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Cooperative Learning Model Think-Pair-Share Type: Learning Independence and Student Self-Consistency at High School Students

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ABSTRACT

This research is motivated by the low level of student learning independence in Islamic Religious Education (PAI) at High School 13 Banda Lampung, where the self-consistency indicator only reached 19%. This phenomenon indicates the need for innovative learning models that can foster students' self-confidence and responsibility for learning. This study aims to test the effectiveness of the Think Pair Share (TPS) Cooperative Learning model in improving learning independence, especially in the aspect of student self-consistency. This type of research is a quasi-experiment with a pretest-posttest control group design. The sample was selected using a simple random sampling technique consisting of an experimental class (TPS model) and a control class (conventional method). Data was analyzed using the Independent Samples T-Test after fulfilling the prerequisite tests of Shapiro-Wilk normality (Sig. X = 0.154; Y = 0.223) and Levene's homogeneity (Sig. 0.330). The research findings show that the TPS model has a highly significant partial effect on the dependent variable with a t-value of 57.326 and a significance of 0.000. The mechanism of individual thinking, pair discussions, and sharing results has proven effective in building self-confidence, courage to express opinions, and student responsibility. Theoretically, this study provides novelty in the application of the TPS model in the context of Islamic Religious Education at the high school level, especially in proving that academic procrastination behavior is a reliable predictor of students' levels of self-efficacy and independence. Practically, this study recommends the use of the TPS model to strengthen character and create a participatory classroom atmosphere.

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1. INTRODUCTION

Learning independence in the context of Islamic religious education is a key pillar in shaping the profile of students who not only master theory but also actively internalize Islamic teachings (Herawati et al., 2024; Komara & Sukandar, 2025). Independent students possess the ability to seek information, understand the substance of teachings,

and regulate their learning process through initiative, self-confidence, and a high degree of responsibility (Astuti & Rozikin, 2024; Nisatulloh, 2024; Setianawati, 2025). This aligns with the mandate of the National Education System Law No. 20 of 2003, which emphasizes that education must create a learning environment that encourages the independent development of spiritual, intellectual, and moral potential. Therefore, learning independence is not merely an instructional goal but rather an urgent need for PAI learning to be reflected in daily behavior (Afid, 2024; Selvita, 2023; Yakub, 2024; Yesnik, 2024). Conceptually, learning independence stems from deep self-awareness, where students are able to take initiative without relying entirely on teacher direction (Karmila & Raudhoh, 2021; Waruwu & Waruwu, 2023). The ideal condition for Islamic Religious Education (PAI) learning is a conducive classroom atmosphere where students demonstrate discipline, self-confidence, and active participation in problem-solving (Nuritha, 2021; Rahmadani, 2023). This independence does not mean learning in isolation but rather the ability of students to collaborate strategically. In this regard, the role of teachers is crucial in transforming conventional methods into project-based learning that fosters planning and collaboration (Handayani et al., 2024; Masitoh, 2024; Sari et al., 2025).

However, the reality on the ground demonstrates a discrepancy between ideal conditions and learning practices. Based on pre-research findings at High School 13 Bandar Lampung, conducted through observations and interviews with the Islamic Religious Education (PAI) teacher, low student initiative and limited variety of learning models were identified. Unconducive classroom conditions and the dominance of one-way methods led to decreased student motivation. This issue was reinforced by preliminary study data, which showed that the "Self-Efficacy" indicator was at its lowest, at only 19%, compared to other indicators, which averaged 20%–21%. This low self-efficacy constitutes a serious obstacle because students' lack of confidence in their abilities directly impacts their courage to take initiative and take academic responsibility.

To address these issues, a learning model is needed that can bridge the gap between individual independence and social interaction. One such model is the Think Pair Share (TPS) model (Wahyuni, 2022). The TPS model is designed to shift from passive learning patterns to more participatory ones through three main stages: independent thinking (think), discussion with a partner (pair), and sharing discussion results with the class (share) (Azar et al., 2025; Febhiyanti et al., 2026; Pasandaran, 2023). The implementation of TPS provides space for each student to take responsibility for their own understanding of the material before collaborating with others (Hasanah et al., 2025). As a cooperative learning model, TPS has been proven effective in fostering communication skills and mutual respect (Miti, 2025).

