



Integrating Technology into Islamic Religious Education: The Impact of a Nearpod-Based REACT Model on Students' Learning Outcomes

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Abstract

This study addresses the low learning outcomes of students in Islamic Religious Education and Character Education at SMP Negeri 1 Jati Agung, particularly in the development of Higher Order Thinking Skills (HOTS). Teacher-centered instructional practices have limited student engagement and hindered the optimal development of critical thinking skills. Therefore, this study aims to examine the effect of the Nearpod-based REACT learning model (Relating, Experiencing, Applying, Cooperating, and Transferring) on students' learning outcomes. This research employed a quantitative approach using a quasi-experimental method with a post-test-only control group design. Class VII B served as the control group and received expository instruction, while Class VII A served as the experimental group and was taught using the Nearpod-based REACT learning model. The research instrument was tested for validity, reliability, difficulty level, and discriminating power. Data were analyzed using normality, homogeneity, Mann-Whitney, and independent-samples t-tests. The findings revealed a significant difference between the two groups, with students in the experimental class achieving higher learning outcomes than those in the control class (Mann-Whitney Sig. = 0.014; t-

test Sig. = 0.039). These results indicate that integrating the REACT model with Nearpod creates a more contextual, interactive, and effective learning environment for fostering HOTS. The study contributes empirical evidence regarding the effectiveness of the Nearpod-based REACT model in Islamic Religious Education and Character Education. It is recommended that educators adopt this model as an innovative instructional alternative, while future studies should investigate its effectiveness across different educational levels, subject areas, and larger sample populations.

Keywords: REACT learning model, Nearpod, learning outcomes, Islamic Religious Education, junior high school

Penelitian ini membahas rendahnya hasil belajar peserta didik pada mata pelajaran Pendidikan Agama Islam dan Budi Pekerti di SMP Negeri 1 Jati Agung, khususnya dalam pengembangan keterampilan berpikir tingkat tinggi (Higher Order Thinking Skills/HOTS). Pembelajaran yang masih berpusat pada guru menyebabkan peserta didik kurang aktif dan belum optimal dalam mengembangkan kemampuan berpikir kritis. Penelitian ini bertujuan menganalisis pengaruh model pembelajaran REACT (Relating, Experiencing, Applying, Cooperating, dan Transferring) berbasis Nearpod terhadap hasil belajar peserta didik. Penelitian menggunakan pendekatan kuantitatif dengan desain quasi-eksperimen tipe post-test only control group design. Kelas VII B sebagai kelas kontrol menggunakan pembelajaran ekspositori, sedangkan Kelas VII A sebagai kelas eksperimen menerapkan model REACT berbasis Nearpod. Instrumen penelitian telah memenuhi uji validitas, reliabilitas, tingkat kesukaran, dan daya pembeda. Analisis data dilakukan melalui uji normalitas, homogenitas, Mann–Whitney, dan independent sample t-test. Hasil penelitian menunjukkan perbedaan yang signifikan antara kedua kelompok, dengan peserta didik pada kelas eksperimen memperoleh hasil belajar lebih tinggi dibandingkan kelas kontrol (Mann–Whitney Sig. = 0,014; t-test Sig. = 0,039). Temuan ini menunjukkan bahwa integrasi model REACT dengan Nearpod mampu menciptakan pembelajaran yang lebih kontekstual, interaktif, dan efektif dalam mengembangkan HOTS. Kontribusi penelitian ini terletak pada penyediaan bukti empiris mengenai efektivitas model REACT berbasis Nearpod dalam pembelajaran Pendidikan Agama Islam dan Budi Pekerti. Penelitian ini merekomendasikan penerapan model tersebut sebagai alternatif pembelajaran inovatif serta pengujian lebih lanjut pada jenjang, materi, dan sampel yang lebih luas.

Kata Kunci: Model Pembelajaran REACT, Nearpod, Hasil Belajar, Pendidikan Agama Islam, Sekolah Menengah Pertama

INTRODUCTION

Education is inseparable from human life and constitutes a fundamental component of human development (Novitriani et al., 2024). At its core, education represents a pedagogical endeavor through which a society transmits its values, norms, and cultural foundations to learners via structured learning processes (Anwar, 2019a). Within educational discourse, the concept of learning outcomes occupies a central position. In contemporary contexts, learning outcomes have gained increasing attention because they serve as indicators of instructional quality and reflect the extent to which education responds to the demands of 21st-century competencies (Umkabu, 2022). Learning outcomes refer to the achievements attained by students after participating in the learning process (Afdal et al., 2024; Darma et al., 2024).

These achievements encompass three interrelated domains: the cognitive domain (ranging from remembering to evaluating), the affective domain (from receiving to demonstrating attitudes and values), and the psychomotor domain (from recognizing basic techniques to producing observable performance). Such changes are commonly assessed through measurable indicators, including scores and grades (Alafnan, 2025; Andriani et al., 2025). In response to contemporary educational challenges, learning outcomes are increasingly expected to align with the development of essential 21st-century skills, particularly critical thinking, analytical reasoning, and problem-solving abilities (Yanti et al., 2025). Consequently, learning outcomes should not be confined to the assessment of lower-level cognitive abilities but must explicitly reflect students' higher-order thinking skills (HOTS), including analysis, evaluation, and creation. In this regard, learning outcomes play a crucial role in the instructional process, as they enable teachers to assess the extent to which students have progressed toward predetermined educational objectives (Supit et al., 2023).

In the context of Islamic Religious Education, learning outcomes are considered satisfactory when students demonstrate a comprehensive understanding of Islamic values across the cognitive, affective, and psychomotor domains (Anwar, 2019b). This perspective underscores the distinctive character of Islamic Religious Education as a form of value-oriented education that emphasizes not only the acquisition of religious knowledge but also the internalization and enactment of Islamic values in students' attitudes and behavior. Within the cognitive domain, students are expected to master and apply core Islamic teachings, including creed (*'aqīdah*), worship (*'ibādah*), ethics (*akhlāq*), and Islamic history. In the affective domain, they are encouraged to cultivate positive attitudes such as correct belief, strong faith, discipline, tolerance, and commitment to religious practice. Meanwhile, in the psychomotor domain, emphasis is placed on students' ability to consistently implement Islamic teachings in their daily lives, including performing acts of worship correctly, maintaining ethical conduct, and behaving in accordance with religious principles (Salsabila et al., 2023). Thus, learning outcomes in Islamic Religious Education are not solely measured through academic achievement but also through the extent to which students embody Islamic moral and spiritual values, reflecting a holistic educational approach.

