

THE EFFECT OF INITIAL LEARNING ABILITIES AND LEARNING INTERESTS ON PAI LEARNING OUTCOMES (CORRELATIONAL STUDY ON STUDENTS OF SDN CEMPAKA BARU 03 PAGI CENTRAL JAKARTA)

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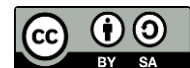
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Abstract

Islamic Religious Education (PAI) learning outcomes at the elementary school level often show variations in achievement influenced by students' cognitive readiness and motivation. This study aims to analyze the influence of initial learning abilities and learning interests, both partially and simultaneously, on students' PAI learning outcomes at SDN Cempaka Baru 03 Pagi, Central Jakarta. A quantitative approach with a correlational survey method was used to test the correlation between variables in a sample of 60 students from a total population of 178 students, determined using the Slovin formula and proportional random sampling technique. Data were collected through calibrated questionnaires for initial abilities and learning interests, as well as multiple-choice tests and official grade documentation for PAI learning outcomes. The results showed that the average scores for initial abilities (97.85), learning interests (89.32), and PAI learning outcomes (82.37) were in the high category. Partial hypothesis testing showed that the variables of initial abilities ($t = -0.466$; $p = 0.643$) and learning interests ($t = 1.359$; $p = 0.179$) did not significantly influence PAI learning outcomes. Simultaneous testing yielded an F value of 1.148 ($p = 0.325$) with a coefficient of determination (R^2) of 0.039, meaning the two variables only contributed 3.9% to the variation in PAI learning outcomes. The study's conclusion confirms that students' initial learning abilities and learning interests do not have a significant direct influence on PAI test scores at the elementary school level.

Keywords: Islamic Education, Learning Interest, Learning Outcomes

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INTRODUCTION

National education functions to develop students' potential to become people who are faithful, pious, have noble morals, and are knowledgeable. Elementary school serves as the primary foundation for shaping students' character and basic cognitive abilities (Amirudin, 2025). Islamic Religious Education (PAI) in elementary schools plays a strategic role in instilling religious values, moral development, and understanding daily worship from an early age. The success of PAI learning is measured through learning outcomes that encompass the cognitive, affective, and psychomotor domains (Manik, 2023).

Islamic Religious Education (PAI) learning outcomes reflect the level of mastery of religious material achieved by students after participating in the classroom learning process. Teachers establish learning success indicators based on standardized completion criteria. Optimal learning outcomes indicate successful material delivery and effective educational interactions in the classroom. Internal student factors play a key role in guiding the level of learning achievement (Cape, 2022).

Constructivism theory explains that students do not receive knowledge passively, but rather construct new knowledge based on the cognitive structures they already have. Gjedde, (2024) emphasizes that children's cognitive development occurs gradually through thought patterns that continually develop through interaction with the environment. Prior knowledge forms the mental foundation upon which new Islamic religious education knowledge is integrated and developed. Students with strong prior cognitive patterns can more easily grasp more complex Islamic religious education material.

Initial learning abilities reflect a student's level of readiness before receiving a new Islamic Religious Education topic or material. Mastery of basic religious concepts, such as memorizing short surahs or understanding purification procedures, facilitates student understanding of subsequent lessons. Teachers utilize these initial abilities as a stepping stone to designing strategies for delivering material appropriately. Adequate initial cognitive readiness accelerates students' academic understanding (Lestari, 2024).

Interest in learning is an internal drive that triggers students' interest, full attention, and enjoyment in Islamic Religious Education (PAI) subjects. Students with strong interest are always enthusiastic about participating in learning activities, actively asking questions, and diligently completing PAI assignments. Enjoyment of religious material encourages higher levels of concentration in learning. The combination of initial cognitive readiness and a strong interest in learning creates the ideal conditions for achieving superior PAI learning outcomes (Ferdiansyah, 2025).

Field observations indicate significant variation in Islamic Religious Education (PAI) learning outcomes among students at SDN Cempaka Baru 03 Pagi, Central Jakarta. Some students struggle to achieve the minimum passing grades on PAI material that requires memorization and conceptual understanding. This disparity in academic achievement indicates problems with the absorption of classroom material. This phenomenon demonstrates that student learning success is not yet optimally distributed.