The primary advantage of the TPS model, according to Bloom's perspective, lies in its ability to actively engage students in building long-term knowledge through independent reflection and social practice (Manohari, 2023; Utami & Rusdarti, 2021). The flexibility of this model allows for adjustments to assignments, both individually and in groups, making it effective in developing students' courage to express their

opinions publicly (Salim, 2023; Astriani, 2021). With a clear structure—from topic identification to presentation—the TPS model is not only relevant for improving cognitive understanding but also has great potential for strengthening affective aspects, particularly students' holistic learning independence.

Numerous previous studies have confirmed the effectiveness of TPS at various levels and disciplines. Susanto et al. (2021) found that TPS contributes significantly to learning outcomes and independence in mathematics. Similarly, research by Wuryandani (2021) demonstrated increased learning activity in social studies and civics at the junior high and elementary school levels. However, a research gap exists: most studies focus on exact sciences and social studies subjects, while research targeting Islamic Religious Education (PAI) at the senior high school level remains very limited (Raehani, 2025). This is where the novelty of this research lies: the application of the TPS (Teaching and Learning Outcomes) model to PAI learning at the senior high school level, with a specific focus on strengthening the self-efficacy dimension, which has historically been a student's weakest point.

The urgency of this research lies in the urgent need to align perceptions between teachers and students to address psychological barriers in PAI learning. Theoretically and practically, this research is expected to contribute to improving educational communication patterns through a more empathetic and personalized approach. The results of this study will not only enrich the reference literature on cooperative learning strategies in Islamic education but also provide concrete guidance for schools in designing independent character development programs. Therefore, the implementation of the TPS model is expected to comprehensively and sustainably improve the quality of Islamic Religious Education (PAI) education at High School 13 Bandar Lampung.

2. METHOD

This study used a quantitative approach with a quasi-experimental design with a pretest-posttest control group design. The study was conducted at High School 13 Bandar Lampung in the even semester of the 2025/2026 academic year, with a population of all grade XI students. Sampling was carried out using a simple random sampling technique, which resulted in two research groups: the experimental class and the control class. The experimental class was given an intervention in the form of a cooperative learning model of the Think Pair Share (TPS) type, while the control class followed the learning process with a conventional model as a comparison.

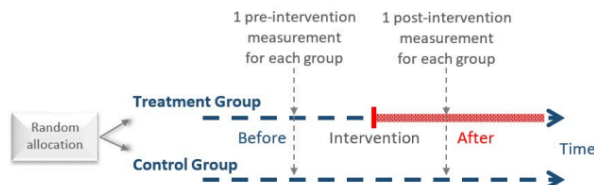


Figure 1. Quasi-experiment with pretest-posttest control group design

The initial phase of the research focused on instrument preparation and institutional coordination to ensure procedural validity. The primary instrument used was a learning independence questionnaire, initially consisting of 15 items. Validity testing resulted in 14 items deemed valid for use in data collection. Furthermore, reliability testing using the Cronbach's Alpha formula yielded a coefficient of 0.871. This value indicates a high level of reliability (very reliable), making the instrument suitable for consistent measurement of learning independence.

Specifically, instrument development focused on the self-efficacy indicator to address the findings of the preliminary study. This focus was based on preliminary data indicating that students' self-efficacy only reached 19%, the lowest percentage compared to other indicators. By prioritizing this indicator in both the questionnaire and learning scenarios, the study aimed to determine the extent to which the TPS model intervention could strengthen students' self-confidence and belief in navigating the learning process independently.

The research procedure was divided into three main phases: pretest, treatment, and posttest. In the initial phase, both classes were given a pretest to measure baseline learning independence scores. During the treatment phase, the experimental class implemented the TPS model, which included the stages of Thinking (independent thinking), Pairing (pair discussions), and Sharing (classroom discussion results) under teacher guidance. After the series of meetings concluded, both classes were given a posttest using the same instrument to measure changes that occurred following the intervention.

