



Learning Interest: How Does the Experimentation Compare Between the TAI and TEL Models?

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Article Info	Abstract
Article History Received: 2024-11-11 Revised: 2024-12-23 Published: 2025-01-05 Keywords: TAI; TEL; Learning Interest; Islamic Education.	<p>This research aims to investigate the experimentation of applying the Team Assisted Individualization (TAI) and Technology Enhanced Learning (TEL) learning models on students' interest in Islamic Education at SMP Negeri 23 Bandar Lampung. The research employs a quantitative approach with a quasi-experimental design. The population of this study includes all eighth-grade students of SMP Negeri 23 Bandar Lampung in the 2024/2025 academic year. The sample used consists of classes VIII D and VIII F, which were designated as the experimental groups, while class VIII E served as the control group, selected using a simple random sampling technique. Data collection was conducted using a questionnaire as a post-test instrument to measure students' interest in learning. Data analysis techniques included normality tests, homogeneity tests, and one way anova tests. The results of this study indicate that the learning interest of students treated with the Team Assisted Individualization (TAI) and Technology Enhanced Learning (TEL) models was better than that of students treated with conventional learning models. This is based on the results of anova data analysis, which showed an F-value of 18.973 with a significance level of Sig. = 0.000. This value indicates that Sig. < 0.05, leading to the rejection of H_0. This means there is a significant difference between the average learning interest in the experimental and control classes. These results suggest that the learning models applied in this study have a significant influence on students' interest in learning.</p>
Artikel Info	Abstrak
Sejarah Artikel Diterima: 2024-11-11 Direvisi: 2024-12-23 Dipublikasi: 2025-01-05 Kata kunci: TAI; TEL; Minat Belajar; Pendidikan Agama Islam.	<p>Penelitian ini bertujuan untuk mengetahui eksperimentasi penerapan model pembelajaran Team Assisted Individualization (TAI) dan Technology Enhanced Learning (TEL) terhadap minat belajar PAI peserta didik di SMP Negeri 23 Bandar Lampung. Metode penelitian menggunakan pendekatan kuantitatif dengan desain quasi eksperimental. Populasi dalam penelitian ini adalah seluruh kelas VIII SMP Negeri 23 Bandar Lampung tahun ajaran 2024/2025. Sampel yang digunakan yaitu VIII D dan VIII F ditetapkan sebagai kelas eksperimen, sementara VIII E berfungsi sebagai kelas kontrol yang diambil dengan teknik simple random sampling. Pengumpulan data dilakukan melalui angket sebagai instrumen post-test untuk mengukur minat belajar peserta didik. Teknik analisis data menggunakan uji normalitas, uji homogenitas, dan uji anova one way. Hasil penelitian ini menunjukkan bahwa hasil minat belajar PAI peserta didik yang diberikan perlakuan dengan model pembelajaran Teams Assisted Individualization (TAI) dan Technology Enhanced Learning (TEL) lebih baik daripada peserta didik yang diberi perlakuan model pembelajaran konvensional. Hal ini berdasarkan hasil analisis data uji anova yang menunjukkan bahwa diperoleh nilai F sebesar 18,973 dengan tingkat signifikansi Sig. =0,000. Nilai ini menunjukkan bahwa Sig. <0,05, sehingga H_0 ditolak. Hal ini berarti terdapat perbedaan yang signifikan antara rata-rata minat belajar pada kelas eksperimen dan kelas kontrol. Hasil ini mengindikasikan bahwa model pembelajaran yang digunakan dalam penelitian memiliki pengaruh yang signifikan terhadap minat belajar peserta didik.</p>

I. INTRODUCTION

Learning is a process of behavioral change that occurs through an individual's interaction with their environment, as an effort to understand the complexity of learning and enhance knowledge, whether through formal or

non-formal institutions. . The learning process is the transformation of knowledge from teachers to students, designed with specific objectives, resources, and strategies to provide engaging and effective learning experiences, making education a crucial foundation for individual futures and

national development in the modern era. Based on PISA survey findings as reported by the OECD, there are three critical education issues in Indonesia that urgently need to be addressed. First, the high percentage of low-achieving students. Second, the significant percentage of students repeating grades. Third, the high rate of student absenteeism in classrooms. Learning problems are often caused by a lack of facilities, support, or ineffective learning strategies, whether from teachers or the environment. Competent teachers, the implementation of effective methods, and internal student drives such as motivation and enjoyment of learning are crucial in supporting learning success. These factors are referred to as interest.

