

# Think Pair Share Strategy Supports Student Engagement in Islamic Education Lessons

*Sahrul Pajri*

Program Studi Pendidikan Agama Islam, Universitas Islam Negeri Raden Intan Lampung

*Sai'dy Sai'dy*

Program Studi Pendidikan Agama Islam, Universitas Islam Negeri Raden Intan Lampung

*Nurul Azizah*

Program Studi Pendidikan Agama Islam, Universitas Islam Negeri Raden Intan Lampung

*M. Indra Saputra*

Program Studi Pendidikan Agama Islam, Universitas Islam Negeri Raden Intan Lampung

*Agus Faisal Asyha*

Program Studi Pendidikan Agama Islam, Universitas Islam Negeri Raden Intan Lampung

**General Background:** Student engagement is critical in ensuring effective learning outcomes, particularly in cooperative learning settings. **Specific Background:** The Think Pair Share (TPS) strategy has been recognized for promoting active participation, especially in student-centered pedagogies. **Knowledge Gap:** However, limited empirical studies have explored the application of TPS within the context of Islamic Education (IE), which is often delivered through normative, didactic methods. **Aims:** This study investigates the effectiveness of the TPS strategy in enhancing students' learning activeness in IE classes at SMP Negeri 16 Bandar Lampung. **Results:** Employing a quasi-experimental design, the study found no statistically significant difference between the TPS and control groups in learning activeness (Sig. 2-tailed = 0.104, > 0.05). **Novelty:** The research highlights contextual limitations—including students' unfamiliarity with interactive models, the brief duration of the intervention, and the normative character of IE content—as possible inhibitors to TPS effectiveness. **Implications:** Although the TPS model did not yield statistically significant results in this case, it remains a valuable pedagogical tool for fostering collaboration and engagement. Future studies should consider prolonged implementation and strategic alignment between TPS elements and the characteristics of IE content to optimize impact.

## Highlights:

- TPS promotes collaboration but may not suit all subject contexts.
- Short intervention and lack of familiarity limit its impact.
- Alignment with content and extended use is recommended.

**Keywords:** Think Pair Share, Learning Activeness, Islamic Education, Cooperative Learning, Student Engagement

---

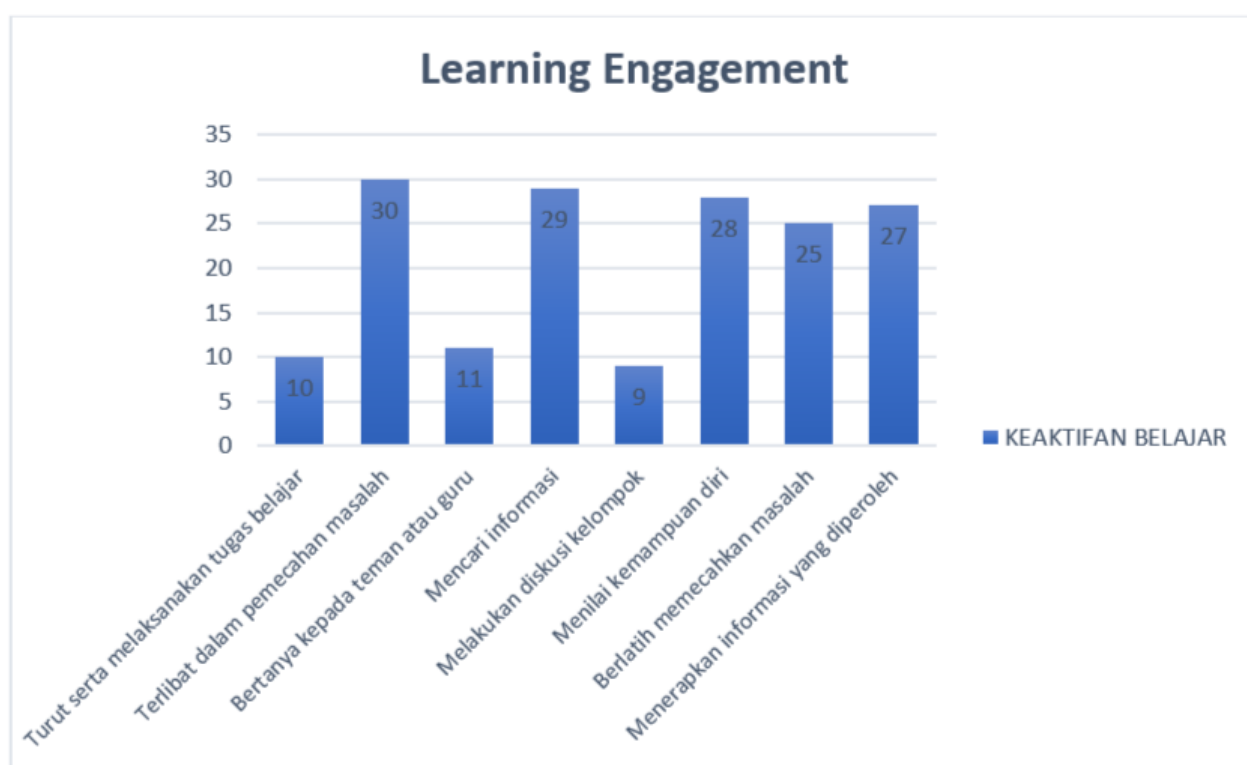
## Introduction

Education is a aware, deliberate, and systematic attempt aimed toward creating a studying method

and an environment that supports the development of an individual's bodily and spiritual ability [1]. Education is carried out in accordance with cultural and societal values [2]. and passed down sustainably through education to shape generations with competence, knowledge, and good character [3]. To achieve quality and relevant education in learning, a holistic and innovative approach is required [4]. Active learning must be implemented to encourage students' engagement in the learning process [5].

Learning refers to the process of delivering lessons to students by applying educational principles or learning theories as the main determinant of success [6]. In addition, the learning process [7]. Learning is also the provision of conditions that facilitate the learning process within students [8]. Learning is a planned and systematic process that involves the stages of planning, implementation, and evaluation [9]. This process aims to help students learn effectively through various teaching methods that motivate them [10]. Learning is conducted by applying educational principles or learning theories as the main foundation to achieve success in developing students' potential [11].