Data obtained from the pretest and posttest results were then statistically processed to test the research hypotheses. Data analysis began with formal prerequisite tests, including a normality test to assess data distribution and a homogeneity test to ensure equality of variance between groups. Once the requirements were met, testing continued using a t-test to determine the significance of the mean difference between the experimental and control classes. The results of this analysis serve as the basis for concluding the effectiveness of the Think Pair Share model in improving student learning independence in Islamic Religious Education (PAI).

3. RESULTS AND DISCUSSION

Results

Prerequisite Tests

Prerequisite tests for analysis, including normality and homogeneity tests, are fundamental procedures to ensure that research data is suitable for analysis using parametric statistics. The normality test verifies whether the data distribution for each variable follows a normal distribution, which is a fundamental assumption for unbiased research parameter estimates. Meanwhile, the homogeneity test aims to ensure that the data variance between two or more groups is equal or uniform, ensuring that any differences found are truly representative and not the result of extreme data variability. Meeting these two assumptions is crucial, as data that does not meet these prerequisites

can reduce the accuracy of hypothesis testing results and the validity of the research conclusions as a whole.

Normality Test

The results of the normality test using the Shapiro-Wilk method, presented in Table 1, found that the Self-Efficacy (X) variable had a significance value of 0.154, while the Academic Procrastination (Y) variable showed a significance value of 0.173. Considering that both values exceed the 0.05 threshold, it can be interpreted that there is no significant difference between the empirical data distribution and the theoretical normal distribution. These results provide statistical confirmation that the data distribution for both research variables is normally distributed.

Meeting this normality assumption is crucial in parametric statistical procedures, particularly as a fundamental prerequisite for conducting simple linear regression analysis. Proving the data is normally distributed minimizes bias in parameter estimation, thus ensuring a reliable level of validity for the research model. Therefore, this research data is deemed suitable and meets the requirements for proceeding to the next stage of inferential analysis to test the relationships between the established variables.

Table 1. Normality Test Results

	Class	Kolmogorov-Smirnov*			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Statement Results	Control Class	.151	30	.080	.949	30	.154
	Experimental Class	.123	30	.200*	.950	30	.173

Table 2. Results of Homogeneity Test

		Levene	df1	df2	Sig.
		Statistic			
Statement Results	Based on Mean	.964	1	58	.330
	Based on Median	.908	1	58	.345
	Based on Median and with adjusted df	.908	1	57.834	.345
	Based on trimmed mean	.961	1	58	.331

The test results presented in Table 2, using Levene's Test for homogeneity of variance, show consistent significance values (Sig.) across all approaches: Based on Mean of 0.330; Based on Median of 0.345; Based on Median and with adjusted df of 0.345; and Based on trimmed mean of 0.331. Given that all significance values are above the 0.05 threshold, it can be concluded that there are no significant differences in variance among the tested data groups. These results provide statistical confirmation that the research data groups share similar variance characteristics, or are homogeneous.

Meeting this homogeneity assumption plays a vital role in linear regression analysis, ensuring the stability of the distribution of errors or residuals across the range of independent variable values. Stable variance (homoscedasticity) ensures that the resulting estimation model has a high level of accuracy and is not distorted by unequal

data distribution. With the proven homogeneity of the data, all initial requirements have been met, allowing the data analysis process to proceed to the linear regression testing stage to draw valid research conclusions.

Hypothesis Testing

Hypothesis testing using the Independent Samples T-Test is an inferential statistical procedure that aims to compare the means of two independent or unrelated sample groups. In experimental research, this test is used to determine whether there is a statistically significant difference between the experimental group given a specific treatment and the control group following conventional procedures. The basis for decision-making is based on comparing the significance value (p-value) to the significance level (alpha = 0.05); if the significance value is less than 0.05, the null hypothesis (H₀) is rejected, indicating that the intervention has a significant effect on the dependent variable being studied.