Initial observations indicate that teachers have not systematically mapped initial learning abilities before beginning new material. Teachers often assume all students have the same level of basic religious understanding upon entering the classroom (Rekan, 2025). Differences in religious educational backgrounds outside of school lead to disparities in cognitive readiness among students. This situation causes students without adequate initial preparation to fall

further behind in understanding Islamic Religious Education concepts, which continue to be a challenge (Ismail, 2022).

Cronbach's theory of individual differentiation emphasizes that variations in student characteristics require tailored learning approaches to ensure optimal learning outcomes for each individual. Ignoring the diversity of student entry behavior and psychological dynamics risks hampering the effectiveness of the instructional process in elementary schools. Islamic education research at the elementary school level rarely empirically examines how individual differences in initial abilities impact learning interests. The lack of detailed mapping of the interaction between these two variables creates a theoretical gap in the literature on Islamic religious education (Rahim, 2025).

The learning interest of students at SDN Cempaka Baru 03 Pagi, Central Jakarta, in Islamic Religious Education (PAI) also shows a level of instability. Some students perceive PAI as a burden of memorizing Arabic texts and complex terms. Passive attitudes and a lack of enthusiasm in class directly impact concentration during the teaching and learning process. A quantitative correlational study that specifically examines the combination of initial abilities and learning interests at SDN Cempaka Baru 03 Pagi, Central Jakarta, has yet to be conducted.

Efforts to close this academic gap require empirical evidence regarding the extent to which initial abilities and learning interests influence PAI learning outcomes directly and simultaneously (Nugraha, 2026). Researchers adopted a quantitative correlational approach to measure the actual contribution of the two independent variables. Precise scientific understanding helps educators design targeted diagnostic strategies and learning interventions. Filling this research gap provides an empirical solution for improving the quality of Islamic Religious Education teaching at SDN Cempaka Baru 03 Pagi, Central Jakarta (Hkoma, 2025).

Gagne's learning outcome theory states that the achievement of cognitive capabilities is a function of the student's internal conditions, including prior knowledge readiness and motivational drive (Nawas, 2026). Researchers hypothesize that there is a positive and significant influence of initial learning abilities and learning interests, both partially and simultaneously, on students' Islamic Religious Education (PAI) learning outcomes. This framework emphasizes the need to integrate cognitive diagnostic assessment with fostering learning interests in the classroom (Nurdin, 2024).

The main objective of this study is to analyze in-depth the influence of initial learning abilities and learning interests on Islamic Religious Education (PAI) learning outcomes among students at SDN Cempaka Baru 03 Pagi, Central Jakarta. The results provide practical assistance to Islamic Religious Education (PAI) teachers in developing lesson plans based on students' initial abilities. Schools can utilize the research findings as a basis for policies on the provision of interactive learning media that can continuously boost student interest and achievement.

RESEARCH METHOD

Research Design

This study uses a quantitative approach with a correlational survey method. This design aims to measure the relationship and influence of the variables of initial learning ability (X1) and learning interest (X2) on Islamic Religious Education learning outcomes (Y). The researcher applied path analysis to test the magnitude of direct and indirect contributions

between variables. The correlational framework helps identify measurable causal relationships without manipulating the conditions of the research subjects at school (Ni'mah, 2023).

Research Target/Subject

The research subjects included all students in grades IV, V, and VI of SDN Cempaka Baru 03 Pagi, Central Jakarta, in the 2025/2026 academic year, with a total population of 178 students. The population breakdown consisted of 63 students in grade IV, 66 students in grade V, and 59 students in grade VI. The researcher determined the sample size using the Slovin formula with an error tolerance limit of $e = 10.5\%$, resulting in a sample of 60 students. The proportional random sampling technique ensured that each grade level was represented equally and randomly in data collection.

Research Procedure

The research procedure takes place in three main, planned stages. The pre-field stage includes determining the quantitative problem, conducting a preliminary study, obtaining research permits, determining the sample, and developing an instrument outline. (Adiyono, 2025) The field phase focused on conducting instrument trials (try-outs), analyzing item calibration, and distributing questionnaires and tests to 60 sample respondents. The post-field phase included statistical data processing, interpreting hypothesis testing results, and systematically compiling research reports.

