



Merdeka Curriculum Implementation and Learning Interest in Islamic Religious Education at SMAN 3 Kota Pasuruan

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Received: 16th August 2026

Revised: 27th August 2026

Accepted: 28th September 2026

Published: 30th September 2026

ABSTRACT

The Merdeka Curriculum is intended to make Indonesian secondary education more flexible, contextual, and student-centered, but evidence on its relationship with students' learning interest in Islamic Religious Education (Pendidikan Agama Islam, PAI) remains limited. This study examines the implementation of the Merdeka Curriculum in PAI at SMAN 3 Kota Pasuruan and tests its relationship with students' learning interest. The original study used a quantitative-dominant ex post facto design supplemented by interview evidence. The researchers collected data from Grade XI students using structured questionnaires, supported by teacher and student interviews. Simple linear regression revealed a significant positive association between Merdeka Curriculum implementation and students' learning interest ($\beta = 0.584$, $p < .001$). The findings indicate that curriculum flexibility contributes to learning interest when enacted through participatory, contextual, and student-centered pedagogical practices. Interview evidence indicates that project work, discussion, group presentation, reflective journals, contextual religious cases, and greater student participation helped make PAI more relevant and engaging. However, limited learning resources, uneven teacher readiness for new assessment practices, facility constraints, and differences in student preparedness remained important boundary conditions. The findings suggest that curriculum flexibility is associated with stronger learning interest when translated into autonomy supportive, participatory, and contextually meaningful pedagogy rather than implemented as an administrative change alone.

Keywords: Curriculum Implementation; Student Engagement; Learning Motivation; Student-Centered Pedagogy; Islamic Education

1. INTRODUCTION

Curriculum reform becomes educationally meaningful only when policy changes translate into changes in students' classroom experiences. Indonesia's Merdeka Curriculum was introduced to give schools and teachers greater flexibility, prioritize essential learning, strengthen competency and character development, and create learning that is more responsive to students' needs. Regulation of the Minister of Education, Culture, Research and Technology Number 12 of 2024 consolidated its legal position, while Regulation of the Minister of Primary and Secondary Education Number 13 of 2025 subsequently adjusted and strengthened the framework without replacing the curriculum itself. The current policy direction also emphasizes deeper, meaningful, mindful, and enjoyable learning. These developments make the quality of curriculum enactment not merely formal adoption—an increasingly important object of educational research (Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi Republik Indonesia, 2024; Kementerian Pendidikan Dasar dan Menengah Republik Indonesia, 2025).

At the pedagogical level, the Merdeka Curriculum is closely associated with student-centered learning, curricular flexibility, project-based activities, differentiated instruction, contextualization, and formative assessment. Indonesian empirical research indicates that student-centered principles can strengthen active learning and support self-regulated, self-directed, and self-determined learning when they are genuinely enacted in classroom practice (Amiruddin et al., 2023). Teachers, however, do not interpret and implement curriculum reform uniformly. Candra and Wahzudik (2024) show that teachers may value the curriculum's flexibility while simultaneously experiencing complexity arising from administrative change, adaptation demands, and new work cultures. Churairoh et al. (2025) similarly report that differentiated instruction under the Merdeka Curriculum can remain partial when teachers' conceptual understanding, digital literacy, infrastructure, or implementation consistency is weak. These findings



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suggest that the same curriculum can generate different student experiences depending on how teachers interpret and operationalize its principles.

This implementation problem is especially important in Islamic Religious Education (Pendidikan Agama Islam, PAI). PAI is expected to develop not only conceptual knowledge but also religious understanding, moral judgment, spiritual awareness, and the capacity to relate Islamic values to everyday life. Therefore, a curriculum that allows teachers to prioritize essential content and connect learning with authentic contexts may be particularly relevant to PAI. Rifa'i et al. (2022) argue that the Merdeka Curriculum is compatible with the staged and holistic nature of PAI because teachers can identify essential learning objectives and adjust instruction to students' readiness. More recent studies show similar potential: PAI implementation under the Merdeka Curriculum has incorporated contextual learning, projects, formative assessment, discussion, reflective questioning, role play, and value-based activities (Rahayu & Istikomah, 2024; Batubara et al., 2025; Khair et al., 2026). Putri et al. (2026) further note that contemporary PAI curriculum design is increasingly oriented toward competency, character, and student-centered learning outcomes.

Yet curricular flexibility does not automatically produce strong student interest. PAI classrooms may still face limited facilities, incomplete learning resources, uneven teacher readiness, assessment difficulties, student diversity, and low motivation (Mustofa et al., 2024). Khalijah and Zuliana (2024) identify monotonous methods and weak student interest among recurring concerns in PAI learning, while Ilham and Eka (2024) show that teachers' strategies, classroom communication, and the relevance of PAI content can influence students' willingness to engage. This means curriculum reform needs to be examined through students' psychological experience. A formally student-centered curriculum may remain teacher-centered in practice, whereas a teacher who uses flexibility to create relevant, participatory learning can make the same curriculum more motivationally supportive.

Learning interest is a particularly useful construct for evaluating this experience. Interest is not identical to achievement, motivation, or engagement, although these constructs are related. Hidi and Renninger's (2006) four-phase model explains that interest can begin as situational interest triggered by features of the learning environment and, with repeated support, develop into more stable individual interest. In classroom contexts, interesting tasks, meaningful relevance, opportunities for participation, and positive interaction can help maintain attention and willingness to continue learning. Engagement research similarly distinguishes behavioral, emotional, and cognitive involvement and emphasizes that engagement is responsive to contextual features of schooling (Fredricks et al., 2004; Wong & Liem, 2022). Thus, a student's reported interest in PAI can be understood as an affective-cognitive orientation likely to strengthen when curriculum implementation makes learning meaningful, participatory, and personally relevant.