Student involvement in their own learning, both inside and outside the classroom, is known as "active learning." [12]. Learning activeness is also defined as the students' ability to construct their own knowledge [13]. How engaged students are as learners is an indication of their level of learning activity. [14]. such as being enthusiastic, asking questions, answering questions, and expressing opinions in front of the class [15]. This activeness includes physical and mental involvement such as asking questions, answering, discussing, and completing tasks [16]. Learning engagement is very important because it greatly affects students' learning outcomes. Low engagement often becomes an obstacle in achieving learning objectives [17].



**Figure 1.** Description of the Questionnaire Results on Student Engagement in Islamic Education

Based on Figure 1, it is evident that the indicators of participating in learning tasks, asking questions to peers or teachers, and engaging in group discussions have low scores. This explains

the still low level of student activity in learning. This may be a contributing factor to the students' low learning engagement. Initial observations and a series of interviews indicate an urgent need to adopt a learning model that can significantly enhance learning activity, particularly in improving students' engagement in Islamic Religious Education (PAI).

One of the getting to know models taken into consideration effective is assume Pair proportion (TPS)[18]. TPS consists of three principal levels: suppose, Pair, and proportion. assume: students are given time to suppose independently. Pair: students talk with a companion to share thoughts. share: the pairs gift the results in their discussion to the complete class.[19]. assume Pair percentage is a mastering version wherein students now not handiest assume independently but additionally collaborate with their friends to trade ideas [20]. in this manner, students will locate it simpler to apprehend the material [21]. The TPS (assume Pair share) version may be implemented throughout diverse subjects, with educators designing questions or obligations that encourage reflective questioning and collaboration [22]. By means of using the think-Pair-percentage cooperative getting to know version, students can engage greater actively in interactions, build wonderful social relationships at some stage in the teaching and gaining knowledge of process, and boom their participation in magnificence discussions [23].

This model encourages active student engagement, fosters critical thinking, communication, and collaboration skills [24]. Students will exchange ideas with each other, thereby training their thinking process. [25] This model can also create a more interactive learning environment and enhance student engagement [26]. By giving students the opportunity to speak and listen to others' opinions, they become more engaged and actively participate [27]. This learning process trains students to confidently express their opinions and to respect the opinions of their peers [28]. Improving students' critical thinking skills and simplifying their information and communication management are two of the aims of this strategy in the classroom [29]. Through active student participation in debate and presentation, TPS fosters a collaborative and engaging learning environment. [30]. This model introduces the concept of thinking time, which helps students respond more quickly to learning questions [31].

In its implementation in Islamic Religious Education (PAI), the TPS model is considered capable of overcoming the previously low student participation barriers [32]. The teacher can ask challenging questions, provide sufficient time at each stage, and facilitate discussions so that students feel comfortable expressing their opinions [33]. TPS also provides students with opportunities to develop self-confidence and the ability to express their ideas in public [34].

There are several research findings that have been conducted by several expert researchers, including Septi Fitri Meilana [35], Veni Ramadhani Kamil [36], Berty Sadipun [37], This exhibits the capacity of the think Pair share studying version and pupil mastering activeness. despite the fact that many researchers have examined the assume Pair proportion mastering module inside the context of schooling and pupil gaining knowledge of activeness at some point of training, there are nonetheless barriers within the studies performed with the aid of Septi Fitri Meilana, Veni Ramadhani Kamil, and Berty Sadipun. Many existing studies rely solely on data collection techniques such as questionnaires and documentation, while others use questionnaire validation, observation, and interviews. Additionally, there is a lack of media utilization and variation in learning models. Some studies focus more on general aspects of learning motivation, which can influence student learning activeness; however, few have explored how efficaciously the assume Pair percentage mastering version affects pupil activeness in Islamic non secular education (IE) learning. The following is the research gap table

| No | Previous Researchers | Research Focus                                      | Limitations of Research                                             | Research Gap                                                           |
|----|----------------------|-----------------------------------------------------|---------------------------------------------------------------------|------------------------------------------------------------------------|
| 1  | Septi Fitri Meilana  | The influence of the TPS model on learning activity | Used limited instruments (questionnaires and documentation); lacked | Did not combine qualitative methods (interviews, observations) to gain |

|   |                      |                                            | in-depth exploration                                                                                           | deeper insights                                                                                     |
|---|----------------------|--------------------------------------------|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 2 | Veni Ramadhani Kamil | TPS implementation in general learning     | Not focused on Islamic Education (IE); lacked variation in media or discussion formats                         | Has not specifically studied the effectiveness of TPS in the context of Islamic Religious Education |
| 3 | Berty Sadipun        | Student activity in the TPS learning model | Focused on general learning motivation; did not examine physical and mental student engagement comprehensively | Has not thoroughly studied student engagement aspects (physical, mental, emotional) in IE learning  |

**Table 1.** *Research Gap*

The paper also notes that there has been no study on how well the TPS model works with pupils in Islamic Education (IE). [38]. Several previous studies tend to use uniform data collection methods, such as questionnaires and documentation, without further exploration through interviews or in-depth observations [39]. Consequently, this observe combines several facts series techniques together with commentary, questionnaires, interviews, and documentation to acquire a extra complete overview [40].

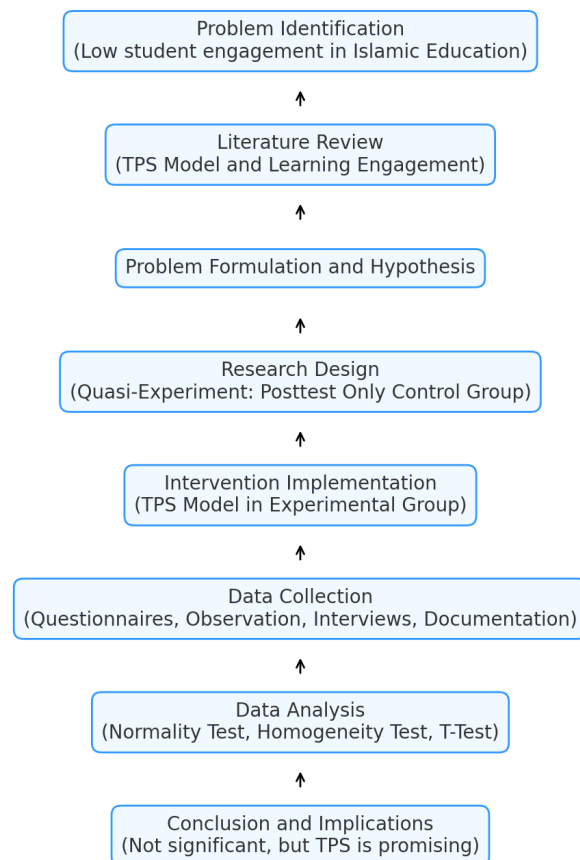
Furthermore, the implementation of variations in TPS is expected to enhance students' learning interes [41]. For example, by incorporating engaging learning media or modifying the discussion format to make it more dynamic [42]. these steps aim to make sure that scholars sense greater emotionally and intellectually engaged in the studying technique [43].