Instruments, and Data Collection Techniques

Data collection used three types of calibrated research instruments. The variables of initial learning ability (X1) and learning interest (X2) were measured using a closed questionnaire with a Likert scale with five answer options. The variable of Islamic Religious Education learning outcomes (Y) was measured using a multiple-choice test instrument consisting of 40 questions and official student grade documentation. Testing the validity of the test items applied point biserial correlation, while the validity of the questionnaire used the Product Moment correlation formula. Testing the reliability of the test instrument used the Kuder-Richardson 20 (KR-20) formula and the questionnaire instrument used the Cronbach's Alpha formula.

Data Analysis Technique

Data analysis techniques combine descriptive and inferential statistics. Descriptive analysis presents the mean, median, mode, standard deviation, variance, and histogram of the frequency distribution (Islamic, 2024). Analysis requirements tests include the Kolmogorov-Smirnov normality test, multicollinearity test (Tolerance and VIF values), heteroscedasticity test (scatterplot), and regression linearity test. Hypothesis testing utilizes multiple linear regression analysis, the t-test for partial effects, the F-test for simultaneous effects, and the calculation of the coefficient of determination (R^2).

RESULTS AND DISCUSSION

Secondary and primary data collection using quantitative instruments involved 60 students from SDN Cempaka Baru 03 Pagi, Central Jakarta. Researchers documented final Islamic Religious Education (PAI) exam scores and distributed structured questionnaires for the variables of initial learning ability and learning interest. Details of the initial score distribution show systematic variations in student achievement.

Table 1. Statistical Description of Initial Learning Ability (X1)

Statistics	Parametric Values
Number of Samples (N)	60
Average (Mean)	97.85
Standard Deviation	14,035
Median	100.50
Mode	106
Minimum Score	55
Maximum Score	118

Students provided complete responses to all instrument items with no missing data. The learning interest variable measures students' level of attention, interest, and engagement during Islamic Religious Education learning activities.

Table 2. Statistical Description of Learning Interest (X2)

Statistics	Parametric Values
Number of Samples (N)	60
Average (Mean)	89.32
Standard Deviation	24,245
Median	99.00
Mode	108
Minimum Score	41
Maximum Score	120

Islamic Religious Education (PAI) learning outcomes were measured using a school-standardized objective test instrument. The average student academic achievement showed a moderate to high level of mastery of religious material.

Table 3. Statistical Description of Islamic Education Learning Outcomes (Y)

Statistics	Parametric Values
Number of Samples (N)	60
Average (Mean)	82.37
Standard Deviation	5,874
Median	83.00
Mode	85
Minimum Score	72
Maximum Score	92

Classical assumption testing was performed to ensure data validity before testing the regression hypothesis. The results of the error normality test using the Kolmogorov-Smirnov test showed a normal residual distribution.

Table 4. Results of the Kolmogorov-Smirnov Normality Test

Test Parameters	Statistical Value
Sample Size (N)	60
Kolmogorov-Smirnov Z	0.706

Asymptotic Sig. (2-tailed)	0.702
Information	Normally distributed ($p > 0.05$)

Correlation tests between independent variables were performed to detect multicollinearity. Tolerance and VIF values indicated that the regression model was free from multicollinearity.

Table 5. Results of Multicollinearity Test of Regression Model

Index Variable	Tolerance	VIF	Information
Initial Ability (X1)	0.979	1,021	Multicollinearity Free
Interest in Learning (X2)	0.979	1,021	Multicollinearity Free

The distribution of initial learning ability scores (X1) shows an average value of 97.85 with a standard deviation of 14.035 in the score range of 55 to 118. Most students are concentrated in the high ability category, with a median of 100.50 and a mode of 106. The distribution of learning interest scores (X2) recorded an average of 89.32 with a standard deviation of 24.245 in the score range of 41 to 120. The measurement of PAI learning outcomes (Y) recorded an average of 82.37 with a standard deviation of 5.874, where the lowest score was at 72 and the highest reached 92.

The error normality test yielded a Kolmogorov-Smirnov Z value of 0.706 with a significance value of 0.702 ($p > 0.05$). A significance value exceeding the 0.05 limit confirms that the sample data is normally distributed. The multicollinearity test results showed a tolerance value of 0.979 and a VIF value of 1.021 for both independent variables. The tolerance limit approaching one and the VIF well below 10 prove that there are no correlation problems between the independent variables in the regression model.

Descriptive statistics show that the cognitive readiness of students at SDN Cempaka Baru 03 Pagi, Central Jakarta, is at an adequate level. The average initial learning ability of 97.85 reflects that the majority of students had mastered the prerequisite Islamic Religious Education material before the teaching and learning activities began. The high mode value of 106 confirms the positive trend in students' initial understanding in class.