Teaching, therefore, entails not only the transmission of knowledge but also the cultivation of noble values grounded in both humanity and divine principles (Anwar, 2025). The learning process is often conceptualized as an activity involving the transfer of information from teachers to students (Sutikno, 2021). However, instructional practices that rely exclusively on information transmission tend to position students as passive recipients, limiting opportunities for meaningful learning and deep understanding. Effective learning ideally requires active student engagement in classroom activities. Accordingly, the implementation of instructional models that promote participation, interaction, and collaboration is expected to support the achievement of learning outcomes aligned with educational objectives (Adiningrat & Albina, 2024; Deviyanti, 2024). Active student involvement has been shown to enhance learning outcomes, motivation, and engagement, while also fostering collaborative learning among peers. When students exhibit high levels of learning motivation, their potential to achieve improved learning outcomes increases significantly (Abidin & Muhammad, 2024; Purmadhani et al., 2024).

Furthermore, in an effective learning environment, the selection of appropriate instructional methods plays a crucial role in stimulating students' enthusiasm for engaging

with learning materials (Ramadani et al., 2023). This suggests that meaningful learning emerges when students actively construct knowledge through interaction, experience, and reflection, rather than merely receiving information passively. The integration of effective teaching methods with suitable learning media can significantly influence the attainment of optimal learning outcomes. Therefore, aligning instructional strategies with appropriate media is essential to strengthening learning outcomes and fostering students' interest in the learning process (Widyasari et al., 2024).

Preliminary research conducted through classroom observations and interviews with Islamic Religious Education teachers and students at SMP Negeri 1 Jati Agung identified several challenges in the implementation of Islamic Religious Education. These challenges include: (1) low student learning outcomes, as evidenced by limited classroom participation, minimal contribution during discussions, and weak task completion; (2) the predominance of one-way instructional methods, resulting in low student engagement and underdeveloped classroom interaction; and (3) students' perceptions of Islamic Religious Education as an unengaging subject, which further reduces their involvement in the learning process.

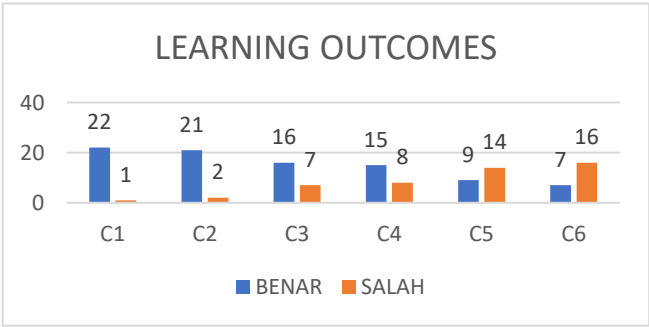


Chart: Preliminary Research Learning Outcomes Data

Source: Data from practice results in the Grade 7 Islamic Religious Education (PAI) Student Textbook, 2025.

Based on the bar chart of the learning achievement test, students' performance in Islamic Religious Education exhibits considerable variation. Within the framework of Bloom's Taxonomy, the cognitive domain reflects students' intellectual capacities related to thinking, comprehension, and problem-solving (Anwar, 2017). The data indicate that students' performance on indicators C1 and C2 is relatively strong, as evidenced by a high proportion of correct responses and a minimal number of errors. However, beginning at indicators C3 and C4, response accuracy declines and error rates increase, suggesting that learning tasks at these levels pose greater challenges. This pattern becomes more pronounced at indicators C5 and C6, where incorrect responses substantially outnumber correct ones. These findings demonstrate that students encounter significant difficulties when engaging with learning materials associated with higher-order cognitive processes.

Overall, the results indicate an uneven distribution of students' understanding. Learners perform more effectively on lower-level cognitive indicators (C1 and C2) than on higher-level indicators, particularly C5 and C6, which represent the most complex cognitive demands. This condition is likely related to the instructional models employed, which have not sufficiently supported students in developing deeper and more sustained conceptual understanding. It suggests that the ongoing learning process has not yet provided learning experiences that are both meaningful and cognitively challenging.

Consequently, an instructional approach capable of more effectively supporting students' cognitive development is required. One promising alternative is the implementation of the REACT learning model (Relating, Experiencing, Applying, Cooperating, and Transferring) integrated with the Nearpod digital platform.

The REACT model constitutes a contextual learning approach that facilitates students' construction of knowledge through direct experience, conceptual linkage to real-life contexts, and continuous application processes (Hibatullah et al., 2024; Paramitha & Afandi, 2025). Through its five structured stages, the model encourages learners to explore concepts actively, engage in collaboration, and develop the capacity to transfer their understanding to novel situations. As a result, learning extends beyond the mere transmission of content and instead emphasizes deep comprehension, which ultimately contributes to improved learning outcomes (Oktaviani et al., 2025).

In parallel, the integration of appropriate instructional models with digital learning media particularly Nearpod plays a crucial role in strengthening the implementation of the REACT approach. Nearpod enables teachers to deliver interactive content across each stage of the REACT model, from activating students' prior experiences to facilitating the application and transfer of newly acquired knowledge (Amelia et al., 2024). Features such as quizzes, simulations, instructional videos, and collaborative activities support active concept exploration and reinforce learning through immediate feedback. The two-way interaction facilitated by this platform allows instruction to be more responsive to students' needs, resulting in learning experiences that are not only more engaging but also more effective in fostering both conceptual and contextual understanding (Nurhamidah, 2021; Rohaliya et al., 2023).