The reason of this take a look at is to observe how the TPS model can enhance college students' learning engagement inside the problem of Islamic spiritual education [44]. it's miles was hoping that teachers can achieve practical guidance in enforcing mastering strategies that healthy the needs of nowadays's students [45].

This take a look at is critical because scholar engagement in studying not only impacts instructional achievement but also shapes twenty first-century abilities such as critical questioning, powerful communicate, and teamwork [46]. A lack of research on the TPS model's effectiveness with Islamic Education (IE) pupils is also emphasized in the paper. [47].

This study was motivated by several gaps identified in previous research on the implementation of the Think Pair Share (TPS) learning model. Although widely applied across various subjects, the use of TPS in the context of Islamic Education (IE) has rarely been explored in depth. Most prior studies have relied on uniform data collection techniques such as questionnaires or documentation, without integrating observations or interviews that could provide a more comprehensive view of student engagement. Furthermore, there has been limited investigation into contextual barriers such as the short duration of interventions, students' inexperience with interactive learning, and the normative nature of IE content—which are significant limitations in earlier research. This study introduces novelty by focusing specifically on the application of TPS in IE at the junior high school level and by employing a mixed-methods approach that integrates questionnaires, observations, interviews, and documentation. It also presents a critical analysis of contextual factors affecting TPS effectiveness while offering practical, actionable recommendations for IE teachers. Thus, this research not only broadens the academic discourse surrounding the TPS model but also contributes practically to the development of adaptive learning strategies aligned with 21st-century educational needs. The following is a research flowchart that illustrates the steps of this study

### Research Flowchart



**Figure 2. Research Flowchart**

## Method

The research here mimics an experiment by using a posttest-most effective manage group design in conjunction with a quantitative approach. The researcher chose for this setup so that she could compare the two groups' posttest scores: the experimental elegance that became treated with the TPS model and the control class that received traditional learning. Because of this, we can test the hypothesis that the assume-pair-share paradigm improves students' study habits without bias. As a first step in the learning process, the instructor poses a question or problem for the students to address. The question is designed to be open-ended and contextual to stimulate students' critical thinking about the lesson material. Afterward, students are given 2 to 5 minutes to think individually, depending on the complexity level of the problem presented.

The next stage involves students pairing up, either with their seatmates or with partners previously assigned by the teacher. In this session, students discuss their individual thoughts and strive to complement or strengthen each other's opinions. The Think-Pair-Share paradigm, which promotes student idea exchange and the development of mutual understanding, revolves around this stage. After the paired discussions are completed, each pair then shares the results of their discussion with other groups or presents them in front of the class. The teacher facilitates the discussion

process, reinforces students' ideas, and provides clarification on any inaccurate information. This stage helps create an active and collaborative learning environment.

Researchers keep track of students' participation in class as they use the TPS syntax to make observations about their learning. Achieving academic success requires students to take initiative in problem-solving, demonstrate strong communication skills with both teachers and peers, conduct independent research to expand their knowledge, contribute thoughtfully to class discussions, evaluate and improve their own learning, practice assignments regularly, and apply courses to real-world situations. Various degrees of mental and physical activity among students indicate their level of involvement at different points in the learning process. With this approach, the instructor takes on more of a facilitative role, leading the students in a series of discussions meant to drive home the course material.

Using a questionnaire with a five-factor Likert scale—Super Strongly Disagree (SD), Disagree (D), Neutral (N), Agree (A), and Strongly Agree (SA)—the researcher made sure that the studying hobby variable could be assessed extensively and that the facts were of excellent quality. We revised each and every survey item based on Sudjana's eight essential indicators of interest in learning. From the 28-statement device, eleven valid items were produced after reliability testing using Cronbach's Alpha and validity testing with the Pearson Product Moment Correlation approach. This yielded a reliability rate of 0.615. With this price tag, we know the questionnaire is reliable enough to utilize it as a size device for our research. After the TPS model was introduced, the main data used to measure the students' study habits progress were the results of the questionnaire.

Extensive examination has now been conducted on the collected data. Before jumping into parametric analysis, the data was subjected to a battery of preliminary statistical tests, such as a Liliefors normality check and a Bartlett's homogeneity test. Once all of those conditions were satisfied, the shared mastery engagement between the experimental elegance and the manipulation class was investigated using a two-tailed t-test. decisions were made based on the results of the research that wanted to find out whether the traditional model and the think-pair-share model were significantly different in how many students were involved with the material. The researcher hopes to get useful and applicable information regarding the TPS mastery approach's efficacy in boosting student engagement by adhering to these stages.

## Results and Discussion

### A. Results

The statistics have been analyzed to decide the final circumstance of the experimental and manage instructions after the remedy changed into administered, so as to see whether or not the effects received met the expectations. The evaluation changed into primarily based on the publish-check scores of both companies after the remedy. The information used on this evaluation have been put up-treatment records, with the analysis steps along with assessments for normality, homogeneity, and t-take a look at.

#### 1.Uji normalitas

Checking if a dataset is representative of a normally distributed population is the job of a normalcy test. [48]. and follows a pattern similar to that of a normal distribution [49]. It is the Shapiro-Wilk test that is used here.

| Tests of Normality |          |                      |    |       |              |    |       |
|--------------------|----------|----------------------|----|-------|--------------|----|-------|
|                    | Kelompok | Kolmogorov-Smirnov a |    |       | Shapiro-Wilk |    |       |
|                    |          | Statistic            | df | Sig.  | Statistic    | df | Sig.  |
| Data               | 1        | 0.147                | 24 | 0.191 | 0.891        | 24 | 0.014 |
|                    |          |                      |    |       |              |    |       |

|                                       |   |       |    |       |       |    |       |
|---------------------------------------|---|-------|----|-------|-------|----|-------|
|                                       | 2 | 0.164 | 26 | 0.069 | 0.920 | 26 | 0.046 |
| a. Lilliefors Significance Correction |   |       |    |       |       |    |       |

**Table 2.** An explanation of the typical investigation of the results of the Islamic education mastering activities of eighth graders at SMP Negeri 16 in Bandar Lampung.