The variability in learning interest data is relatively wider than that of initial learning ability variables. The standard deviation of learning interest, 24.245, indicates a significant difference in interest among students. Some students demonstrated very high enthusiasm for Islamic Religious Education (PAI), with scores reaching 120, while a small minority showed relatively low interest, with scores reaching 41.

The average PAI learning outcome score of 82.37 indicates that students generally exceeded the academic passing grade. The relatively small standard deviation of 5.874 reflects the homogeneity of students' final grade achievement across the school. The minimum learning outcome score of 72 indicates that no students fell significantly below the KKM threshold.

The grouping of students' initial learning ability levels was divided into five main categories based on frequency distribution. A total of 23 students (38%) were in the very high category, 21 students (35%) were in the high category, 10 students (17%) were in the medium category, 4 students (7%) were in the low category, and 1 student (2%) was in the very low category. The majority of the sample population occupied the initial ability range above the group average.

The student learning interest categories showed proportions that were nearly parallel to their initial cognitive abilities. Twenty-two students (37%) were classified as having very high interest, 18 students (30%) as having high interest, 6 students (10%) as having moderate interest, 6 students (10%) as having low interest, and 1 student (2%) as having very low interest. The cumulative proportion of high and very high interest categories reached 67% of the total sample.

Islamic Religious Education (PAI) learning outcomes showed a stable distribution of student scores. Fourteen students (23%) achieved very high learning outcomes, 18 students (30%) achieved high learning outcomes, 16 students (27%) achieved moderate learning outcomes, and 11 students (18%) achieved low learning outcomes. No students were found in the very low learning outcomes category in this academic assessment.

The high percentage of students in the high and very high initial ability categories is influenced by the habit of reciting the Quran outside of school. The family environment and non-formal religious education, such as TPQ (Islamic Religious Education Center), significantly contribute to the development of students' basic Islamic Religious Education (PAI) knowledge. Mastery of memorizing short verses and basic worship concepts is established before formal learning begins at school.

The wide range of learning interests is closely related to students' perceptions of the teacher's delivery methods. Students with very high learning interests tend to prefer a variety of interactive instructional media used in the classroom. Monotonous Islamic Religious Education (PAI) instruction or a focus solely on memorizing theory leads to a decline in interest among a small group of students.

The stability of students' Islamic Religious Education (PAI) learning outcomes is influenced by the appropriateness of the exam material to the classroom learning framework. Developing standardized test instruments helps students consistently achieve minimum completion criteria. Teacher guidance in the classroom maintains a good understanding of religious material.

Multiple linear regression testing produces a regression line equation $\hat{y} = 81.012 - 0.026X_1 + 0.043X_2$. The regression coefficient of the initial learning ability variable (X_1) is -0.026 with a t-count of -0.466 and a significance value of 0.643 ($p > 0.05$). A significance value exceeding 0.05 indicates that the initial learning ability variable does not have a significant partial influence on Islamic Religious Education learning outcomes.

Partial testing of the learning interest variable (X_2) yielded a regression coefficient of 0.043 with a t-test of 1.359 and a significance value of 0.179 ($p > 0.05$). The positive relationship indicates a tendency for increased learning interest to be followed by increased PAI learning outcomes. A statistical significance value above 0.05 proves that the influence of independent learning interest has not been proven statistically significant at the 95% confidence level.

Simultaneous testing using ANOVA statistics yielded an F-value of 1.148 with a significance level of 0.325 ($p > 0.05$). The coefficient of determination (R^2) was 0.039, indicating that initial learning ability and learning interest together were only able to explain 3.9% of the variation in PAI learning outcomes. The remaining 96.1% of the variation in PAI learning outcomes was influenced by other external factors outside this regression model.

In-depth observations of students at SDN Cempaka Baru 03 Pagi, Central Jakarta, provide a contextual overview of learning dynamics. Several students with very high initial

ability scores above 110 actually achieved moderate scores on the Islamic Religious Education (PAI) exam, namely 76. This unique occurrence demonstrates that high or low prior knowledge does not always align with final academic grades.

A different situation was found in a group of students with low learning interest who considered Islamic Religious Education (PAI) lessons to be dominated by memorizing extensive texts. This group's interest scores ranged from 41 to 52, yet they managed to achieve PAI exam scores above the minimum minimum requirement (KKM) of 80. Diligence in studying the material immediately before the exam was a key factor in determining their academic performance.

