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Interactive Digital Media-Supported Deep Learning and Achievement in Islamic Religious Education: A Correlational Study

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ABSTRACT

Teacher-centered instruction can limit students' active engagement and meaningful internalization of Islamic values. This study examined whether students' perceptions of a deep learning approach supported by interactive digital media predicted achievement on the topic of faith in angels. A quantitative correlational design was applied to 31 Grade 10 students from Class X C at SMA Negeri 1 Pinrang, selected purposively from the grade population. Data were obtained through a 20-item questionnaire and a learning-achievement test. The questionnaire demonstrated satisfactory item validity in a pilot assessment (r = .621-.874; r critical = .297) and strong internal consistency (Cronbach's alpha = .931). Descriptive statistics, normality and linearity tests, and simple linear regression were conducted. Students reported a moderate level of implementation (M = 73.16, SD = 10.36), while achievement scores were tightly clustered (M = 86.45, SD = 1.73, range = 83-90). The regression coefficient was small and negative (B = -.031, beta = -.185, t = -1.012, p = .320); the model explained 3.4% of the variance (R squared = .034; adjusted R squared = .001). Thus, perceived implementation did not significantly predict achievement. The restricted outcome range, uneven implementation, and the affective-spiritual character of the content may help explain the null finding. The study cautions against assuming that digital media automatically produce deeper learning and highlights the need for sustained, reflective, and value-centered instructional design.

Keywords: deep learning; faith in angels; interactive digital media; Islamic religious education; learning achievement

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INTRODUCTION

Islamic Religious Education (IRE) is expected to develop students' knowledge, faith, moral judgment, and conduct rather than merely transmit doctrinal information. Teachers therefore need to connect conceptual understanding with reflection and everyday practice (Judrah et al., 2024; Adiyono et al., 2023). The Grade 10 topic of faith in angels is especially demanding because students must learn core concepts while also interpreting their ethical implications, including discipline, responsibility, and awareness that actions have moral consequences (Afif & Ningrum, 2024).

In practice, however, IRE lessons may remain dominated by lectures, note taking, and memorization. These routines can efficiently cover content, but they may provide limited opportunities for students to question, discuss, connect ideas, and internalize religious values. Studies of IRE instruction continue to identify passive participation, monotonous learning activities, uneven use of technology, and an excessive emphasis on cognitive test performance as recurring challenges (Arman, 2023; Faridah & Novia, 2024; Hardin, 2026). Such conditions are consequential for a topic whose educational purpose extends beyond recalling the names and duties of angels.

One response is a pedagogical deep learning approach supported by interactive digital media. In this article, *deep learning* refers to a learning orientation that promotes meaning making, conceptual connection, critical engagement, reflection, and transfer; it does not refer to deep neural networks in artificial intelligence. The distinction is important because adding technology does not itself create deep learning. Digital resources become pedagogically valuable when learners actively interpret information, receive feedback, compare perspectives, and relate concepts to authentic situations (Fitriani & Santiani, 2025; Mundofi, 2025).

Interactive digital media can nevertheless expand the instructional possibilities available to IRE teachers. Multimedia explanations, quizzes, simulations, visual narratives, and guided reflection can make abstract content more accessible and invite participation. Research on interactive media in IRE has reported improvements in motivation, interest, and learning outcomes under appropriately designed conditions (Aqmarina & Susilo, 2025; Pinta et al., 2024). Related work has shown that interactive-media-supported deep learning can foster engagement and critical thinking, although implementation quality, teacher readiness, access, and students' digital habits remain important constraints (Al Khumaida, 2025; Fatimah et al., 2026; Khusnia & Chotibuddin, 2025).

The emerging literature also cautions against a technology-deterministic assumption. Salmin et al. (2026) emphasize the need to integrate digital literacy with the instructional process, while Zubair et al. (2024) show that evaluation design must remain aligned with the broader objectives of IRE. More generally, Wu's (2024) meta-analysis indicates that the relationship between digital technology and deep learning varies across contexts and depends on how technology is used. Interactive media may attract attention without necessarily producing conceptual depth, value reflection, or durable learning. Shidiq (2023) similarly notes that educational technology introduces new opportunities and challenges rather than a uniform improvement in learning.