Results showed that a significant value (Sig.) of 0.014 for data group 1 and 0.046 for data group 2 were derived from the tests. Since neither value is more than 0.05, we may conclude that neither set of data follows a normal distribution. The researcher used the Mann-Whitney U test to check for normality as the data did not follow a normal distribution.

In Bologna's SMP Negeri 16 eighth graders' interest in Islamic Religious Education (PAI) is described in Table 2 of the following Mann-Whitney U test results.

| Test Statistics             |                       |
|-----------------------------|-----------------------|
|                             | Aktifitas Belajar PAI |
| Mann-Whitney U              | 106.000               |
| Wilcoxon W                  | 457.000               |
| Z                           | -4.673                |
| Asymp. Sig. (2-tailed)      | < 0.001               |
| a. Grouping Variable: Kelas |                       |

**Table 3.** Details of the eighth graders' IE learning activities as assessed by a homogeneity test at SMP Negeri 16 in Bandar Lampung.

The Asymp. Sig. (2-tailed) value is less than 0.001, which is not equivalent to zero, according to Table 2. It follows that the published-check data is shared often, as indicated in point 05. Make sure there is continuity.

To find out if different study populations have the same variance, statisticians apply the homogeneity test [50]. To use parametric statistical tests like the T-test, it is necessary to check if the data satisfies the criteria of this test [51]. A variance test was used to determine if this study was homogeneous.

| Tests of Homogeneity of Variances |                                      |                  |     |        |       |
|-----------------------------------|--------------------------------------|------------------|-----|--------|-------|
|                                   |                                      | Levene Statistic | df1 | df2    | Sig.  |
| Data                              | Based on Mean                        | 4.249            | 1   | 48     | 0.045 |
|                                   | Based on Median                      | 3.154            | 1   | 48     | 0.082 |
|                                   | Based on Median and with adjusted df | 3.154            | 1   | 45.840 | 0.082 |
|                                   | Based on trimmed mean                | 4.274            | 1   | 48     | 0.044 |

**Table 4.**

There is a variation in variance between the groups, as the significance values derived from the mean and trimmed mean are more than 0.05, suggesting that the data are not homogenous. This indicates that the mean-based method does not meet the premise of homogeneity.

It may be inferred that the variation between groups is homogeneous when both strategies are applied, since both the median technique and the median strategy with modified degrees of freedom reached a significant value higher than 0.05, namely 0.082.

Therefore, the final decision depends on the approach used; however, in general, the results indicate that the data are not entirely homogeneous, thus necessitating consideration of non-

parametric tests or further adjustments in the analysis

## 2. T-Test

To find out whether there was a change in the samples' ultimate ability following treatment, the researchers employed an independent sample t-test in this investigation. [52]. Here is how the testing is conducted. The author tests the hypothesis using the test formula that incorporates pooled variance.

Results of a t-test on eighth graders' participation in Islamic education (PAI) at SMP Negeri 16 in Bandar Lampung are detailed in Table 4.

| Independent Samples Test |                             |                                         |      |        |        |                 |                              |                       |                                           |       |
|--------------------------|-----------------------------|-----------------------------------------|------|--------|--------|-----------------|------------------------------|-----------------------|-------------------------------------------|-------|
|                          |                             | Levene's Test for Equality of Variances |      |        |        |                 | t-test for Equality of Means |                       | 95% Confidence Interval of the Difference |       |
|                          |                             | F                                       | Sig. | t      | df     | Sig. (2-tailed) | Mean Difference              | Std. Error Difference | Lower                                     | Upper |
| Data                     | Equal variances assumed     | 4.249                                   | .045 | -1.639 | 48     | .108            | -1.4551                      | .8879                 | -3.204                                    | .3302 |
|                          | Equal variances not assumed |                                         |      | -1.659 | 45.697 | .104            | -1.4551                      | .8770                 | -3.2208                                   | .3105 |

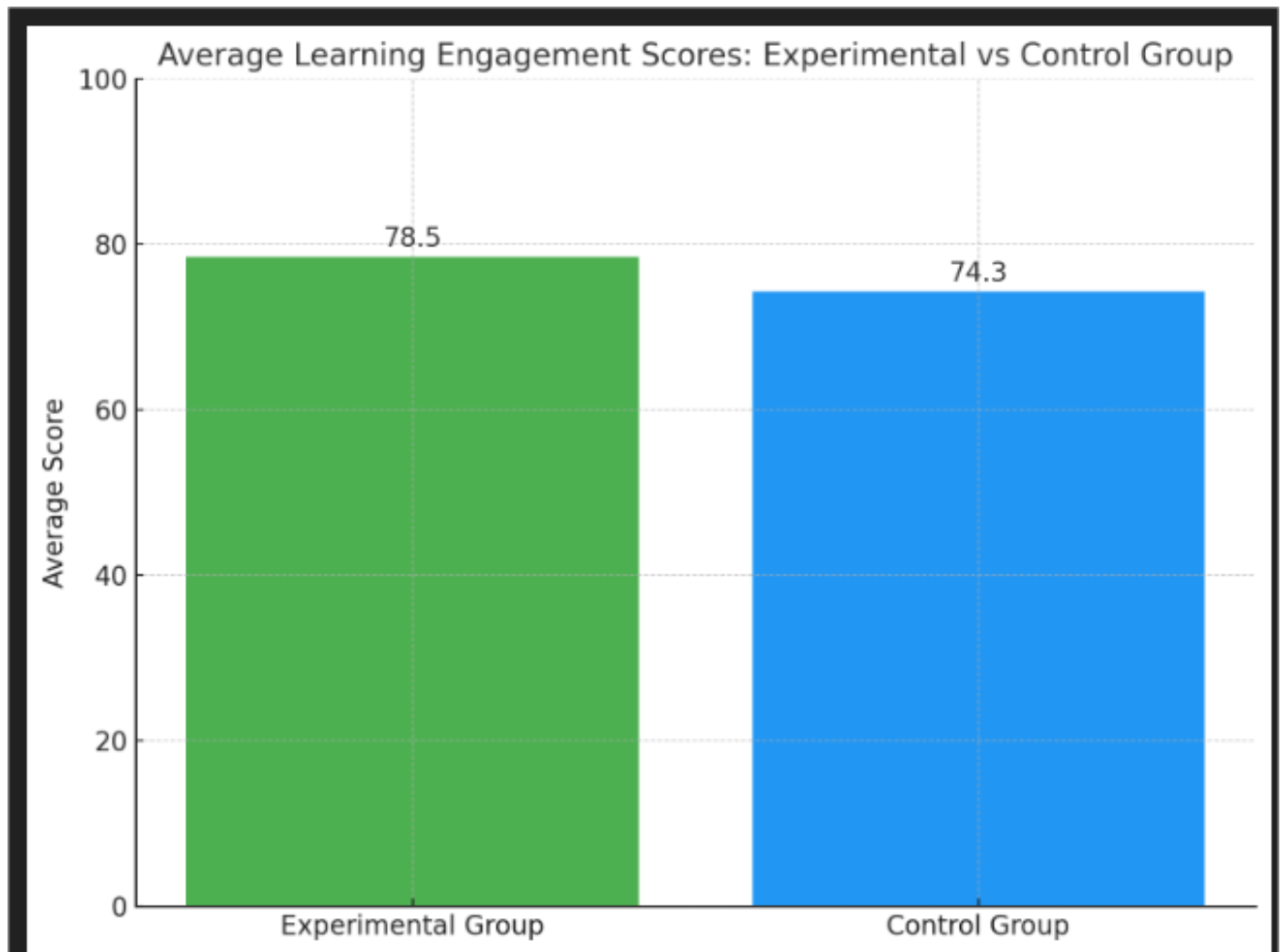
**Table 5.** Independent Samples t-Test Results on Islamic Education Learning Activity between Two Different Classes