The profile of students with a high learning interest (above 108) demonstrates exceptional engagement in classroom discussions. Students in this group actively ask questions and assist their peers during group learning. Their final PAI scores consistently range from 85 to 92.

The lack of synergy between high initial abilities and moderate learning outcomes in the case study was caused by student study habits. Students who felt they had mastered the initial material tended to underestimate their preparation for the final exam. Overconfidence led to a decrease in accuracy when completing PAI assessment questions in class.

The achievement of good grades among low-interest students is explained by the effectiveness of short-term memorization strategies. Students utilize material summaries and practice questions the day before the test. Instantly memorizing religious facts helps them achieve exam scores that meet school criteria.

The success of highly motivated students in achieving top grades reflects the effectiveness of affective engagement in learning. Enjoyment of Islamic Religious Education material naturally promotes long-term memory retention. Consistent attention throughout the teaching and learning process minimizes the potential for conceptual errors during formal evaluations.

The analysis of the interrelationships between variables revealed that initial learning ability and learning interest do not operate in a dominant linear relationship with PAI achievement. The path analysis confirmed that the correlation between the two independent variables is very low. Students' prior knowledge does not automatically translate into a high level of PAI learning interest in school.

The combined effect of only 3.9% confirms the dominance of other external variables not included in the research model. Factors such as teacher teaching strategies, parental facilitative support, and classroom social climate play a larger role in determining PAI scores. The presence of independent variables in this study serves as a secondary supporter of academic achievement.

The implications of this empirical relationship provide important guidance for curriculum policymakers at SDN Cempaka Baru 03 Pagi, Central Jakarta. Improving Islamic Religious Education (PAI) learning outcomes cannot be achieved solely by relying on initial perceptions of student abilities or motivating student interest. Teachers need to develop varied teaching methods and a comprehensive evaluation system that encompasses all aspects of student development.

The results of the descriptive study indicate that the variables of initial learning ability (X1), learning interest (X2), and Islamic Religious Education learning outcomes (Y) in students of SDN Cempaka Baru 03 Pagi, Central Jakarta are in the high category. The average

score of initial ability reached 97.85, learning interest reached 89.32, and Islamic Religious Education learning outcomes reached 78.91. The majority of students have basic cognitive readiness and adequate interest in Islamic Religious Education subjects.

Partial regression analysis confirmed a unidirectional relationship between the independent and dependent variables. Increases in initial learning ability and learning interest indicate a trend toward improved Islamic Religious Education (PAI) learning outcomes. The individual contribution of each variable was 3.9% based on simple linear regression testing.

The simultaneous multiple linear regression test yielded an F value of 1.148 with a significance value of 0.325. The coefficient of determination (R^2) indicates a combined contribution of initial ability and learning interest variables of 3.9% to 24% to the variation in Islamic Religious Education learning outcomes. The remaining large variation in learning outcomes is influenced by other factors outside the research model.

The findings regarding the influence of prior learning abilities reinforce previous research that places prerequisite knowledge as a cognitive foundation. Researchers such as Yanti, (2024) And Gunawan, (2024) found that entry behavior facilitates students' absorption of new learning materials. Research at SDN Cempaka Baru 03 Pagi confirmed this linear pattern, although the contribution was relatively small.

The results of the study on the learning interest variable are in line with the study Mahmoud, (2025) And Hasanah, (2024) which proves a positive relationship between interest and academic achievement. The difference lies in the level of statistical significance and the magnitude of the variable's contribution. This study noted a lower contribution from interest in learning compared to the results of studies at the secondary education level.

This comparative study demonstrates that the impact of initial interests and abilities at the elementary school level has unique dynamics. Previous research on high school and vocational school students has shown a very dominant simultaneous influence. This elementary school study demonstrates that initial cognitive factors and internal interests are not the sole determinants of Islamic Religious Education (PAI) achievement (Razum, 2023).

High initial ability scores indicate the successful formation of a religious foundation within the family and non-formal educational institutions. Students bring a foundation of memorization and basic understanding before teachers present material in class. This cognitive readiness is a key asset in creating a communicative Islamic Religious Education learning environment.