In the implementation of the Nearpod-based REACT model, teachers initially connect instructional content to students' everyday experiences. Students are then guided to engage in independent learning through authentic activities and to apply the knowledge they have acquired to solve contextual problems. Collaborative learning is emphasized, enabling students to work with peers as they refine their understanding and apply it across diverse contexts. Through this process, students are directly involved in constructing knowledge, rendering classroom activities more dynamic and encouraging them to assume an active role in the learning process (Sihotang & Dirgantoro, 2024).

Previous studies conducted by several scholars, including Indri Isnaini (2024), Arini Sri Mulyani (2024), Yuna Dilil Iman (2024), Annisa Lestari (2025), and De Tri Salisanti (2024), have highlighted the potential of the REACT learning model (Relating, Experiencing, Applying, Cooperating, and Transferring) to improve students' learning outcomes. Nevertheless, several research gaps remain. Most existing studies have focused on disciplines such as Geography, Mathematics, Physics, and Biology, whereas the application of the REACT model in Islamic Religious Education remains relatively underexplored. Additionally, prior research has largely been conducted at the elementary and senior high school levels, while the present study focuses on junior high school students at SMP Negeri 1 Jati Agung. Moreover, earlier studies predominantly implemented the REACT model in its conventional form, whereas this study introduces an innovation by integrating REACT with Nearpod as an interactive digital learning medium.

This study contributes novel insights by employing higher-order thinking indicators, specifically C5 and C6, to more comprehensively map students' cognitive abilities within Islamic Religious Education. The integration of these indicators with the Nearpod-based REACT learning model an approach rarely applied in Islamic Religious

Education at the junior high school level offers a new perspective on the use of interactive digital technology to enrich learning stages and cognitive engagement.

The novelty of this study lies not only in the integration of the instructional model and digital media but also in its subject focus, educational level, and evaluative framework. Collectively, these elements provide a more comprehensive and contextually grounded contribution compared to previous studies.

RESEARCH METHODOLOGY

This study employed a quantitative approach using a quasi-experimental design, specifically a post-test-only control group design. The research participants comprised two seventh-grade classes at SMP Negeri 1 Jati Agung during the first semester of 2025. Class VII A was assigned as the experimental group and received instruction through the Nearpod-based REACT learning model, whereas Class VII B served as the control group and was taught using expository instruction. The preliminary phase of the study involved the preparation of instructional materials, the development of a cognitive achievement test, and a series of validation and pilot-testing procedures. These procedures included evaluations of validity, reliability, item difficulty, discrimination index, and distractor effectiveness. Once the instrument satisfied the required psychometric criteria, learning activities in both classes were implemented in accordance with the instructional syntax designated for each group.

In the experimental group, the teacher systematically implemented all five stages of the REACT learning model. The *Relating* stage involved linking students' prior knowledge with newly introduced Islamic Religious Education content. During the *Experiencing* stage, students were guided to actively and independently explore concepts through interactive activities facilitated by the Nearpod platform. The *Applying* stage required students to complete exercises that emphasized the practical application of the acquired concepts. Subsequently, in the *Cooperating* stage, students engaged in collaborative group work to solve problems related to Islamic Religious Education. The final stage, *Transferring*, focused on guiding students to apply the mastered concepts to new and diverse contexts in their daily lives. Each stage was intentionally designed to stimulate higher-order thinking skills, particularly evaluation (C5) and creation (C6), in alignment with the specified learning outcome indicators (Mutlu, 2023).

Following the completion of instructional activities in both groups, data were collected through the administration of a post-test. The test instrument was designed to assess students' cognitive learning outcomes at higher-order thinking levels, specifically evaluation (C5) and creation (C6). Prior to hypothesis testing, preliminary analyses, including tests of normality and homogeneity, were conducted to ensure that the statistical assumptions were met. An independent-samples *t*-test was subsequently employed to examine the hypotheses and determine the significance of differences in learning outcomes between the experimental and control groups. All research procedures were systematically and rigorously designed to objectively address the research questions and to provide a valid assessment of the effects of the Nearpod-based REACT learning model on learning outcomes in Islamic Religious Education.

RESULT

This study was conducted at SMP Negeri 1 Jati Agung. Data were collected using a multiple-choice test developed in alignment with the specified learning outcome indicators. Prior to data analysis, the instrument underwent validity and reliability testing to ensure its appropriateness for measuring students' learning outcomes. The results of the validity and reliability analyses are presented in the subsequent section.

Table 1 Description of Validity Test Results for the Trial Class

No Item	r Table	r Count	Description
1	0.349	0.525	Valid
2	0.349	0.701	Valid
3	0.349	0.132	Invalid
4	0.349	0.804	Valid
5	0.349	0.199	Invalid
7	0.349	0.113	Invalid
8	0.349	0.558	Valid
9	0.349	0.131	Invalid
10	0.349	0.843	Valid
11	0.349	0.612	Valid
12	0.349	0.543	Valid
13	0.349	0.449	Valid
14	0.349	0.256	Invalid
15	0.349	0.588	Valid
16	0.349	0.809	Valid
17	0.349	0.578	Valid
18	0.349	0.846	Valid
19	0.349	0.739	Valid
20	0.349	0.575	Valid

Reliability Statistics

Cronbach's Alpha	N of Items
.836	20

The results of the validity and reliability tests conducted in the pilot class indicated that 14 test items were valid, with item–total correlation coefficients exceeding the critical value of 0.349. In addition, the instrument demonstrated high internal consistency, as evidenced by a Cronbach's alpha coefficient of 0.836, which exceeds the acceptable threshold of 0.60. Accordingly, the instrument was deemed valid and reliable for measuring the research variables. Subsequently, students' learning outcomes in Islamic Religious Education and Character Education for Class VII A (experimental group) and Class VII B (control group) were analyzed as follows.