Sig. is 0.045, which is less than 0.05, according to the T-test findings. To sum up, we may say that the two sets of data do not have identical variances. Based on the row 'Equal variances not assumed,' the t-test results are interpreted accordingly.

Results from the t-test showed a significance level (Sig. 2-tailed) of 0.104, significantly higher than the threshold of 0.05. There was no statistically significant difference between the two groups in terms of their ultimate competence after receiving medication.

## B. Discussion





**Figure 3.** Comparison of Average Learning Engagement Scores between the Experimental and Control Groups

The bar chart above illustrates the comparison of average learning engagement scores between the experimental group, which used the Think Pair Share (TPS) learning model, and the control group, which applied conventional teaching methods. The experimental group achieved an average score of 78.5. The control group achieved an average score of 74.3. Although statistical testing showed no significant difference (Sig. 2-tailed = 0.104 > 0.05), a descriptive difference in average scores is still observable. The experimental group demonstrated a higher tendency toward increased learning engagement compared to the control group. This may indicate that the TPS model has positive potential in enhancing student participation, even though it was not statistically significant in this study [52].

This study's findings cast doubt on the efficacy of the Think Pair Percentage (TPS) paradigm in fostering more engaged learning among students. There was no statistically significant difference between the two groups on the examination, despite the technique's reputation for improving student involvement in theory. So, more than ever before, we need to objectively find out why these studies haven't made a big splash. The main reasonable explanation may be found in the learning characteristics of the college students, specifically their lack of experience with interactive learning methods. According to the TPS approach, students should take the initiative, talk to their classmates, and share their ideas in front of a teacher [53]. Learners may find it challenging to adapt quickly in a classroom that has traditionally relied heavily on lectures. The model's core phases may also fail to produce the desired results in terms of increased student involvement if

students lack confidence when expressing their thoughts or while participating in class discussions.

The second factor is related to the limited duration of the intervention. TPS requires a gradual process of habituation for both teachers and students before its benefits can be fully realized. A relatively short intervention period may not provide sufficient time for students to adjust to the new learning routine [54]. Behavioral changes such as increased classroom activeness typically emerge over time, making it difficult to observe significant results within a brief implementation phase. A third possible factor pertains to the nature of the Islamic Education (IE) subject itself. PAI materials are often normative and may not naturally stimulate open classroom dialogue, especially when the delivery is not contextualized or reflective. If TPS is applied without adjusting to the specific characteristics of the subject or without aligning with students' real-life contexts, opportunities for meaningful discussion may be limited. As a result, students might feel uncertain about how to participate effectively in peer-sharing activities [55].

These three factors students' learning habits, the intervention timeframe, and the nature of the subject matter—are closely interconnected. Students who are unfamiliar with collaborative learning may require more time to engage fully, while the subject content must also be structured to support meaningful interaction. If these elements do not align cohesively, the TPS model's full potential may not manifest in classroom practice. It is important to emphasize that these factors do not suggest TPS is inherently ineffective; rather, they reflect the specific contextual limitations that may have influenced student responses in this study. Learning activeness is shaped by a complex interplay of instructional strategies, student readiness, and curricular content. Thus, the absence of a significant result may be more indicative of contextual constraints than a failure of the method itself.

Additionally, the measurement instrument used in this study a questionnaire although valid and reliable, may have limitations in capturing the full dynamics of student activity. Non-verbal engagement or subtle improvements in attentiveness and participation may not be fully reflected in quantitative data alone, especially if students are still in the early stages of behavioral change. Taking all of this into account, it seems that the discrepancy between the TPS model's capabilities and the current state of contextual preparedness is the most probable cause of the non-significant outcome. Time management, student readiness, and the communicative structure of the course materials should all be considered while developing instructional interventions. To sum up, even if the TPS model fails to demonstrate a statistically significant effect in this study, it does offer useful information on the need for coordinating learning tactics with the classroom setting. The TPS model is still an intriguing approach that deserves more investigation since it improves students' time management, helps them build social interaction skills, and adapts content to their specific setting [56].

## **Conclusion**

Although the implementation of the Think Pair Share (TPS) learning model in Islamic Religious Education (PAI) did not yield statistically significant differences in student learning engagement, the findings still offer important implications for IE teachers. TPS has the potential to foster a more participatory, collaborative, and interactive learning environment. Therefore, IE teachers are encouraged to continue exploring TPS with appropriate contextual adjustments, such as extending the implementation duration, allowing sufficient adaptation time, and linking lesson content to students' real-life experiences. Future strategies may include the use of engaging learning media, variations in group discussion formats, and reinforcement of collaborative learning habits. These approaches are expected to gradually and sustainably enhance students' learning engagement while also supporting the development of 21st-century competencies such as critical thinking, communication, and teamwork.

## **Acknowledgement**

Thank you from the bottom of the author's heart to everyone who helped with the research and writing of this essay. The supervising instructors deserve special recognition for all the help they've given us with our work and the insightful criticism we've received. Colleagues who helped with research and data collecting are also thanked by the author. Also, our sincerest gratitude to everyone who took the time to fill out the survey. The author really hopes that this work will have a significant impact on the field of education.