This conditional evidence reveals a specific gap. Much of the available IRE literature describes digital-media use or reports positive classroom innovations, whereas fewer studies test whether students' experienced level of deep-learning implementation predicts achievement in a theological topic. The distinction matters because achievement on faith in angels may be shaped by prior religious knowledge, family socialization, motivation, classroom climate, teacher practice, and assessment design. Moreover, a test emphasizing factual knowledge may not capture affective and behavioral internalization, even when these outcomes are central to IRE (Rofiuddin & Darmawan, 2024).

The conceptual basis of the study is the distinction between surface and deep approaches to learning introduced by Marton and Säljö (1976). A surface orientation prioritizes reproduction of isolated information, whereas a deep orientation seeks underlying meaning and relationships among ideas. Applied to the present context, interactive digital media should support deeper learning when it encourages six related experiences: active participation, in-depth understanding of meaning, purposeful use of interactive media, connection of religious concepts to everyday life, participation in discussion, and reflection on faith values. These experiences were operationalized as the dimensions of the predictor questionnaire.

Accordingly, this study examined whether students' perceptions of interactive digital media-supported deep learning predicted their achievement on the topic of faith in angels among Grade 10 students at SMA Negeri 1 Pinrang. The statistical null hypothesis stated that the predictor would not have a significant linear association with achievement, whereas the alternative hypothesis stated that a significant association would be observed. Because the design was correlational and involved no manipulation or random assignment, the analysis was interpreted as a predictive association rather than evidence of causation.

METHOD

Research Design

This study used a quantitative correlational design to examine the linear predictive association between students' perceptions of interactive digital media-supported deep learning and their IRE achievement on the topic of faith in angels. Quantitative procedures were selected because the variables were represented numerically and evaluated through statistical analysis (Balaka, 2022). The design assessed naturally occurring variation without manipulating instruction, consistent with correlational research practice (Supariyadi et al., 2022).

Setting and Participants

The study was conducted at SMA Negeri 1 Pinrang in the Grade 10 IRE context. The population comprised all Grade 10 students, and Class X C was purposively selected because it matched the instructional context required by the study. The final sample included 31 students. Ten participants (32.26%) were male and 21 (67.74%) were female. The gender composition is reported descriptively and was not used as an explanatory variable.

Measures

The predictor was measured using a 20-item questionnaire developed around six indicators: active engagement in learning, in-depth understanding of meaning, use of interactive digital media, connection of content to everyday life, participation in classroom discussion, and reflection on faith values. A pilot validity assessment involving 44 respondents produced item-total correlations from .621 to .874, all above the critical value of .297 at the 5% level. The questionnaire's Cronbach's alpha was .931, indicating strong internal consistency.

The outcome measure was a learning-achievement test covering four indicators: understanding the meaning of faith in angels, knowledge of angels' names and duties, understanding the wisdom associated with faith in angels, and the ability to identify the application of faithful conduct in everyday life. Scores on this test represented the achievement variable used in the regression analysis.

Data Collection and Analysis

Questionnaire responses and learning-achievement scores were collected from the selected class. Analysis proceeded in four stages: participant and variable description; questionnaire item validity and internal-consistency analysis; assessment of normality and linearity; and simple linear regression. Normality was evaluated with Kolmogorov-Smirnov and Shapiro-Wilk tests. Linearity was assessed using the deviation-from-linearity statistic. The regression model was expressed as $Y = a + bX$, with statistical significance evaluated at alpha = .05. The null hypothesis was retained when p was greater than .05.

RESULTS AND DISCUSSION

Research Results

Participant characteristics are summarized in Table 1. The sample was predominantly female, reflecting the composition of the selected class.

Table 1. Participant Characteristics by Gender

No.	Gender	Frequency	Percentage
1	Male	10	32.26%
2	Female	21	67.74%
	Total	31	100.00%

Table 2 presents the distribution of the two study variables. Perceived implementation had a mean of 73.16 and a standard deviation of 10.36. Achievement scores had a mean of 86.45, a standard deviation of 1.73, and a narrow observed range of 83-90.

Table 2. Descriptive Statistics for the Study Variables

Variable	N	Minimum	Maximum	Mean	SD
Interactive digital media-supported deep learning	31	46	91	73.16	10.36
IRE achievement: Faith in angels	31	83	90	86.45	1.73

Instrument Quality

All 20 questionnaire items exceeded the pilot-test critical correlation of .297. Item-total correlations are shown compactly in Table 3. The Cronbach's alpha coefficient of .931 further indicated strong internal consistency.