1. Item Difficulty Level

The level of item difficulty was determined using the *P* index (percentage), which indicates the proportion of students who answered each item correctly and reflects the

relative ease or difficulty of the test items. The classification criteria were as follows: $P \leq 0.30$ (difficult), $P = 0.31-0.70$ (moderate), and $P \geq 0.71$ (easy) (Sugiyono, 2022).

Table 3 Description of Item Difficulty Levels

No	Difficulty Level	Item Numbers	Frequency
1	Difficult	7, 14,	2
2	Moderate	5, 9,	2
3	Easy	1, 2, 3, 4, 6, 8, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20	16

Based on the analysis of item difficulty for the 20 test items, 2 items (10%) were classified as difficult, 2 items (10%) as moderate, and 16 items (80%) as easy. These results indicate that easy items predominated in the test, resulting in an imbalanced item distribution that does not conform to the ideal proportion for a well-constructed assessment instrument.

2. Discrimination Index

The discrimination index of a test item reflects its capacity to distinguish between students with high and low levels of ability. This index is expressed on a scale ranging from 0.00 to 1.00, whereas the relative ease or difficulty of an item is represented by the difficulty index (Akbar et al., 2023).

Table 4 Description of Items Based on Discrimination Index

No	Discrimination Level	Item Numbers	Frequency
1	Good	1, 2, 4, 8, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20	14
2	Fairly Good	6, 7,	2
3	Enough	14,	1
4	Bad	3, 5, 7, 9,	4

The analysis of the discrimination index revealed that 14 items (70%) were classified as good, with index values ranging from 0.40 to 1.00; 2 items (10%) were categorized as fairly good, with values between 0.30 and 0.39; 1 item (5%) was considered adequate, with values between 0.20 and 0.29; and 4 items (20%) were classified as poor, with index values ranging from 0.00 to 0.19.

3. Normality Test

The normality test was conducted to determine whether the collected data were normally distributed. Data were considered to follow a normal distribution if the significance value exceeded 0.05 (Permana & Ikasari, 2023). The results of the normality test in this study are presented below.

Table 5 Normality Test Data
Test of Normality

	Group	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Results	Experimental	.190	26	.016	.922	26	.051
	Control	.218	28	.002	.830	28	.000

a. Lilliefors Significance Correction

The Shapiro–Wilk test indicated that the experimental group data were normally distributed, with a significance value of 0.051 (≥ 0.05), whereas the control group data did not follow a normal distribution, as reflected by a significance value of 0.000 (< 0.05). Consequently, because the assumption of normality was not met for the control group, the analysis was continued using the nonparametric Mann–Whitney U test.

Table 6 Mann-Whitney Test Data

Test Statistics ^a	
	Result
Mann-Whitney U	224.500
Wilcoxon W	575.500
Z	-2.456
Asymp. Sig. (2-tailed)	.014
a. Group Variable <u>Kelompok</u>	

The analysis yielded a significance value of 0.014 and a Mann–Whitney U statistic of 224.500. These results indicate a statistically significant difference between the experimental and control groups, as the significance value is below the 0.05 threshold.

4. Homogeneity Test

The homogeneity test was conducted to assess the comparability of population variances. Data are considered homogeneous when the significance value exceeds 0.05 (Daruhadi & Sopiati, 2024). The results of the homogeneity test in this study are presented below.

Table 7 Homogeneity Test Results
Test of Homogeneity of Variances

		Levene Statistic	df	df2	Sig.
Results	Based on Mean	.012	1	52	.913
	Based on Median	.030	1	52	.862
	Based on Median and with <u>adjusted df</u>	.030	1	50.590	.862
	Based on trimmed mean	.001	1	52	.976

The homogeneity test results indicate that all significance values exceeded the 0.05 threshold, with values of 0.913 for the mean, 0.862 for the median, 0.862 for the median with adjusted degrees of freedom, and 0.976 for the trimmed mean. Accordingly, the variances of the experimental and control groups can be considered homogeneous, indicating that the assumption of homogeneity of variance was satisfied.

5. Independent-Samples *t*-Test

In this study, differences in students' learning outcomes between the experimental and control groups were examined using an independent-samples *t*-test. The research hypothesis was tested using the pooled (combined) variance approach.

Leven's Test for Equality of Variances		Independent Samples Test								
		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
Results	Equal variances assumed	.012	.913	-2.113	52	.039	-1.0934	.5171	-2.1319	-.0549
	Equal variances not assumed			-2.113	51.723	.039	-1.0934	.5171	-2.1319	-.0549

Levene's test for equality of variances yielded a significance value of 0.913, exceeding the 0.05 threshold, indicating that the variances of the experimental and control groups were homogeneous and that the analysis could proceed under the assumption of equal variances. The independent-samples *t*-test revealed a statistically significant difference between the mean scores of the two groups, with a mean difference of -1.0934 and a 95% confidence interval ranging from -2.1319 to -0.0549 , which does not include zero. This result is further supported by a *t* value of -2.113 and a two-tailed significance level of 0.039 ($p < 0.05$). Collectively, these findings indicate that the learning model implemented in the experimental group exerted a significant positive effect, resulting in superior learning outcomes compared to the expository instructional approach employed in the control group.

DISCUSSION

The principal conclusion of this study is that students' learning outcomes in Islamic Education (PAI) and Character Education improved significantly through the implementation of the Nearpod-based REACT learning paradigm. This finding indicates that the model is not only statistically superior in the experimental group but also pedagogically effective, as its instructional mechanism actively engages students in constructing their own knowledge. Causally, the observed improvement in learning outcomes can be attributed to a shift away from one-way instruction toward a learning process that positions students as active agents who experience, process, and transfer knowledge both independently and collaboratively. This approach is consistent with the fundamental principles of constructivist theory, which conceptualizes knowledge as being constructed through meaningful learning experiences rather than directly transmitted from teacher to students (Masi et al., 2022; Noerjuniaty et al., 2022).