## References

1. [1] R. Assa, E. J. R. Kawung, and J. Lumintang, "Faktor Penyebab Anak Putus Sekolah Di Desa Sonuo Kecamatan Bolangitang Barat Kabupaten Bolaang Mongondow Utara," *J. Ilm. Soc.*, vol. 2, no. 1, 2022.
2. [2] S. Soelistijanto, E. H. Widiastuti, N. Nuryanti, and S. Slamet, "Arti Penting Pendidikan Formal Bagi Santri Di Pondok Pesantren Riyadus Al-Islamy Gunung Pati Kota Semarang," *Manggali*, vol. 3, no. 1, pp. 33-?, Jan. 2023, doi:10.31331/manggali.v3i1.2382.
3. [3] I. Purwaningsih, L. Hernawati, R. Wardarita, and P. I. Utami, "Pendidikan Sebagai Suatu Sistem," *J. Educ. Hum. Dev.*, vol. Unknown, no. Unknown, 2022.
4. [4] I. Ali, "Pembelajaran Kooperatif (Cooperative Learning) Dalam Pengajaran Pendidikan Agama Islam," *J. Educ. Teach.*, vol. 7, no. 1, 2021.
5. [5] D. Ritonga and S. Napitupulu, "Implementasi Metode Pembelajaran Aktif Dalam Meningkatkan Keterampilan Berpikir Kritis Siswa Sekolah Dasar," *Education and Learning*, vol. 4, no. 1, pp. 38-45, Mar. 2024, doi:10.57251/el.v4i1.1292.
6. [6] N. P. Mtd, M. I. Butarbutar, S. A. B. Sinulingga, J. R. Marpaung, and R. M. Harahap, "Pentingnya Evaluasi Dalam Pembelajaran Dan Akibat Memanipulasinya," *Dewantara J. Pendidik. Sos. Hum.*, vol. 2, no. 1, pp. 249-261, Mar. 2023, doi:10.30640/dewantara.v2i1.722.
7. [7] A. P. Wulandari, A. A. Salsabila, K. Cahyani, T. S. Nurazizah, and Z. Ulfiah, "Pentingnya Media Pembelajaran Dalam Proses Belajar Mengajar," *Journal of Education*, vol. 5, no. 2, pp. 3928-3936, Jan. 2023, doi:10.31004/joe.v5i2.1074.
8. [8] A. Nur Budiono and M. Hatip, "Asesmen Pembelajaran Pada Kurikulum Merdeka," *Axioma J. Math. Learn.*, vol. 8, no. 1, pp. 109-123, Apr. 2023, doi:10.56013/axi.v8i1.2044.
9. [9] H. Faizah and R. Kamal, "Belajar dan Pembelajaran," *J. Basic Educ.*, vol. 8, no. 1, pp. 466-476, Feb. 2024, doi:10.31004/basicedu.v8i1.6735.
10. [10] B. Oktaviani and R. N. Rambe, "Analisis Penerapan Model Pembelajaran Gerlach dan Ely dalam Pembelajaran Bahasa Indonesia di Sekolah Dasar," *Edu Cendikia J. Ilm. Kependidikan*, vol. 4, no. 3, pp. 1664-1675, Feb. 2025, doi:10.47709/educendikia.v4i03.5393.
11. [11] A. P. Wulandari, A. A. Salsabila, K. Cahyani, T. S. Nurazizah, and Z. Ulfiah, "Pentingnya Media Pembelajaran Dalam Proses Belajar Mengajar," *Journal of Education*, vol. 5, no. 2, pp. 3928-3936, Jan. 2023, doi:10.31004/joe.v5i2.1074.
12. [12] J. S. A. Abri, "Think-Pair-Share: An Active Learning Strategy to Enhance EFL Learners' Oral Communication Skills," *World Journal of English Language*, vol. 15, no. 3, pp. 165-181, 2025, doi:10.5430/wjel.v15n3p165.
13. [13] Y. Lahagu and W. A. Telaumbanua, "Penerapan Model Pembelajaran Active Learning Terhadap Hasil Belajar Siswa Di SMP Negeri 2 Namohalu Esiwa Tahun Pelajaran 2022/2023," *J. Educ. Konseling (JPDK)*, vol. 5, no. 4, pp. 618-627, Aug. 2023, doi:10.31004/jpdk.v5i4.18017.
14. [14] S. Yani and E. A. Febriani, "Penerapan Model TGT (Teams Games Tournament) Berbantu Kahoot Dalam Meningkatkan Keaktifan Belajar Peserta Didik pada Mata Pelajaran Sosiologi Kelas XI IPS 3 SMA Adabiah 2 Padang," *Naradidik J. Educ. Pedagogy*, vol. 3, no. 1, pp. 95-106, Feb. 2024, doi:10.24036/nara.v3i1.187.
15. [15] A. Agustina, S. Sugilar, and S. Ramdhani, "Pengaruh Pembelajaran MIKiR Terhadap Kemampuan Berpikir Kritis Matematis dan Keaktifan Belajar Peserta Didik," *Pythagoras J. Math. Educ.*, vol. 13, no. 1, pp. 10-19, May 2024, doi:10.33373/pyth.v13i1.5514.