Table 3. Questionnaire Item-Total Correlations

Item	r	Item	r
R1	.764	R11	.727
R2	.621	R12	.786
R3	.842	R13	.725
R4	.783	R14	.750
R5	.789	R15	.836
R6	.809	R16	.778
R7	.828	R17	.787
R8	.755	R18	.710
R9	.874	R19	.803
R10	.810	R20	.753

Note. All items were classified as valid because each item-total correlation exceeded r critical = .297. Cronbach's alpha = .931.

Assumption Tests

Both variables had nonsignificant Kolmogorov-Smirnov and Shapiro-Wilk results (Table 4), providing no evidence against univariate normality. The deviation-from-linearity result was also nonsignificant (p = .461), so the form of the association did not violate the linearity criterion used in the study.

Table 4. Normality Test Results

Variable	K-S Statistic	K-S p	S-W Statistic	S-W p
Deep-learning implementation	.090	.200	.974	.628
IRE achievement	.122	.200	.966	.427

Note. K-S = Kolmogorov-Smirnov; S-W = Shapiro-Wilk. The reported K-S p value of .200 is a lower bound.

Table 5. Linearity Test

Component	Sum of Squares	df	Mean Square	F	p
Combined	61.511	20	3.076	1.092	.462
Linearity	3.061	1	3.061	1.087	.322
Deviation from linearity	58.449	19	3.076	1.092	.461
Within groups	28.167	10	2.817		
Total	89.677	30			

Hypothesis Test

The simple linear regression produced the equation Y = 88.708 - .031X. As shown in Table 6, the slope for perceived implementation was negative but not statistically significant (B = -.031, SE = .030, beta = -.185, t = -1.012, p = .320). Consequently, the null hypothesis was retained.

Table 6. Simple Linear Regression Coefficients

Predictor	B	SE	Beta	t	p
Constant	88.708	2.250		39.420	< .001
Deep-learning implementation	-.031	.030	-.185	-1.012	.320

Note. Dependent variable: IRE achievement on the topic of faith in angels.

Table 7. Regression Model Summary

R	R Squared	Adjusted R Squared	Standard Error of the Estimate
.185	.034	.001	1.72822

The model explained 3.4% of the observed variance in achievement; 96.6% remained unaccounted for by the single predictor. The adjusted R-squared value of .001 indicates negligible explanatory capacity after adjustment for sample size and model complexity.

Discussion

The analysis did not support the proposed predictive relationship between students' perceptions of interactive digital media-supported deep learning and achievement on the topic of faith in angels. The regression slope was small and negative, and the probability value exceeded the .05 threshold. The model explained only 3.4% of the variance in achievement, with an adjusted explanatory value close to zero. These results do not indicate that deep learning or interactive media are educationally unimportant. Rather, they show that variation in the measured implementation was not a reliable predictor of variation in the achievement scores observed in this particular class.

A first explanation concerns the outcome distribution. Achievement scores ranged only from 83 to 90 and had a standard deviation of 1.73. This restricted range left little between-student variance for the predictor to explain. When most students already obtain similar, relatively high scores, a statistical ceiling or range-restriction effect can weaken correlations even if meaningful differences exist in learning processes. The pattern is consistent with concerns that IRE assessment may privilege standardized cognitive knowledge and underrepresent the broader evaluative aims of religious education (Adiyono et al., 2023; Zubair et al., 2024).

A second explanation is that implementation was uneven across students. The predictor had a much larger standard deviation of 10.36, suggesting substantial differences in how learners experienced the approach. Digital tools may have been present, yet students could have used them in qualitatively different ways. Some may have engaged in discussion, connection making, and reflection, while others may have focused on completing tasks or viewing content. The deep/surface distinction suggests that an instructional resource is only an affordance: depth arises

from the learner's intention and processing, supported by task design and facilitation, rather than from the medium alone (Marton & Säljö, 1976).

This interpretation helps reconcile the null finding with studies reporting positive effects of interactive media. Wordwall-supported IRE activities, for example, have been associated with greater motivation and interest (Pinta et al., 2024), and interactive media have been linked to improved IRE learning outcomes in other settings (Aqmarina & Susilo, 2025). Fatimah et al. (2026) also describe benefits from interactive-media-based deep learning in elementary science and social studies. These studies involve different subjects, age groups, instructional durations, implementation strategies, and outcomes. The present result therefore functions as a boundary condition: benefits observed elsewhere should not be assumed to transfer automatically to every topic and assessment.