Interest is a person's drive toward something that includes feelings of enjoyment in achieving goals, arising from a combination of internal factors, the surrounding environment, and appropriate learning methods. Students with a high interest in learning will be more motivated and persistent when studying material that captures their interest. High learning interest, supported by internal factors such as discipline and cognitive abilities, as well as external factors such as the school environment and parental attention, significantly influences students' understanding in learning. External factors such as teaching quality, learning models, learning environments, family support, and resources significantly influence learning interest. Dedicated teachers, innovative approaches, and technology can create a supportive learning environment. Family support also plays a crucial role in enhancing students' learning motivation. Islamic Religious Education is a vital part of education in Indonesia, aimed at shaping students' character and morals in accordance with Islamic values. It is taught from elementary schools to universities.

Students with interest are motivated to discover things they do not yet know. Conversely, students without interest in learning tend to feel bored quickly and avoid engagement, showing a lack of curiosity about subjects closely related to their studies. Based on the results of a preliminary study involving observations and interviews with one of the Islamic Education (PAI) teachers, Mr. Rian Saputra, M.Pd, and three eighth-grade students—RS, MAK, and NDP—at SMP Negeri 23 Bandar Lampung, conducted on May 17, 2024, several issues were identified in the implementation of PAI learning. The problems identified include: (1) a lack of student

participation due to the use of a conventional teaching model that centers on the teacher and fails to actively involve students in the learning process, (2) varying levels of student interest in learning, where students from families with a strong religious background tend to be more interested in the subject, while those with limited prior understanding may struggle, leading to a decrease in their interest, (3) a lack of student motivation that could hinder active engagement in learning, particularly if the material is not aligned with their interests or needs, (4) limited flexibility in learning, possibly due to the constraints of the conventional teaching model's reliance on rigid space and time structures, and (5) low student grades that have not met the minimum completeness criteria (KKM, <75), potentially influenced by a lack of interactive classroom activities.



The diagram above presents a pie chart illustrating the results of a preliminary study on student learning interest based on several indicators. The indicator with the highest percentage is the sense of curiosity, at 29%, indicating that many students have an interest or curiosity about the learning material. On the other hand, the indicator with the lowest percentage is participation in learning activities and paying attention, which is only 15%. This suggests that active student involvement in the learning process is still very low. Other indicators, such as enjoyment (21%), the awareness to learn without being prompted (19%), and a preference for certain subjects (16%), indicate that while there is some level of interest, motivation in certain areas of learning still requires attention. These results highlight the need for a more interactive and relevant teaching model to enhance student engagement, build motivation, and encourage active participation throughout the learning process.

Monotonous learning activities can lead to students losing interest and feeling bored with the lessons taught by the teacher. Passive learning affects students' interest in learning. As facilitators, teachers must be able to provide engaging lessons, such as using attractive teaching models, to enhance students' learning interest. The researcher proposes engaging teaching models to address the need for improving learning interest, namely Team Assisted Individualization (TAI) and Technology Enhanced Learning (TEL). The Team Assisted Individualization (TAI) model will assist students in solving learning problems by forming small collaborative groups, enabling peer support and individual attention to enhance their learning experience and Technology Enhanced Learning (TEL) aims to remove barriers for everyone in accessing a wide range of information from various sources and locations, utilizing technology to facilitate learning beyond traditional classroom limitations.