16. [16] G. Asbjörnsson, "Improving Students' Engagement With Active Learning in Engineering Optimisation Lectures," *Proc. Int. CDIO Conf.*, pp. 536–546, 2021.
17. [17] K. C. Chilukuri, "A Novel Framework for Active Learning in Engineering Education Mapped to Course Outcomes," *Procedia Comput. Sci.*, vol. 172, pp. 28–33, 2020, doi:10.1016/j.procs.2020.05.004.
18. [18] K. A. Daulay, A. H. Nasution, and M. Sihotang, "Peningkatan Keaktifan Belajar Menggunakan Metode Think Pair Share Dalam Pelajaran Sejarah di SMAN 3 Medan," *Alacrity J. Educ.*, vol. 4, no. 1, pp. 141–154, May 2024, doi:10.52121/alacrity.v4i1.251.
19. [19] M. Akhtar, "Effect of Think-Pair-Share and Choral Response Assessment Methods on Academic Achievement of Prospective Science Teachers," *J. Turk. Sci. Educ.*, vol. 21, no. 3, pp. 549–565, 2024, doi:10.36681/tused.2024.029.
20. [20] R. W. Wardana, L. A. Riswari, and L. Kironoratri, "Peningkatan Hasil Belajar Siswa Dengan Model Think Pair Share (TPS) Berbantuan Mystery Pics," *Wasis J. Ilm. Pendidik.*, vol. 4, no. 1, pp. 20–24, May 2023, doi:10.24176/wasis.v4i1.9660.
21. [21] U. Muti'ah, S. Supriadi, A. Arifmiboy, and D. Ilmi, "Pengaruh Penerapan Model Pembelajaran Kooperatif Tipe Think Pair Share (TPS) Terhadap Hasil Belajar Fikih Kelas X Mam Tamiang Ujung Gading," *Dewantara J. Pendidik. Sos. Hum.*, vol. 2, no. 1, pp. 1–15, Jan. 2023, doi:10.30640/dewantara.v2i1.607.
22. [22] M. Tampi, D. Irawan, and A. Azizahwati, "Penerapan Model Pembelajaran Think Pair Share Dengan Teknik Index Card Match Untuk Meningkatkan Hasil Belajar Kognitif Peserta Didik SMP Pada Materi Pengukuran," *Silampari J. Pendidik. Ilmu Fis.*, vol. 5, no. 2, pp. 134–147, Dec. 2023, doi:10.31540/sjpif.v5i2.2159.
23. [23] R. Ilham, M. Mufarizuddin, and J. Joni, "Peningkatan Keterampilan Membaca Pemahaman Dengan Penerapan Model Kooperatif Think Pair Share di Sekolah Dasar," *Al-Madrasah J. Pendidik. Madrasah Ibtidaiyah*, vol. 7, no. 1, p. 139, Jan. 2023, doi:10.35931/am.v7i1.1480.
24. [24] A. S. A. Al-Sahi, "The Effectiveness of Think-Pair-Share Strategy on EFL Omani Learners' Vocabulary Achievement and Insights," *World Journal of English Language*, vol. 15, no. 2, pp. 139–146, 2025, doi:10.5430/wjel.v15n2p139.
25. [25] S. A. S. Dalimunthe, M. Mulyono, and E. Syahputra, "Pengembangan Model Pembelajaran Interaktif Berbasis Think Pair Share untuk Meningkatkan Kemampuan Komunikasi Matematis Siswa," *J. Cendekia J. Pendidik. Math.*, vol. 6, no. 1, pp. 735–747, Feb. 2022, doi:10.31004/cendekia.v6i1.1229.
26. [26] M.-M. Li and C.-C. Tu, "Developing a Project-Based Learning Course Model Combined With the Think-Pair-Share Strategy to Enhance Creative Thinking Skills in Education Students," *Educ. Sci.*, vol. 14, no. 3, p. 233, Feb. 2024, doi:10.3390/educsci14030233.
27. [27] A. Afrida, F. Nwanya, and F. M. Omar, "Think Pair Share Type Cooperative Learning to Improve Chemistry Learning Outcomes on Atomic Structure Material," *Indones. J. Educ. Res.*, vol. 5, no. 3, p. 92–99, Jun. 2024, doi:10.37251/ijoer.v5i3.991.
28. [28] N. Jannah, N. M., and A. M. Firdaus, "Pengaruh Penerapan Metode Think-Pair-Share Terhadap Hasil Belajar Siswa Pada Mata Pelajaran Pendidikan Agama Islam Kelas VIII SMP Negeri 1 Barombong," *J. Pendidik. dan Pembelajaran*, vol. 3, no. 1, pp. 8–20, Jun. 2023, doi:10.62388/jpdp.v3i1.250.
29. [29] R. N. Siregar, D. Suryadi, and S. Prabawanto, "Improving Mathematical Problem-Solving Abilities Through Think Pair Share Learning Using Autograph," *KnE Soc. Sci.*, Apr. 2024, doi:10.18502/kss.v9i8.15583.
30. [30] M. Ali, "The Evaluation of the Problem-Based Approach With Think-Pair-Share Method for Teaching in Electronics Engineering Technology Program," *Proc. Front. Educ. Conf. (FIE)*, 2023, doi:10.1109/FIE58773.2023.10343044.
31. [31] D. R. Munir, J. Malia, S. A. Septiyani, Y. Yulianawati, and L. Undari, "Peningkatan Hasil Belajar Melalui Kepercayaan Diri Siswa Menggunakan Metode Think Pair Share," *PTK J. Tindakan Kelas*, vol. 4, no. 1, pp. 169–177, Nov. 2023, doi:10.53624/ptk.v4i1.303.
32. [32] A. K. Manda, "The Role of the 'Think-Pair-Share' Active Learning Strategy in Influencing Content Knowledge and Self-Confidence of Undergraduate Students in a Large Enrollment Geoscience Course," *J. Geosci. Educ.*, 2024,

doi:10.1080/10899995.2024.2419308.