The finding is more closely aligned with Wu's (2024) conclusion that the effect of digital technology on deep learning is context dependent. It also supports Fitriani and Santiani's (2025) argument that deep learning requires mindful, meaningful, and engaging pedagogical processes. In the topic of faith in angels, the instructional challenge is not only to present information attractively but also to facilitate reflection on unseen belief, moral accountability, and everyday conduct. A quiz or multimedia presentation may improve attention and factual recall while leaving these affective and spiritual dimensions largely unchanged.

Measurement alignment is therefore critical. The questionnaire included active engagement, meaning, real-life connection, discussion, and reflection, but the achievement test emphasized understanding the concept of faith in angels, knowing angels' names and duties, explaining the wisdom of belief, and identifying faithful behavior. The final dimension is difficult to establish through a conventional written test because demonstrated knowledge of appropriate behavior is not identical to sustained behavior in daily life. Rofiuddin and Darmawan (2024) similarly show that IRE outcomes are influenced by learning discipline, while Candira et al. (2025) highlight the importance of evaluating both process and outcomes. Future measurement should combine cognitive tests with observation, reflective journals, performance tasks, or validated attitude measures.

The study also clarifies the meaning of innovation in IRE. Schools may equate innovation with the availability of devices or digital applications, but pedagogical innovation requires a coherent sequence of goals, activities, feedback, and assessment. Interactive media should be used to prompt interpretation rather than passive viewing. For example, students could analyze a moral case, identify how belief in angels informs a decision, compare responses in small groups, receive feedback through a digital platform, and write a structured reflection. Such a sequence is more consistent with a deep approach than simply converting lecture content into slides or quizzes (Al Khumaida, 2025; Mundofi, 2025; Rohid, 2025).

For teachers, the practical implication is to monitor implementation fidelity and the quality of student processing. Lesson plans should specify which media feature supports which deep-learning process. Value-based discussion, moral case analysis, self-explanation, retrieval practice, and guided reflection can be integrated with interactive content. Teachers should also provide scaffolding for students whose digital readiness or self-regulation is limited. For schools, professional development should move beyond technical platform training toward instructional design, formative assessment, and the ethical use of digital content (Khusnia & Chotibuddin, 2025; Salmin et al., 2026).

The null result offers a useful scholarly contribution because it challenges the assumption that more technology necessarily produces better achievement. It suggests that digital media, learning processes, and assessment outcomes should be treated as analytically distinct. A classroom can display substantial digital activity while producing little detectable variation in cognitive scores,

especially when the scores are already homogeneous. Reporting this pattern reduces publication bias toward positive findings and directs attention to the conditions under which deep learning is likely to occur.

Several limitations constrain interpretation. The sample comprised 31 purposively selected students from one class in one school, limiting statistical power and external validity. The predictor relied on self-report, which may be affected by perception and social desirability. The outcome scores had a narrow range, and the test may not have fully represented affective and behavioral internalization. The design did not include a pretest, comparison group, implementation-fidelity observation, or controls for prior achievement, motivation, family religious socialization, and teacher effects. Finally, the correlational design cannot determine whether the instructional approach caused changes in achievement.

Future studies should use larger multisite samples, probability-based sampling where feasible, and longitudinal or quasi-experimental designs. Researchers should document the duration and intensity of implementation, analyze each deep-learning dimension, and triangulate questionnaires with classroom observation and digital trace data. Outcomes should include cognitive achievement as well as reflection, attitude, and observable conduct. These improvements would allow researchers to distinguish between access to interactive media, quality of participation, depth of processing, and the internalization of religious values.

CONCLUSION

This study found that students' perceptions of interactive digital media-supported deep learning did not significantly predict Grade 10 IRE achievement on the topic of faith in angels at SMA Negeri 1 Pinrang. The small negative slope (B = -.031, p = .320) and low explained variance (R squared = .034) indicate that the predictor had little statistical value within this sample. The result should be interpreted as a null predictive association, not as evidence that deep learning or digital media are inherently ineffective.

The finding underscores that meaningful IRE learning depends on implementation quality, alignment between pedagogy and assessment, and attention to the affective-spiritual nature of the content. Teachers should integrate interactive media with value-based dialogue, moral cases, self-explanation, and reflection rather than treat technology as an instructional outcome in itself. Larger and more rigorous studies should examine implementation fidelity, prior achievement, motivation, and multidimensional religious-learning outcomes across schools.