Previous research closely related to this study shows that the implementation of the Team Assisted Individualization (TAI) and Technology Enhanced Learning (TEL) teaching models has a positive impact on learning. This aligns with the research by which indicates that both the TAI and TEL models are more effective compared to conventional teaching methods. The TAI model enhances collaboration among students and provides more focused individual support, while TEL leverages technology to create a more interactive and engaging learning experience. Both models significantly improve students' learning interest, motivation, and understanding of the material, compared to the monotonous nature of conventional methods. The findings from previous studies provide a solid foundation for further exploring the application of the TAI and TEL models. The novelty of this research lies in the experiment applying these two teaching models to student learning interest in the subject of PAI. While TAI and TEL have been extensively studied, this research offers a new perspective by applying both models in PAI learning at the junior high school level, particularly at SMP Negeri 23 Bandar Lampung, a context that has not been widely explored. Additionally, this study focuses on experimental comparisons between TAI, TEL, and conventional teaching models in influencing students' learning interest.

The urgency of this research is to implement the Team Assisted Individualization (TAI) model, which encourages collaboration and active

participation among students through discussions, communication, and teamwork. Students are able to assist one another, engage in discussions, and develop skills as peer tutors, without being completely reliant on the teacher. This model fosters a more interactive and supportive learning environment, promoting independent learning and improving overall student engagement and achievement, and Technology Enhanced Learning (TEL) model, as a technology-based learning approach, includes technology-assisted learning, e-learning, mobile learning, online learning, web-based learning, and more. TEL utilizes digital tools and platforms to create interactive, flexible, and engaging learning experiences, enabling students to access resources anytime and anywhere, thus supporting personalized and self-directed learning. This approach enhances the learning process by integrating modern technology, which fosters greater engagement and accessibility for students. Thus, this research not only expands the understanding of the effectiveness of Team Assisted Individualization (TAI) and Technology Enhanced Learning (TEL) models on students' learning interest in PAI, but also provides a foundation for the development of more innovative and relevant teaching practices in the future. The implications of this study offer new insights into how the TAI and TEL models influence students' learning interest. This research is expected to serve as a reference for teachers to adopt more collaborative and technology-based approaches, which can not only enhance students' learning interest but also develop essential skills such as teamwork, communication, and technology utilization.

II. METHOD

This research will be conducted during the odd semester of the 2024/2025 academic year. The location for this study will be at SMP Negeri 23 Bandar Lampung. Based on the type of data and data analysis techniques used, this research employs a quantitative approach with a quasi-experimental design. It is called a quasi-experimental design because the researcher aims to test the causal relationship between the independent and dependent variables. The population of this study consists of 8 classes of grade VIII students, totaling 250 students. The sample for this research will include classes VIII D and F, which will be the experimental groups, and class VIII E, which will be the control group. The sampling technique used is simple random

sampling, assisted by the "Spin the Wheel" application. For data collection, the researcher will use a learning interest questionnaire and administer a post-test to the students in both the experimental and control groups. The research instrument will be a non-test instrument, in the form of a learning interest questionnaire.

The learning interest questionnaire for this study uses the theory of Syaiful Bahri Djamarah, with five indicators: feelings of liking/interest, preference, curiosity, awareness to learn without being prompted, and participation in learning activities and attention. The questionnaire consists of 15 statements, which were first validated by a validator. Afterward, the questionnaire was tested in a class where the TAI and TEL models had not been implemented. The results of this pilot test were validated using SPSS 25, resulting in 10 valid statements. Once the questionnaire was validated, it underwent reliability testing, which showed a reliability coefficient of 0.676. The questionnaire was then distributed to three classes: two experimental classes and one control class. After the questionnaires were distributed, the results were tabulated and analyzed using SPSS 25. Subsequent prerequisite tests included the normality test to check the distribution of the research sample, and the homogeneity test to ensure the variance of the objects being studied was consistent. The final test conducted was the hypothesis test using one-way ANOVA.

III. RESULT AND DISCUSSION

A. Result

Data analysis is conducted to determine the condition of the experimental and control classes after the treatment, to assess whether the results align with expectations or not. In this analysis, the data being analyzed are the post-test scores after the students were given the treatment. The data analysis consists of a normality test, a homogeneity test, and a one-way ANOVA test.

1. Normality Test

The normality test is used to determine whether the sample comes from a population with a normal distribution or not. To test the normality of the sample in this study, the Liliefors test was applied. Based on the criteria for normality testing at a significance level of $\alpha = 0,05$, if $L_{calculated} < L_{table}$ or $Sig. > \alpha$, then H_0 is accepted, indicating that the data are normally distributed. A summary of the

normality test results for the control and experimental classes is presented in Figure 2 below.

