not only recipients of information, but also conveyors of material to their friends. This provides a meaningful learning experience and builds self-confidence that was not previously achieved through conventional lecture methods.

The TSTS (Two Stay Two Stray) cooperative learning model stimulates two key indicators of learning interest: engagement and interest (Gressianita et al., 2024; Nisa & Candraloka, 2024). In group discussions, students actively participate in expressing their opinions and listening to the views of others. When they visit other groups, curiosity arises and strengthens learning motivation. Furthermore, because each student's role is important to the group's success, a strong sense of responsibility emerges. This situation makes students more focused, happy, and enthusiastic about participating in Islamic Religious Education learning, especially because they feel directly involved.

This research provides an important contribution for teachers in selecting the appropriate learning model. Teachers can use the TSTS (Two Stay Two Stray) cooperative learning model as an alternative learning strategy to increase learning interest, especially in value-based subjects such as Islamic Religious Education. For students, the TSTS (Two Stay Two Stray) cooperative learning model develops social skills, responsibility, and courage to express opinions. Future researchers can expand this research to other variables such as learning outcomes, religious attitudes, or critical thinking skills, as well as evaluate the long-term implementation of TSTS

(Two Stay Two Stray) to see its sustainable impact on motivation and learning achievement (EKA WINDARI, 2022; Rahayu et al., 2020) .

The results of the hypothesis test showed a significant difference between the experimental group and the control group, so that the implementation of the TSTS (Two Stay Two Stray) cooperative learning model can be declared successful in increasing students' learning interest. This success is reflected in the increased activity, enthusiasm, and involvement of students during the learning process. The TSTS model encourages cooperation , communication, and shared responsibility, so that learning becomes more interactive and meaningful. This study recommends that teachers implement the TSTS model consistently and adapt Islamic Religious Education materials to the context of students' lives so that learning is more effective and student-centered.

CONCLUSION

The results of this study revealed important findings that were only discovered after the experimental process was carried out, namely that the Two Stay Two Stray (TSTS) cooperative learning model not only increased learning interest statistically significantly (Sig. 0.041), but also gave rise to quite surprising changes in learning behavior in the experimental class. Students who were previously passive and less involved showed much higher enthusiasm, actively asked questions, and enjoyed the process of exchanging information between groups. This increase in interest and involvement was not just a number on the post-test results, but was clearly visible in the class dynamics, thus proving that TSTS was able to solve the problem of low student engagement that was not clearly visible before this study was conducted.

In terms of scientific contribution, this study confirms previous findings regarding the effectiveness of TSTS, while expanding its scope to the realm of Islamic Religious Education learning, which has so far received less attention in studies of value- and moral-based cooperative models. This study provides new contributions in the form of evidence that TSTS not only works in exact sciences and social sciences subjects, but is also relevant to character-based subjects. Thus, this study strengthens the validity of the TSTS model as an interdisciplinary learning strategy, and provides a new perspective that the syntax of group visits (stay-stray) has a direct influence on affective aspects such as student interest, sense of responsibility, and emotional participation.

This study has several limitations, including a sample size limited to two classes, a single school context, and a variable focus that only measured learning interest through two indicators (engagement and interest). Furthermore, this study did not test the effectiveness of TSTS at different levels, other Islamic Religious Education (PAI) subjects, or its long-term impact. Therefore, further research is needed with a larger sample size, a wider variety of school contexts, mixed methods, and longitudinal observations. With more comprehensive research, a more in-depth picture of the effectiveness of TSTS can be obtained, allowing schools and policymakers to formulate more appropriate, adaptive, and impactful learning strategies to improve the quality of Islamic Religious Education (PAI) learning.

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