These findings resonate with several prior studies examining the application of the REACT model across diverse subject areas. Research conducted by Irma Rahmawati (2024) demonstrated that inquiry-based REACT learning positively influences students' critical thinking skills. Similarly, Dea Safira (2023) reported that the sequential stages of the REACT model provide substantial opportunities for enhancing students' analytical abilities. Comparable results were also reported by Annisa Nur Efanti (2025), who found that REACT-based instruction effectively fosters students' mathematical communication skills during the process of knowledge construction. Distinct from these previous studies, the novelty of the present research lies in its integration of the REACT learning model with the Nearpod digital platform within the context of PAI and Character Education, with a particular emphasis on higher-order thinking skills (HOTS) at the levels of evaluation (C5) and creation (C6). Accordingly, this study extends existing REACT-based research by demonstrating that technology-integrated REACT instruction can effectively support HOTS-oriented learning in value-based subjects such as PAI and

Character Education. In this context, the Nearpod platform reinforces learning through visualized content, interactive activities, and flexible access to instructional materials supported by engaging digital features (Agustin et al., 2025; Paais et al., 2025).

Each stage of the REACT framework operates systematically to facilitate students' knowledge construction. In the *Relating* stage, students connect PAI content with their prior experiences and real-life contexts, allowing existing cognitive schemata to serve as a foundation for understanding new concepts. This process enhances the meaningfulness of learning, as students do not begin from a state of complete unfamiliarity (Nurfadillah, 2025). Subsequently, during the *Experiencing* stage, students explore concepts through interactive Nearpod-based activities, including videos, simulations, and digital quizzes. These activities strengthen the constructivist process by enabling students to learn through direct experience rather than passive reception of information (Hibatullah et al., 2024). In the *Applying* stage, students implement their conceptual understanding through structured exercises, thereby reinforcing and consolidating learning outcomes (Cahyani et al., 2025). The *Cooperating* stage facilitates the social construction of knowledge, as students exchange ideas, negotiate meaning, and broaden perspectives through collaborative discussion (Asriyah, 2024). Finally, the *Transferring* stage encourages students to apply PAI concepts to new situations in their daily lives, directly cultivating higher-order thinking skills at the levels of evaluation (C5) and creation (C6) (Mesa & Syamsuri, 2022).

The integration of Nearpod across each REACT stage functions as a critical enhancer of the constructivist learning process. Interactive features such as *Time to Climb*, *Drag and Drop*, *Open-Ended Questions*, and *Collaborate Board* engage students not merely as passive recipients of information but as active, reflective, and collaborative learners (Gulo et al., 2025). Nearpod facilitates knowledge construction by providing visual learning experiences, immediate feedback, and digital spaces for social interaction, all of which accelerate conceptual understanding (Rivelia & Reinita, 2023). Thus, the relationship between the REACT model, the Nearpod platform, and constructivist learning theory becomes evident: REACT offers an experience-based instructional structure, while Nearpod amplifies this structure through interactive digital technology.

Empirical evidence from the independent samples *t*-test, which yielded a significance value of 0.039, and the Mann–Whitney test, with a significance value of 0.014, confirms that the differences in learning outcomes between the experimental and control groups are directly attributable to the implementation of the Nearpod-based REACT model. These results suggest that instructional approaches emphasizing experience, application, collaboration, and contextual knowledge transfer are more effective than expository, teacher-centered learning models.

Furthermore, this study reinforces the view that the integration of student-centered pedagogical models with digital technology represents a strategic alternative for contemporary education. From a theoretical standpoint, the study is firmly grounded in constructivist learning theory, which asserts that knowledge is actively constructed through meaningful interaction, reflection, and social engagement rather than passively transmitted by instructors. Through the REACT model, students are not positioned as mere recipients of information but as active constructors of knowledge through structured learning activities and collaborative engagement (Dewantari et al., 2023). This approach yields positive outcomes, particularly in PAI instruction, which requires learners to comprehend religious values not only at a conceptual level but also in terms of their practical application in everyday life. Consequently, this study provides a robust

theoretical foundation demonstrating that the Nearpod-based REACT model is closely aligned with constructivist principles in promoting meaningful learning within PAI and Character Education.

The primary novelty of this research lies in its empirical demonstration that integrating the REACT learning model with the Nearpod digital platform is especially effective in strengthening higher-order thinking skills, specifically at the levels of evaluation (C5) and creation (C6), within the domain of PAI and Character Education. This contribution moves beyond generalized claims regarding experience-based and technology-enhanced learning by explicitly identifying the cognitive levels most significantly influenced by the intervention. As such, this study positions itself as a constructivist-oriented advancement within the existing literature, extending prior REACT research by highlighting its enhanced effectiveness when combined with digital technology in value-based educational contexts.

Despite the strong evidence supporting the effectiveness of the Nearpod-based REACT model, its implementation requires careful consideration of classroom dynamics, teacher readiness, and student characteristics. The use of digital media and collaborative learning strategies necessitates effective classroom management to ensure that each stage of the REACT framework functions optimally. From an implementation perspective, these findings suggest that teachers must be pedagogically prepared to facilitate active knowledge construction and reflective learning, ensuring that Islamic values are not only cognitively understood but also internalized and manifested in students' daily behavior. Accordingly, this study underscores the potential for broader application of the Nearpod-based REACT learning model across value-oriented educational contexts, particularly within PAI and Character Education.

CONCLUSION

The overall findings of this study demonstrate that the Nearpod-based REACT learning model significantly enhances students' learning outcomes in Islamic Education (PAI) and Character Education at SMP Negeri 1 Jati Agung, both statistically and pedagogically. Data synthesis indicates that students who engaged with Nearpod's interactive features throughout the REACT stages achieved significantly higher learning outcomes than those taught using conventional expository methods. From a pedagogical standpoint, this improvement is particularly meaningful, as it reflects students' increased capacity to evaluate, analyze, and create knowledge competencies that are fundamental to effective PAI instruction.

These findings further reinforce the theoretical premise that contextual learning grounded in direct experience, collaboration, and knowledge transfer is effective in fostering higher-order thinking skills, especially at the levels of evaluation (C5) and creation (C6). In practical terms, this study offers a novel contribution by integrating the REACT learning model with the Nearpod digital platform in PAI instruction an approach that remains relatively underexplored in prior research and by explicitly positioning higher-order thinking skills as the primary indicators of learning outcomes.