Figure 2. Normality Test

	Kolmogorov-Smirnov ^a	Shapiro-Wilk	
		Statistic	Sig.
Normality	.132	.970	.549
Experimental	.114	.956	.238
Control	.108	.955	.211

^a. This is a lower bound of the true significance.
a. Liliefors Significance Correction

From the normality test figure above, in experimental class group 1 with $Sig. = 0,549$ obtained from the Liliefors critical value chart with $\alpha = 0,05$. This means that $Sig. > \alpha$ namely $0,549 > 0,05$, so H_0 is accepted. In experimental class group 2, with $Sig. = 0,238$ obtained from the Liliefors critical value chart $\alpha = 0,05$. It means that $Sig. > \alpha$ namely $0,238 > 0,05$, so H_0 is accepted. In the control class with $Sig. = 0,211$ obtained from the Liliefors critical value table at $\alpha = 0,05$. It means that $Sig. > \alpha$ namely $0,211 > 0,05$, so H_0 is accepted. This indicates that the samples from both the experimental and control classes come from a normally distributed population.

2. Homogeneity Test

The homogeneity test is used to determine whether two or more sample data groups come from a population with the same variance (homogeneous) or not. To test the homogeneity of the samples in this study, the Levene test was used. Based on the guidelines for the homogeneity test, data with $Sig. level \alpha = 0,05$, if $Sig. > 0,05$ then H_0 is accepted indicating that the data is homogeneous. A recap of the results for the homogeneity test of the control and experimental classes can be seen in Figure 3 below.

Figure 3. Homogeneity Test

		Levene Statistic	df1	df2	Sig.
Hasil	Based on Mean	.587	2	88	.558
	Based on Median	.700	2	88	.500
	Based on Median and with adjusted df	.700	2	77.983	.500
	Based on trimmed mean	.642	2	88	.529

From the homogeneity test results, it was found that the combined variance for the experimental and control classes is **0,558**. The figure shows that the significance value $\alpha > 0,05$, specifically **0,558 > 0,05** which means that H_0 is accepted. This indicates that the samples come from populations with the same variance, thus the data is homogeneous.

3. Hypothesis test

The analysis technique used for hypothesis testing in this study is one-way analysis of variance, or ANOVA one-way. Analysis of Variance (ANOVA) is a parametric test used to distinguish the mean values of more than two groups of data by comparing their variances. One-way analysis of variance (ANOVA) is also commonly used to assess the differences between two or more groups. The results of the ANOVA test on students' interest in learning PAI are displayed in Figure 4.

Figure 4. Hypothesis Test

MinatBelajar	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	666,943	2	333,472	18,973	,000
Within Groups	1546,727	86	17,976		
Total	2213,670	88			

Based on the results of the one-way ANOVA test shown in the figure above, the F value obtained is **18,973** with a significance level of **Sig. = 0,000**. This value indicates that **Sig. < 0,05**, so H_0 is rejected. This means there is a significant difference in the average learning interest between the experimental and control classes. These results suggest that the teaching model used in the study has a significant impact on students' learning interest.

B. Discussion

From the results of the one-way ANOVA test, the calculated F value is **18,973**, which shows the ratio of variance between groups to the variance within groups. The significance level obtained (**Sig. = 0,000**) is smaller than the predetermined significance level (**0,05**). This indicates that the difference in means between the groups did not occur by chance, but is statistically significant. This is consistent with the findings of the study conducted by and which showed that the learning outcomes and understanding of the material among students using the TAI and TEL learning models were better than those of students who received conventional learning methods.

The difference is attributed to the use of different learning models, where the experimental class applied the Teams Assisted Individualization and Technology Enhanced Learning models. These two models are designed to make students more active in their learning, with the learning process being student-centered. According to the Team Assisted Individualization model can enhance cooperation and participation among students by actively involving them in the learning process, replacing competitive forms with collaboration, and encouraging cooperation and participation. Students learn to communicate effectively through discussions and expressing opinions. Technology Enhanced Learning enables educators to move beyond relying solely on textbooks provided by the school or commonly used, and instead, utilize other sources such as videos, audios, and other multimedia components.