DECLARATIONS

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Author Contributions

Nihla Mufidah: Conceptualization, Methodology, Investigation, Data Curation, Formal Analysis, Writing – Original Draft; **Idawati:** Supervision, Methodology, Validation, Writing – Review & Editing; **Muh. Rafly Al Farezy Arif:** Validation, Writing – Review & Editing. All authors have read and approved the final version of the manuscript.

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Conflict of Interest

The authors declare that they have no conflict of interest related to the research, authorship, and/or publication of this article. None of the authors is a member of the editorial board, editorial team, or reviewer pool of *Journal of Communication and Education Studies (JCES)*.

Ethical Approval and Informed Consent

This study was conducted with permission from the principal of SMA Negeri 1 Pinrang, South Sulawesi, Indonesia. Participation was voluntary, and all responses and achievement scores were anonymized and treated confidentially.

Data Availability Statement

The data supporting the findings of this study are available from the corresponding author upon reasonable request. The data are not publicly available because they contain responses and achievement scores of school students and are restricted to protect participant confidentiality and privacy.

Declaration of Generative AI Use

During the preparation of this manuscript, the authors used ChatGPT (OpenAI) solely for language editing (grammar, spelling, and readability). The authors reviewed and edited the output and take full responsibility for the content of the publication. Generative AI was not used to produce data, analyses, findings, or references, and is not listed as an author.

Declaration of Originality

The authors declare that this manuscript is original, has not been published previously, is not under consideration for publication elsewhere, and is free from plagiarism. Its publication has been approved by all authors.

REFERENCES

Adiyono, A., Fadhilatunnisa, A., Rahmat, N. A., & Munawarroh, N. (2023). Islamic religious education learning outcomes evaluation: Implementation of steps, concepts and solutions in public elementary school. *Al-Ishlah: Jurnal Pendidikan, 15*(4), 5208-5222. https://doi.org/10.35445/alishlah.v15i4.4384

Afif, Y. U., & Ningrum, A. R. S. (2024). Peran strategis Pendidikan Agama Islam (PAI) dalam membentuk generasi berakhlak dan berwawasan keislaman di era digital. *MA'ALIM: Jurnal Pendidikan Islam, 5*(2), 308-324. https://doi.org/10.21154/maalim.v5i2.9916

Al Khumaida, F. D. (2025). *Pengembangan deep learning berbantu media Lumio by SMART untuk meningkatkan kemampuan berpikir kritis siswa di SMP PGRI Tumbrasanom Kedungadem Bojonegoro* [Undergraduate thesis, Universitas Nahdlatul Ulama Sunan Giri]. https://repository.unugiri.ac.id:8443/id/eprint/8808

Aqmarina, D. N., & Susilo, M. J. (2025). Pengaruh penggunaan media interaktif terhadap hasil belajar siswa pada mata pelajaran pendidikan agama Islam. *Ta'lif: Jurnal Pendidikan dan Agama Islam, 1*(1), 39-53. https://purpendijournal.com/index.php/talif/article/view/10

Arman, D. (2023). Pengembangan strategi pembelajaran dalam proses pembelajaran Pendidikan Agama Islam. *SINOVA: Jurnal Ilmu Pendidikan & Sosial, 1*(2), 107-119. https://doi.org/10.71382/sinova.v1i2.120

Balaka, M. Y. (2022). *Metodologi penelitian kuantitatif*. Widina Bhakti Persada Bandung.

Candira, D., Adekamisti, R., Harmi, H., Ifnaldi, I., & Ristianti, D. H. (2025). Evaluasi proses pembelajaran Pendidikan Agama Islam di sekolah menengah pertama negeri. *JIIP: Jurnal Ilmiah Ilmu Pendidikan, 8*(6), 5725-5733. https://doi.org/10.54371/jiip.v8i6.7991

Faridah, C., & Novia, L. (2024). Hasil belajar Pendidikan Agama Islam (PAI) materi iman kepada malaikat-malaikat Allah dengan strategi everyone is the teacher here. *Jurnal Pedagogi*

dan Praktik Pembelajaran, 1(3), 214-225. https://journal.barkahpublishing.com/index.php/jppp/article/view/199

Fatimah, H., Setyaningsih, N., Utami, F. S., Ernawati, T., & Murtiyasa, B. (2026). Implementasi deep learning berbasis media interaktif pada pembelajaran IPAS siswa sekolah dasar. *Jurnal Penelitian Pendidikan IPA, 12*(1), 28-34. https://doi.org/10.29303/jppipa.v12i1.13691