Nevertheless, this study is not without limitations. First, the use of a post-test-only experimental design precludes the measurement of students' learning progression over time. Second, the distribution of test items across difficulty levels was not fully balanced. Third, contextual factors such as school characteristics and disparities in digital infrastructure limit the broader generalizability of the findings. In light of these limitations, future research is encouraged to employ more rigorous experimental designs,

involve a wider range of schools and educational levels, examine diverse PAI subject matter, and integrate the REACT model with alternative digital learning platforms to obtain a more comprehensive understanding of its instructional impact.

By explicitly acknowledging these limitations and outlining directions for future inquiry, this study opens avenues for continued investigation into technology-supported REACT learning across diverse educational contexts. Overall, the findings contribute meaningfully to the advancement of educational scholarship, particularly in strengthening innovative and creative learning models in the digital era. Moreover, this study may serve as a valuable reference for researchers and educators seeking to design more engaging, effective, and contextually relevant instructional approaches to enhance the quality of PAI and other academic subjects.

BIBLIOGRAPHY

- Abidin, Z., & Muhammad, N. (2024). Effective Classroom Management as a Quick Solution to Improve Student Participation and Motivation in the Learning Process. *ZIJEd: Zabags International Journal Of Education*, 2(2), 88–104. <https://doi.org/https://doi.org/10.61233/zijed.v2i2.22>
- Adiningrat, N., & Albina, M. (2024). Pentingnya Perencanaan Strategi Pembelajaran Untuk Menciptakan Pembelajaran Yang Efektif Dan Berkualitas. *QOUBA: Jurnal Pendidikan*, 1(2), 141–153.
- Afdal, Handayani, E. S., & Rohaniah. (2024). Peningkatan Hasil Belajar melalui Model Pembelajaran Kooperatif pada Siswa kelas IIB Sekolah Dasar. *PTK: Jurnal Tindakan Kelas*, 4(2), 291–304. <https://doi.org/https://doi.org/10.53624/ptk.v4i2.355>
- Agustin, R. D., Argarini, D. F., Sulistyorini, Y., & Kristika, D. (2025). Development of Nearpod-Based Interactive Learning Media on Set Material. *Mosharafa: Jurnal Pendidikan Matematika*, 14(2), 503–512. <https://doi.org/https://doi.org/10.31980/mosharafa.v14i2.3053>
- Akbar, R., Siroj, R. A., Win Afgani, M., & Weriana. (2023). Experimental Research Dalam Metodologi Pendidikan. *Jurnal Ilmiah Wahana Pendidikan*, 9(2), 465–474. <https://jurnal.peneliti.net/index.php/JIWP/article/view/3165>
- Alafnan, M. A. (2025). Enhancing educational outcomes using AlAfnan taxonomy : integrating cognitive , affective , and psychomotor domains. *International Journal of Evaluation and Research in Education (IJERE)*, 14(3), 2419–2437. <https://doi.org/10.11591/ijere.v14i3.33147>
- Amelia, R., Zamzani, Mustadi, A., Suriansyah, A., & Aslamiah. (2024). Student ' s acceptance of the Nearpod application : an investigation in elementary school. *International Journal of Evaluation and Research in Education (IJERE)*, 13(2), 682–692. <https://doi.org/10.11591/ijere.v13i2.26619>
- Andriani, A., Syahfitri, D. V., & Manurung, A. P. (2025). Evaluation of Learning in Cognitive , Affective and Psychomotor Aspects in Junior High School. *Cognitive Affective Psychomotor Learning*, 6(1), 25–29. <https://doi.org/10.30596/ijems.v6i1.22356>
- Anwar, C. (2017). *Buku Terlengkap Teori-Teori Pendidikan Klasik Hingga Kontemporer* (Y. Arifin (ed.); 1st ed.). IRCiSoD.
- Anwar, C. (2019a). *Hakikat Manusia dalam Pendidikan Sebuah Tinjauan Filosofis* (Y. Ativ (ed.); 5th ed.). SUKA-Press.
- Anwar, C. (2019b). *Multikulturalisme, Globalisasi dan Tantangan Pendidikan Abad Ke-*