The high level of interest in learning indicates a positive response from students to the introduction of Islamic Religious Education (PAI) in elementary school. Students no longer view PAI as a daunting curriculum burden. Their enjoyment and engagement are fostered by the intimate connection between religious values and their daily lives (Radino, 2025).

The low simultaneous coefficient of determination strongly indicates that Islamic Religious Education (PAI) test scores are influenced by complex external variables. Quantifying Islamic Religious Education (PAI) learning outcomes through written tests does not fully capture the interaction between cognitive readiness and interest. Academic measurement of Islamic Religious Education (PAI) in elementary schools remains heavily tied to teaching methods and teacher assessment instruments (Lutfauziah, 2023).

Practical implications for Islamic Religious Education teachers emphasize the importance of strengthening diagnostic assessments at the beginning of the semester. Teachers should not rely solely on students' interest levels to predict final grades. Instructional strategy design must

be continuously adapted to the varying levels of each child's initial cognitive readiness (Latipah, 2023).

Managerial implications for schools require the provision of more interactive religious learning facilities and resources. School management needs to facilitate training in teaching methodology for Islamic Religious Education teachers to enable them to translate student interest into concrete academic achievement. A religious and conducive school environment enhances the absorption of subject matter.

The theoretical implications provide new insights into the contextual nature of the correlation model between initial abilities and interest in Islamic Religious Education (PAI) learning outcomes. Islamic education researchers gain empirical references for considering other mediating variables. Further research model development should incorporate variables such as teaching methods, parental roles, and school climate (Seyednoori, 2022).

The limited contribution of prior knowledge occurs because the scope of Islamic Religious Education (PAI) material in elementary school encompasses new, abstract memorization aspects. Students with good prior knowledge must still learn terms in Islamic jurisprudence (Fiqh) or Islamic cultural history that they have never encountered before. Prior knowledge only helps with the basic aspects of reading the Quran and daily worship (Asri, 2025).

Students' learning interest does not automatically correlate with academic test results due to a gap between affective enthusiasm and question-answering skills. Students enjoy Islamic Religious Education (PAI) material and are enthusiastic about listening to teacher stories in class (Dev, 2025). Obstacles arise when students have to convert this understanding into written tests that require high cognitive accuracy (Muslikun, 2026).

External influences from the teaching environment dominate students' overall academic achievement. Variations in teacher teaching styles, test scoring techniques, and the intensity of parental support at home significantly influence final grades. These external factors account for most of the variance in scores not explained by this two-variable regression model (Zainuddin, 2023).

Islamic Religious Education teachers need to develop differentiated teaching modules that precisely map students' initial abilities from the beginning of the school year. This concrete step includes administering diagnostic pre-tests and grouping students' understanding levels (Wahyudi, 2023). Differentiated learning helps students with low initial abilities to catch up without hindering students with high abilities (Zulfiani, 2023).

Schools and parents must build integrated collaboration to oversee children's learning routines at home and at school. Schools provide engaging, technology-based learning media, while parents guide the development of worship and memorization habits at home. This synergy ensures that students' affective interest manifests itself in measurable learning persistence (Hosanna, 2026).

Future researchers are recommended to expand the scope of research variables by adding aspects of teacher pedagogical competence, learning resources, and emotional intelligence. The use of mixed methods or experimental studies is considered capable of comprehensively exploring the determinants of Islamic Religious Education learning outcomes at the elementary school level.

CONCLUSION

The most important finding of this study shows that although the average initial learning ability (97.85) and learning interest (89.32) are in the high category, both variables, partially or simultaneously, do not have a statistically significant effect on the Islamic Religious Education learning outcomes of students at SDN Cempaka Baru 03 Pagi, Central Jakarta ($F = 1.148$; $p = 0.325 > 0.05$). This empirical result refutes the general assumption that Islamic Religious Education academic test scores at the elementary school level are always directly proportional to students' initial cognitive readiness and affective interest. The main contribution of this research lies in its conceptual contribution that enriches the Islamic education literature, namely emphasizing the need to differentiate between the accumulation of students' prior knowledge and the effectiveness of converting that knowledge into formal test scores. The limitation of this study stems from the focus of the study which only examines two individual internal variables within the scope of one elementary school. Further research is recommended to expand the scope of external variables such as differentiated learning strategies, teacher pedagogical competence, and family learning climate by combining quantitative and qualitative approaches.

AUTHORCONTRIBUTIONS

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation; In-investigation.

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