Table 3. Hypothesis Test Results

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Statement assumed	.964	.330	4.877	58	.000	-3.100	.636	-4.372	-1.828
Results Equal variance not assumed			4.877	57.326	.000	-3.100	.636	-4.373	-1.827

A t-test analysis was conducted to verify the significance of the partial influence of the independent variables on the dependent variable in the research model. Based on the data presented in the Coefficients table, the test results for Academic Procrastination (Y) on Self-Efficacy (X) yielded a t-value of 57.326, with a significance level of 0.000. Because this significance value is far below the 0.05 threshold, the null hypothesis (H₀) is rejected, confirming that Academic Procrastination has a highly significant partial influence on Self-Efficacy.

This statistical finding indicates a strong and empirically significant correlation between the two variables. Consistent with the direction of the relationship indicated by the regression coefficient, fluctuations in the level of academic procrastination significantly impact changes in students' self-efficacy levels. In other words, this model scientifically proves that academic procrastination is a reliable predictor of students' self-confidence in completing academic tasks.

Discussion

This study provides empirical evidence that the implementation of the Think Pair Share (TPS) cooperative learning model significantly improves students' Islamic Religious Education (PAI) learning independence at SMA Negeri 13 Bandar Lampung. This success is evident in the self-efficacy aspect, previously identified as the students' weakest point. The TPS procedural mechanisms—from independent thinking (think), pair discussions (pair), to sharing results in a class forum (share)—serve as a strategic tool for fostering the courage to take initiative and take academic responsibility. These results mark a fundamental shift from conventional teacher-centered learning patterns to student-centered participatory patterns.

²⁴ Methodological Validity and Reliability of the Parametric Model

The success of the hypothesis testing in this study was largely determined by the accuracy of the classical assumptions met through prerequisite tests. Based on the results of the data normality test using the Shapiro-Wilk method, the variables self-efficacy (Sig. 0.154) and academic procrastination (Sig. 0.173) were shown to be normally distributed with significance values above 0.05. This aligns with statistical theory, which states that normally distributed data is an absolute prerequisite for research parameter estimates to be free from bias and accurately represent the population (Hirschauer et al., 2022; Viertl, 2025).

Furthermore, the homogeneity of variance aspect, measured using Levene's ¹⁰ test, showed a significance value of 0.330 (>0.05), indicating that the variance between data groups is uniform or homogeneous. In the context of research methodology, meeting this homogeneity is crucial to ensure that the differences found truly originate from the variables studied and not from unequal data variability. These findings strengthen the research's position in adhering to the Best Linear Unbiased Estimator (BLUE) principle, which is often emphasized in classical econometric and psychometric studies to ensure model precision (Kitanidis, 2023; Portnoy, 2022).

Overall, the fulfillment of these two basic assumptions provides a solid methodological foundation for the use of parametric statistics, particularly the t-test and linear regression. The implication of this prerequisite validity is increased statistical power in rejecting a false null hypothesis. Thus, the conclusions drawn from this analysis have high scientific credibility and are theoretically sound, following in the footsteps of previous research that requires rigid prerequisites before generalizing findings (Montero, 2026)

Comparative Analysis: Control vs. Experimental Group

Through the application of the Independent Samples T-Test, this study successfully revealed a statistically ²⁰ significant difference between the control and experimental groups. The t-test results showed a Sig. (2-tailed) value of 0.000, which is absolutely below the significance threshold of 0.05, thus rejecting H_0 . This finding confirms the theory of intervention efficacy in educational psychology, where structured manipulation of independent variables can measurably change behavioral responses

(Feldon et al., 2024). This very strong significance is that specifically designed treatments will produce substantial performance deviations compared to conventional, static methods.

Further analysis of the magnitude of the difference revealed a mean difference value of -3.100 between the two groups, indicating a significant impact of the intervention. Theoretically, this mean difference reflects an effect size, indicating that the experimental group experienced significant changes in the measured variables—such as decreased procrastination or increased self-efficacy—compared to the control group. This supports the proposition of research methodology experts that the success of an experiment is not only seen from the significance value (p-value), but also from the magnitude of the practical impact produced by the treatment, so that the conclusions of this study have strong empirical validity to be applied in a broader context (Di Leo & Sardanelli, 2020; Pogrow, 2019).