Fitriani, A., & Santiani, S. (2025). Analisis literatur: Pendekatan pembelajaran deep learning dalam pendidikan. *Jurnal Ilmiah Nusantara, 2*(3), 50-57. https://doi.org/10.61722/jinu.v2i3.4357

Hardin, N. (2026). Implementasi pendekatan konstruktivistik dalam pembelajaran PAI berbasis Kurikulum Merdeka di SMP Plus Ja-alHaq Kota Bengkulu. *Pendas: Jurnal Ilmiah Pendidikan Dasar, 11*(1), 211-221. https://doi.org/10.23969/jp.v11i01.44125

Judrah, M., Arjum, A., Haeruddin, H., & Mustabsyirah, M. (2024). Peran guru Pendidikan Agama Islam dalam membangun karakter peserta didik: Upaya penguatan moral. *Journal of Instructional and Development Researches, 4*(1), 25-37. https://doi.org/10.53621/jider.v4i1.282

Khusnia, A., & Chotibuddin, M. (2025). Penggunaan media digital dalam pembelajaran Pendidikan Agama Islam: Peluang dan tantangan. *Ibtida': Media Komunikasi Hasil Penelitian Pendidikan Guru Madrasah Ibtidaiyah, 6*(2), 155-164.

Marton, F., & Säljö, R. (1976). On qualitative differences in learning: I-Outcome and process. *British Journal of Educational Psychology, 46*(1), 4-11. https://doi.org/10.1111/j.2044-8279.1976.tb02980.x

Mundofi, A. A. (2025). Integration of deep learning approach in transforming Islamic religious education learning in schools: A pedagogical and technological study. *Journal of Asian Primary Education, 2*(1), 79-90. https://doi.org/10.59966/joape.v2i1.1787

Pinta, A. R., Karim, H. A., & Trisna, L. (2024). Implementasi penggunaan media Wordwall pada mata pelajaran PAI untuk meningkatkan motivasi dan minat belajar siswa di SMPN 3 Kecamatan Guguak. *Ta'rim: Jurnal Pendidikan dan Anak Usia Dini, 5*(1), 126-134. https://doi.org/10.59059/tarim.v5i1.983

Rofiuddin, A. N., & Darmawan, D. (2024). Pengaruh disiplin belajar terhadap hasil belajar pada mata pelajaran Pendidikan Agama Islam siswa sekolah menengah atas setingkat. *Journal of Early Childhood and Islamic Education, 3*(1), 110-127. https://doi.org/10.62005/joecie.v3i1.119

Rohid, I. (2025). *Pengaruh model pembelajaran problem-based learning berbasis student-centered learning terhadap hasil belajar peserta didik kelas IV mata pelajaran Akidah Akhlak di MIN 3 Bandar Lampung* [Undergraduate thesis, UIN Raden Intan Lampung]. https://repository.radenintan.ac.id/id/eprint/39569

Salmin, S., Nasaruddin, N., & Ruslan, R. (2026). Implementasi teknologi deep learning dalam meningkatkan efektivitas pembelajaran PAI berbasis literasi digital. *Tajdid: Jurnal Pemikiran Keislaman dan Kemanusiaan, 10*(1), 200-219. https://ejournal.iaimbima.ac.id/index.php/tajdid/article/view/5840

Shidiq, M. (2023). The use of artificial intelligence-based ChatGPT and its challenges for the world of education: From the viewpoint of the development of creative writing skills. *Proceedings of the International Conference on Education, Society and Humanity, 1*(1), 353-357. https://ejournal.unuja.ac.id/index.php/icesh

Supariyadi, T., Mahfud, I., & Aguss, R. M. (2022). Hubungan tingkat kebugaran jasmani terhadap prestasi belajar Penjas tahun 2021. *Journal of Arts and Education, 2*(2), 60-71. https://jurnal.teknokrat.ac.id/index.php/JAE/article/view/109

Wu, X.-Y. (2024). Exploring the effects of digital technology on deep learning: A meta-analysis. *Education and Information Technologies, 29*(1), 425-458. https://doi.org/10.1007/s10639-023-12307-1

Zubair, L., Mini, D. A. M., Kurnia, Z. A., & Bashith, A. (2024). Strategi inovatif dalam pengembangan evaluasi pembelajaran Pendidikan Agama Islam untuk meningkatkan kualitas pendidikan. *Jurnal Pendidikan Indonesia, 5*(11), 1217-1227. https://doi.org/10.59141/japendi.v5i11.5911