- 21 (Agus (ed.); 2nd ed.). DIVA Press.
- Anwar, C. (2025). *Pendidikan Karakter Untuk Mengatasi Krisis Moral* (H. Affan (ed.); 1st ed.). DIVA Press.
- Asriyah. (2024). Pengaruh Model Pembelajaran REACT Terhadap Kemampuan Pemecahan Masalah Peserta Didik Kelas XII MIPA SMAN 6 Padang. *THEOREMS*, 9(1), 9–20. <https://doi.org/https://doi.org/10.36665/theorems.v9i1.816>
- Cahyani, L., Sukarso, A., & Mahrus. (2025). Efektivitas Model Pembelajaran REACT Dalam Meningkatkan Kemampuan Berpikir Kritis Peserta Didik Pada Topik Bioteknologi Di SMAN 1 Narmada 1 Lisa 1. *Journal of Authentic Research*, 4(2), 1674–1685. <https://doi.org/https://doi.org/10.36312/jar.v4i2.3683>
- Darma, E., Telaumbanua, P., & Harefa, A. R. (2024). Pengaruh Gaya Belajar terhadap Hasil Belajar Siswa. *Journal of Education Research*, 5(1), 691–697. <https://doi.org/https://doi.org/10.37985/jer.v5i1.873>
- Daruhadi, G., & Sopiati, P. (2024). Pengumpulan Data Penelitian. *J-CEKI: Jurnal Cendekia Ilmiah*, 3(5), 5423–5443. <https://doi.org/https://doi.org/10.56799/jceki.v3i5.5181>
- Deviyanti, N. (2024). Metode Perumusan Tujuan Pembelajaran yang Efektif dalam Mendukung Proses Belajar Mengajar. *Karimah Tauhid*, 3(5), 5729–5732. <https://doi.org/https://doi.org/10.30997/karimahtauhid.v3i5.13212>
- Dewantari, J., Syarifuddin, H., Asmar, A., & Yerizon. (2023). Pengembangan Perangkat Pembelajaran Berbasis REACT untuk Meningkatkan Kemampuan Pemecahan Masalah Matematis Peserta Didik. *Jurnal Basicedu*, 7(6), 3589–3601. <https://doi.org/https://doi.org/10.31004/basicedu.v7i6.6326> ISSN
- Efanti, A. N., Noer, H., & Triana, M. (2025). Pengaruh Model Pembelajaran REACT Terhadap Kemampuan Komunikasi Matematis Siswa The Effect Of The React Learning Model Students' Mathematical Communication Skills. *Jurnal Pendidikan Matematika Dan Sains*, 13(1), 77–86. <https://doi.org/https://dx.doi.org/10.21831/jpms.v13i1.82858>
- Gulo, A., Waruwu, P. T., Ziliwu, Y., & Telaumbanua, Y. A. (2025). Training on Nearpod Implementation to Enhance Students Engagement and Prepare Gen-Z Pre-Service Teachers to Be Interactive and Innovative. *NUSANTARA: Jurnal Pengabdian Kepada Masyarakat*, 5(3), 217–227. <https://doi.org/https://doi.org/10.55606/nusantara.v5i3.6319>
- Hibatullah, H., Raharjo, D. T., & Haryani, F. F. (2024). Peningkatan Pemahaman dan Kerjasama Siswa Menggunakan Model Pembelajaran REACT Pada Materi Kalor P. *JRIP: Jurnal Riset Dan Inovasi Pembelajaran*, 4(2), 1458–1470. <https://doi.org/https://doi.org/10.51574/jrip.v4i2.1850>
- Iman, Y. D., & Irwan. (2024). Pengaruh Model Pembelajaran REACT Terhadap Kemampuan Komunikasi Matematis Peserta Didik Kelas IX SMPN 7 Padang. *13(1)*, 6–10.
- Isnaini, I., & Mariya, S. (2024). Pengaruh Model Pembelajaran REACT (Relating, Experiencing, Applying, Cooperating, Transferring) Terhadap Hasil Belajar Geografi Peserta Didik Kelas X.E di SMA Negeri Salimpaung. *Jurnal Buana*, 8(1), 2615–2630.
- Lestari, A., Aklimawati, Sinaga, N. A., Isfayani, E., & Mahmuzah, R. (2025). Pengaruh Strategi Relating, Experiencing, Applying, Cooperating, Transferring (REACT) Terhadap Kemampuan Representasi dan Keaktifan Belajar Matematis. *Jurnal Pendidikan Matematika Malikussaleh*, 5(3), 432–445.

- <https://doi.org/https://doi.org/10.29103/jpmm.v5i3.21465>
- Masi, L., Misu, L., & Pitasari, D. (2022). The Effect of REACT Learning Model on Mathematics Problem Solving Ability. *Jurnal Pendidikan Matematika*, 13(2), 156–166. <https://doi.org/https://doi.org/10.36709/jpm.v13i2.4>
- Mesa, N., & Syamsuri. (2022). Strategi Pembelajaran REACT Dalam Meningkatkan Kemampuan Matematis Siswa SMP. *Jurnal Educatio*, 8(4), 1387–1402. <https://doi.org/10.31949/educatio.v8i4.3790>
- Mulyani, A. S., Sunanih, & Pratiwi, A. S. (2024). Pengaruh Model Pembelajaran REACT Berbantuan Media Manipulatif Terhadap Hasil Belajar Perkalian dan Pembagian Siswa Kelas IV SDN 2 Mekarsari. *JERUMI: Journal of Education Religion Humanities and Multidisciplinary*, 2(2), 1564–1580.
- Mutlu, A. (2023). React Strategy Instruction Enriched with Inquiry-Based Experiments : Exploring Middle School Students ' Understanding of Mixtures. *Indonesian Society for Science Educator*, 6(4), 401–413. <https://doi.org/10.17509/jsl.v6i4.60515>
- Noerjuniaty, N., Busnawir, B., & Misu, L. (2022). Pengaruh Model Pembelajaran REACT Terhadap Kemampuan Pemecahan Masalah Matematis Ditinjau dari Self Regulated Learning Siswa. *Jurnal Pembelajaran Berpikir Matematika (Journal of Mathematics Thinking Learning)*, 7(1), 99–119. <https://doi.org/10.33772/jpbm.v7i1.26961>
- Novitriani, G., Azizah, N., Hijriah, U., Baharudin, & Terna, R. (2024). Learning Interest: How Effective Is Kahoot-Based Digital Game Based Learning Model? *Jurnal Inspiratif Pendidikan*, 13(2), 34–48.
- Nurfadillah. (2025). Pengaruh Penerapan Model Pembelajaran React Dalam Meningkatkan Motivasi Belajar Siswa. *Jurnal Pengabdian Masyarakat Dan Riset Pendidikan*, 4(1), 2501–2507. <https://doi.org/https://doi.org/10.31004/jerkin.v4i1.2012>
- Nurhamidah, D. (2021). Pengembangan Instrumen Penilaian Berbasis Media Nearpod dalam Mata Kuliah Bahasa Indonesia. *PENA LITERASI: Jurnal Pendidikan Bahasa Dan Sastra Indonesia*, 3(1), 80–90. <https://doi.org/https://doi.org/10.24853/pl.4.2.80-91>
- Oktaviani, D., Kurnia, F., & Wardani, E. F. (2025). Efektivitas Model Pembelajaran React Terhadap Pemahaman Konsep Siswa Pembelajaran IPAS Kelas V SD Muhammadiyah Pangkal Pinang. *Journal Basic Education Skills*, 3(1), 97–106. <https://doi.org/10.35438/jbes.v3i1.293>
- Paaais, R. L., Satyawati, S. T., & Iriani, A. (2025). ICT-based social science learning management with Nearpod application in primary education. *Jurnal Inovasi Teknologi Pendidikan*, 12(1), 1–11. <https://doi.org/https://doi.org/10.21831/jitp.v12i1.70715>
- Paramitha, P. R., & Afandi, M. (2025). Pengaruh Model Pembelajaran React (Relating , Experiencing , Applying , Cooperating , Transferring) Berbantuan Liveworksheet Terhadap Kemampuan Berpikir Kritis Matematis. *IHSAN: Jurnal Pendidikan Islam*, 3(2), 122–130.
- Permana, R. A., & Iksari, D. (2023). Uji Normalitas Data Menggunakan Metode Empirical Distribution Function Dengan Memanfaatkan Matlab dan Minitab 19. *Seminar Nasional Riset Dan Inovasi Teknologi*, 7(1), 7–12.
- Purmadhani, A., Muniroh, S., & Khoiri, N. El. (2024). The Correlation Between Student Participation And Student Motivation Toward Student English Achievement At Senior High School. *Journal Of Language, Literature, and Arts*, 4(6), 604–614.