The improvement in students' learning outcomes has also been demonstrated through previous studies, such as the research conducted by Miftahul Huda, Department of Elementary School Teacher Education, Faculty of Tarbiyah and Teacher Training, State Islamic Institute of Tulungagung, in 2016, titled "The Application of the Cooperative Learning Model, Team Assisted Individualization (TAI), to Improve Science Learning Outcomes in Fifth Grade Students of MI Darussalam Kolomayan, Wonodadi, Blitar." Based on the study, the completion rate of student learning reached 86.20%, an increase from the previous 31.03%. This shows that the TAI cooperative learning model can improve the learning outcomes of fifth-grade

elementary school students. In the study of the Technology Enhanced Learning model, the statement "Learning with the Quizziz application can improve critical thinking skills" was evaluated. According to the survey responses, out of 21 students, 20 students agreed, 1 student occasionally agreed, and 0 students disagreed. The highest response rate, 20 students, confirmed that the Quizziz application supports the development of critical thinking skills. In the statement "Interactive PowerPoint can help create a more interesting, interactive, and creative learning environment," the survey revealed that 18 students agreed, 2 students occasionally agreed, and 1 student disagreed. The majority of 18 students confirmed that Interactive PowerPoint helps to create a more engaging and creative learning environment. This demonstrates that Technology Enhanced Learning is highly effective, as it helps students easily understand the material delivered by the teacher.

The difference between the research conducted by several experts who have discussed the TAI learning model, such as and this study lies in the focus and approach used. Previous studies mostly focused on the implementation of the Team Assisted Individualization (TAI) model in a more general context or in other subjects, with an approach that tended to be qualitative and did not make a direct comparison with conventional learning models. Additionally, these studies did not extensively measure the impact on students' learning interest in the subject of PAI (Islamic Education). In contrast, this study uses a quantitative approach with a quasi-experimental design, which allows for a direct comparison between TAI, TEL, and conventional learning models to measure their influence on students' learning interest in PAI.

The difference between studies conducted by several experts on the Technology Enhanced Learning (TEL) model, such as with this research lies in the broader application of the TEL model. Those studies primarily focused on the implementation of TEL in various subjects or educational levels, emphasizing general technological aspects such as e-learning, web-based learning, and the use of technology to support online learning processes. In contrast, this study provides a novel contribution by focusing on

students' learning interest within the context of technology-based learning, aiming to enhance students' engagement and interest in learning Islamic Education (PAI).

IV. CONCLUSION AND SUGGESTION

A. Conclusion

Based on the results of the study, it can be concluded that there is a significant difference in the average learning outcomes of students in classes using the Team Assisted Individualization (TAI) and Technology Enhanced Learning (TEL) models compared to those using the conventional teaching model. This conclusion is based on the data analysis showing an F-value $18,973$ with a significance level of Sig. = $0,000$. This value indicates that Sig. $< 0,05$. The total post-test score for the experimental class using the TAI model was 1148, while the total post-test score for the experimental class using the TEL model was 1180, and the total post-test score for the experimental class using the conventional model was 1028. Thus, the average learning interest in PAI (Islamic Education) of students treated with the TAI and TEL teaching models was higher than that of students treated with the conventional teaching model.

B. Suggestion

Based on this study's findings, educators are encouraged to incorporate Teams Assisted Individualization (TAI) and Technology Enhanced Learning (TEL) models into their teaching strategies to enhance students' learning interest, especially in subjects like Islamic Religious Education (PAI). These models should focus on fostering critical thinking, collaboration, and digital literacy alongside academic achievement. Educational institutions should provide adequate resources and training for teachers to maximize the potential of technology-based learning. Policymakers are advised to support the integration of innovative models like TAI and TEL into the curriculum to create more engaging and student-centered learning environments. Future research should explore the long-term effects of TAI and TEL on students' learning interest and academic performance, as well as investigate other

factors such as motivation and self-confidence in diverse educational settings.

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