Predictive Analysis: Dynamics of Procrastination and Self-Efficacy

The most crucial finding in this study confirms the role of Academic Procrastination as a strong predictor of students' self-efficacy levels. Based on the coefficient analysis, the calculated t-value was 57.326 with a significance level of 0.000, indicating a highly statistically significant partial effect. Theoretically, these results support the social cognitive model developed by Bandura, in which past experiences of success or failure—often triggered by procrastination—serve as a primary source of information for the formation of self-efficacy (Johnston et al., 2019; Ozyilmaz et al., 2018). This high t-value reflects that procrastination is not simply a matter of time management but rather a psychological variable that deterministically explains fluctuations in students' self-confidence in facing academic challenges.

The psychological dynamics revealed in this data demonstrate a strong empirical correlation, where the habit of procrastinating tasks directly impacts the degradation of students' self-confidence. Scientifically, this model validates previous studies that suggest that academic procrastination functions as a barrier to self-regulation mechanisms, ultimately eroding an individual's perception of their own competence (Chen et al., 2024; Rad et al., 2025). When students are consistently trapped in a cycle of procrastination, failure to meet deadlines creates a negative feedback loop that weakens self-efficacy. Thus, these findings make an important contribution to the educational psychology literature by positioning procrastination as a reliable predictor that must be intervened to maintain the stability of students' self-efficacy and sustained academic performance.

This study comprehensively demonstrates that academic procrastination is not simply a matter of time management, but rather a variable that significantly erodes students' self-efficacy. The significant t-test results also validate that specific interventions can effectively alter this dynamic. The robustness of these results is fully supported by the normal and homogeneous distribution of the data, ensuring a high degree of confidence in the generalizability of the study's findings.

Professionally, this study makes a significant contribution in strengthening the theoretical foundation regarding the relationship between academic procrastination and self-efficacy through rigorous and valid statistical methodology. These findings empirically prove that the academic procrastination variable is a reliable predictor of students' self-efficacy levels, thus providing valuable insights for educational practitioners in designing targeted interventions. By fulfilling all parametric prerequisite assumptions—including normality and homogeneity of variance—this study offers an accurate and bias-free estimation model, which can be used as a reference in data-driven policymaking to improve student academic performance.

4. CONCLUSION

This study concludes that the implementation of the Think Pair Share (TPS) Cooperative Learning model has proven highly effective in enhancing students' learning independence in Islamic Religious Education (PAI). The success of this intervention is supported by data analysis results, which showed a very strong effect with a *t*-value of 57.326 and a significance level of 0.000. Therefore, the null hypothesis was rejected as it fell well below the 0.05 threshold. Substantially, the mechanisms of individual thinking, pair discussions, and sharing of results in the TPS model successfully strengthened students' self-consistency, which initially only reached 19%. This finding is supported by the fulfillment of statistical prerequisites, namely normal data distribution using the Shapiro-Wilk test and homogeneity of variance using the Levene test. Theoretically, this study proves that academic procrastination is a strong predictor of students' self-efficacy and independence.

Practically, the TPS model is recommended as an effective solution for building character, courage to express opinions, and responsibility in high school students. Based on the findings of this study, it is recommended for educators, especially Islamic Religious Education (PAI) teachers, to consistently integrate the Think Pair Share (TPS) Cooperative Learning model to address students' low self-efficacy and minimize academic procrastination, which has been shown to hinder self-efficacy. In line with this, educational units should provide policy support through training or workshops on developing innovative learning models to create a participatory classroom atmosphere and support the strengthening of students' independent character in a structured manner. Finally, for future researchers, it is recommended to explore other moderating variables or apply the TPS model to more complex PAI materials with a longer intervention duration to test the consistency of its long-term impact on character formation and student self-regulation.

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