- <https://doi.org/10.17977/um064v4i62024p604-614>
- Rahmawati, I., Ardi, A., Pardede, R. M., Safar, M., Djafri, N., Suyahman, & Santo, T. A. (2024). Effectiveness of REACT Learning Based on Inquiry Learning Toward Students Critical Thinking Skills. *Indonesia Journal of Engineering and Education Technology (IJEET)*, 2(1), 128–135. <https://doi.org/https://doi.org/10.61991/ijeet.v2i1.26>
- Ramadani, N. G., Fauziyyah, N., Fuadah, R., Soleh, R., Septiyaningrum, Y. A., Salamatussa'adah, N., & Hayati, A. (2023). Definisi Dan Teori Pendekatan , Strategi , Dan Metode Pembelajaran. *Indonesian Journal of Elementary Education and Teaching Innovation*, 2(1), 20–31. [https://doi.org/http://dx.doi.org/10.21927/ijeeti.2023.2\(1\).20-31](https://doi.org/http://dx.doi.org/10.21927/ijeeti.2023.2(1).20-31)
- Rivelia, K. P., & Reinita. (2023). The Development of Nearpod Interactive Multimedia Using Problem Based Learning Models on Civics Learning in Elementary School. *Jurnal Basicedu*, 7(2), 1117–1126. <https://doi.org/https://doi.org/10.31004/basicedu.v7i2.4897> Copyright
- Rohaliya, S., Harahap, M. F., Zidan, M., Azahra, S., & Hardiansyah, A. (2023). Penerapan Media Nearpod Untuk Meningkatkan Keaktifan Siswa Pada Mata Pelajaran Sosiologi di SMAN 1 Pabuaran. *Edusociata Jurnal Pendidikan Sosiologi*, 6(2), 867–876. <https://doi.org/https://doi.org/10.33627/es.v6i2.1463>
- Safira, D., Salam, A., & Dewantara, D. (2023). REACT Learning on the Topic of Elasticity to Enhance Students ' Analytical Abilities. *Jurnal Ilmiah Pendidikan Fisika*, 7(2), 369–376. <https://doi.org/https://doi.org/10.20527/jipf.v7i2.9054>
- Salisanti, D. T., Putri, D. I., & Rohayat, A. (2024). Pengaruh Model Pembelajaran REACT (Relating, Experiencing, Applying, Cooperating dan Transferring) Terhadap Aktivitas Belajar Peserta Didik Pada Materi Sistem Ekspresi di Keas XI SMA Negeri 1 Garut. *Jurnal Life Science*, 6(1), 1–12.
- Salsabila, Y., Harahap, A. A. S., Fitria, N., & Harahap, N. D. (2023). Pengaruh Perkembangan Kemampuan Pada Aspek Kognitif, Afektif dan Psikomotorik Terhadap Hasil Belajar. *Algebra : Jurnal Pendidikan, Sosial Dan Sains*, 3(1), 9–15. <https://doi.org/https://doi.org/10.58432/algebra.v3i1.741>
- Sihotang, R. S., & Dirgantoro, K. P. S. (2024). Penerapan model Pembelajaran REACT dalam mengembangkan pemahaman konsep siswa pada fungsi invers. *Jurnal Padeagogik*, 7(1), 61–72. <https://doi.org/https://doi.org/10.35974/jpd.v7i1.3256>
- Sugiyono. (2022). *Metode Penelitian Kuantitatif, Kualitatif dan R & D* (2nd ed.). Alfabeta.
- Supit, D., Melianti, M., Lasut, E. M. M., & Tumbel, N. J. (2023). Gaya Belajar Visual, Auditori, Kinestetik terhadap Hasil Belajar Siswa. *Journal on Education*, 5(3), 6994–7003. <https://doi.org/10.31004/joe.v5i3.1487>
- Sutikno, M. S. (2021). *Strategi Pembelajaran* (Nurlaeli (ed.); 1st ed.). CV. Adanu Abimata.
- Umkabu, T. (2022). Strengthening HOTS Thinking In Islamic Education In The Era Of Society 5.0. *POTENSIA: Jurnal Kependidikan Islam*, 8(2), 298–318. <https://doi.org/http://dx.doi.org/10.24014/potensia.v8i2.22417>
- Widyasari, D., Miyono, N., & Saputro, S. A. (2024). Peningkatan Hasil Belajar melalui Model Pembelajaran Problem Based Learning. *Jurnal Inovasi, Evaluasi, Dan Pengembangan Pembelajaran (JIEPP)*, 4(April), 61–67. <https://doi.org/https://doi.org/10.54371/jiepp.v4i1.368>
- Yanti, R. P., Anggi, M. S., Asia, N., Yennizar, N., & Latif, M. (2025). Isu dan Tantangan

Kontemporer Pendidikan Islam. *Journal of Artificial Intelligence and Digital Business* (RIGGS, 4(2), 7379–7385.
<https://doi.org/https://doi.org/10.31004/riggs.v4i2.1653>