33. [33] D. Wong, "Active Learning in Osteopathic Education: Evaluation of Think-Pair-Share in an Undergraduate Pathology Unit," *Int. J. Osteopath. Med.*, vol. 43, pp. 63–70, 2022, doi:10.1016/j.ijosm.2021.12.001.
34. [34] S. Nuraini, "Upaya Meningkatkan Keaktifan dan Hasil Belajar IPA Materi Bioteknologi dan Produksi Pangan Melalui Penerapan Model Pembelajaran Kooperatif Tipe Think Pair Share pada Siswa Kelas IX-8 MTsN 2 Kota Bima Tahun 2020/2021," *Lambda J. Educ. Sci. Appl. Math.*, vol. 2, no. 1, pp. 27–38, Oct. 2022, doi:10.58218/lambda.v2i1.300.
35. [35] D. A. Putri and T. Taufina, "Meningkatkan Keaktifan Belajar Siswa Melalui Model Make a Match di Sekolah Dasar," *J. Basic Educ.*, vol. 4, no. 3, pp. 610–616, May 2020, doi:10.31004/basicedu.v4i3.403.
36. [36] L. M. Saragih, D. S. Tanjung, and D. Anzelina, "Pengaruh Model Pembelajaran Open-Ended Terhadap Hasil Belajar Siswa Pada Pembelajaran Tematik," *J. Basic Educ.*, vol. 5, no. 4, pp. 2644–2652, Aug. 2021, doi:10.31004/basicedu.v5i4.1250.
37. [37] B. Sadipun, "Penerapan Model Pembelajaran Kooperatif Tipe Think Pair Share Untuk Meningkatkan Prestasi Belajar IPS Siswa Kelas V SDI Ende 14," *Intel. J. Ilmu Pendidik.*, vol. 3, no. 1, pp. 11–16, Jun. 2020, doi:10.33366/ilg.v3i1.1461.
38. [38] B. Catania, "Collaborative Learning in an Introductory Database Course: A Study With Think-Pair-Share and Team Peer Review," in *Proc. 1st ACM SIGMOD Int. Workshop Data Syst. Educ. Bridging Educ. Pract. Educ. Res. (DataEd)*, 2022, pp. 60–66, doi:10.1145/3531072.3535330.
39. [39] I. M. Astra, "The Effects of Cooperative Learning Model Think Pair Share Assisted by Animation Media on Learning Outcomes of Physics in High School," *J. Phys. Conf. Ser.*, vol. 1521, no. 2, 2020, doi:10.1088/1742-6596/1521/2/022005.
40. [40] M. M. Dorodchi, "Scaffolding a Team-Based Active Learning Course to Engage Students: A Multidimensional Approach," in *ASEE Annu. Conf. Expo.*, 2020.
41. [41] D. M. Citrawathi, "The Effectiveness of the Think Pair Share Model Based on Questions to Improve Students' Participation and Students' Learning Outcomes About Histology Structure of Digestive System," *J. Phys. Conf. Ser.*, vol. 1503, no. 1, 2020, doi:10.1088/1742-6596/1503/1/012040.
42. [42] E. Misniar, E. Listiani, and A. Hidayat, "Penggunaan Teknik Think-Pair-Share untuk Meningkatkan Keaktifan Siswa dan Hasil Belajar Siswa pada Mata Pelajaran Ekonomi Akuntansi," *J. Pendidik. Vokasi Raflesia*, vol. 1, no. 2, pp. 32–37, Oct. 2021, doi:10.53494/jpvr.v1i2.97.
43. [43] M. Deore, "Effective Think-Pair-Share Pedagogical Strategy to Improve Inferential Statistics Concept Understanding," *J. Eng. Educ. Transform.*, vol. 36, pp. 25–32, 2022.
44. [44] A. Doyan, "The Effectiveness of Quantum Phenomenon Learning Media With Think Pair Share Model Implementation on Understanding Concept of Students," *J. Phys. Conf. Ser.*, vol. 1521, no. 2, 2020, doi:10.1088/1742-6596/1521/2/022037.
45. [45] N. Asrika, E. Harini, and D. Agustito, "Peningkatan Keaktifan dan Hasil Belajar Matematika Melalui Model Pembelajaran Think Pair Share Siswa SMP," *Union J. Ilm. Pendidik. Math.*, vol. 8, no. 2, pp. 185–192, Jul. 2020, doi:10.30738/union.v8i2.7958.
46. [46] S. Ganatra, "Perceived Effectiveness and Applicability of Think-Pair-Share Including Storytelling (TPS-S) to Enhance Clinical Learning," *Teach. Learn. Med.*, vol. 33, no. 2, pp. 184–195, 2021, doi:10.1080/10401334.2020.1811094.
47. [47] K. Anuar, Y. Yupiter, and A. P. S., "Penerapan Model Pembelajaran Kooperatif Think Pair Share Untuk Meningkatkan Kemampuan Berpikir Kritis Mata Pelajaran Pendidikan Agama Islam," *Anthor Educ. Learn. J.*, vol. 2, no. 1, pp. 47–52, Jan. 2023, doi:10.31004/anthor.v2i1.88.
48. [48] A. Agustian, K. Lisdiana, A. Suryana, and M. Nursalman, "Analisis Statistik Uji Normalitas dan Homogenitas Data Nilai Mata Pelajaran Dengan Menggunakan Python," *Al-Ibanah*, vol. 10, no. 1, pp. 51–56, Jan. 2025, doi:10.54801/b2726673.
49. [49] R. P. Sonjaya, F. R. Aliyya, and S. Naufal, "Pengujian Prasyarat Analisis Data Nilai Kelas: Uji Normalitas dan Uji Homogenitas," *J. Educ. Stat.*, vol. 9, 2025.
50. [50] U. Usmadi, "Pengujian Persyaratan Analisis (Uji Homogenitas dan Uji Normalitas),"

Inovasi Pendidik., vol. 7, no. 1, Nov. 2020.

51. [51] A. P. Sari, S. Hasanah, and M. Nursalman, "Uji Normalitas dan Homogenitas Dalam Analisis Statistik," *J. Stat. Educ.*, vol. 8, 2024.
52. [52] A. D. Putri, A. Ahman, R. S. Hilmia, S. Almaliyah, and S. Permana, "Pengaplikasian Uji t Dalam Penelitian Eksperimen," *Lebesgue J. Ilm. Pendidik. Math. Stat.*, vol. 4, no. 3, pp. 1978–1987, Dec. 2023, doi:10.46306/lb.v4i3.527.
53. [53] A. Agustian, K. Lisdiana, A. Suryana, and M. Nursalman, "Analisis Statistik Uji Normalitas dan Homogenitas Data Nilai Mata Pelajaran Dengan Menggunakan Python," *Al-Ibanah*, vol. 10, no. 1, pp. 51–56, Jan. 2025, doi:10.54801/b2726673.
54. [54] R. W. Wardana, L. A. Riswari, and L. Kironoratri, "Peningkatan Hasil Belajar Siswa Dengan Model Think Pair Share (TPS) Berbantuan Mystery Pics," *Wasis J. Ilm. Pendidik.*, vol. 4, no. 1, pp. 20–24, May 2023, doi:10.24176/wasis.v4i1.9660.
55. [55] K. A. Daulay, A. H. Nasution, and M. Sihotang, "Peningkatan Keaktifan Belajar Menggunakan Metode Think Pair Share Dalam Pelajaran Sejarah Di SMAN 3 Medan," *Alacrity J. Educ.*, vol. 4, no. 1, pp. 141–154, May 2024, doi:10.52121/alacrity.v4i1.251.
56. [56] N. Jannah, N. M., and A. M. Firdaus, "Pengaruh Penerapan Metode Think-Pair-Share Terhadap Hasil Belajar Siswa Pada Mata Pelajaran Pendidikan Agama Islam Kelas VIII SMP Negeri 1 Barombong," *J. Pendidik. dan Pembelajaran*, vol. 3, no. 1, pp. 8–20, Jun. 2023, doi:10.62388/jpdp.v3i1.250.