Self-determination theory provides a complementary explanation. Students are more likely to develop autonomous motivation and sustained engagement when learning environments support the needs for autonomy, competence, and relatedness (Niemic & Ryan, 2009; Ryan & Deci, 2020). Autonomy-supportive teaching does not mean the absence of structure; it involves acknowledging students' perspectives, providing meaningful rationales, offering appropriate choices, supporting initiative, and using instructional language that reduces unnecessary control (Reeve & Cheon, 2021). These principles are highly relevant to the Merdeka Curriculum because curricular flexibility can create opportunities for student voice and contextualized tasks, but the motivational benefit depends on how teachers use that flexibility. A project may increase interest when students understand its purpose and have meaningful responsibility, but it may reduce interest when it becomes unclear or burdensome.

The Indonesian literature has begun to document positive relationships between Merdeka Curriculum implementation and learning interest across different educational settings. Siregar et al. (2024) report increased activeness and enthusiasm among elementary students, while Noya et al. (2025) find a positive and significant regression relationship between curriculum implementation and learning interest among senior high school students in geography. Sholihah et al. (2025) report high motivation and interest in English learning under a flexible, student-centered implementation. In PAI specifically, Parhun and Junaidi (2025) identify increased enthusiasm, active participation, contextual understanding, and project creativity after implementation of the Merdeka Curriculum. These studies support the plausibility of a positive relationship but also highlight an important limitation: much of the evidence is descriptive, outside PAI, focused on different school levels, or insufficiently explicit about the mechanisms linking curriculum implementation to interest.

The present study contributes to this discussion through a senior high school PAI context at SMAN 3 Kota Pasuruan. The source manuscript reports that PAI learning at the school had previously relied heavily on lecture-based instruction, while the implementation of the Merdeka Curriculum introduced more discussion, project work,

group presentations, reflective journals, and contextual activities. It also reports implementation constraints, including limited textbooks, teacher discomfort with newer assessment practices, differences in students' readiness for active learning, and facility limitations. This combination of statistical data and contextual interview evidence makes the case useful for examining not only whether curriculum implementation is related to learning interest but also how that relationship may be pedagogically interpreted.

The research gap is therefore twofold. First, quantitative evidence specifically linking Merdeka Curriculum implementation with learning interest in senior-high-school PAI remains relatively limited compared with research in other subjects or school levels. Second, studies that report a positive statistical association often stop at the coefficient itself and do not sufficiently explain why curriculum implementation may matter psychologically. This study addresses these gaps by examining not only whether Merdeka Curriculum implementation is statistically associated with students' learning interest in PAI but also how classroom enactment may explain this relationship through autonomy support, contextual relevance, and active participation. Its novelty lies in positioning curriculum implementation as an enabling structure whose relationship with learning interest likely operates through pedagogical mechanisms such as autonomy support, contextual relevance, active participation, perceived competence, and classroom relatedness. These mechanisms are used interpretively, not as statistically tested mediators.

Accordingly, the study addresses three questions: (1) how is the Merdeka Curriculum enacted in PAI learning at SMAN 3 Kota Pasuruan; (2) is Merdeka Curriculum implementation significantly associated with students' learning interest in PAI; and (3) what classroom practices and implementation constraints help explain the observed quantitative relationship? The statistical hypothesis is that stronger Merdeka Curriculum implementation is positively associated with higher student learning interest in PAI.

2. METHOD

2.1 Research Design

The original study employed a quantitative ex post facto design supported by descriptive qualitative evidence. This article therefore treats the research as a quantitative-dominant, nonexperimental study in which the statistical relationship between two naturally occurring variables Merdeka Curriculum implementation and students' learning interest was examined without manipulating classroom conditions. The ex post facto orientation is appropriate for estimating associations after curriculum implementation has already occurred; however, it does not, by itself, establish causal effects. Consequently, the results are interpreted in terms of association, prediction, and explained variance rather than experimental causation.

Interview evidence provided contextual explanation of how the curriculum was experienced in PAI classrooms. The qualitative component did not function as an independently designed qualitative study with a fully reported coding protocol. Instead, the reported interview findings were organized around pedagogical flexibility, active and collaborative learning, contextual relevance, teacher practices, student responses, and implementation constraints. This approach allows the qualitative material to explain the meaning of the statistical pattern without claiming a level of qualitative analytic procedure that was not documented in the source manuscript.

2.2 Population, Sample, and Participant Scope

The quantitative population consisted of 288 students at SMAN 3 Kota Pasuruan. The source manuscript identifies 74 Grade XI students as the survey sample, drawn from classes XI-1, XI-2, and XI-3. The sample size was estimated using Slovin's formula, after which students were selected purposively according to the criterion that they had experienced the Merdeka Curriculum in PAI learning. Because purposive selection is a nonprobability procedure, the Slovin calculation should be understood as a sample-size planning device rather than as evidence of probability sampling. This distinction is important when considering the generalizability of the results beyond the participating classes.

Supporting interview evidence came from PAI teachers and students. In the later results narrative, the source manuscript specifically refers to interviews with two PAI teachers and Grade XII students. This differs from the Grade XI group used for the quantitative survey. The interview material is therefore treated as school-level contextual corroboration of curriculum enactment rather than direct respondent-level triangulation of the same 74 survey participants. The exact number of interviewed students was not reported in the source article and is not reconstructed here.

2.3 Instruments and Data Sources

The curriculum implementation questionnaire was developed based on indicators related to student-centered learning, contextual learning, project-based activities, and formative assessment. Meanwhile, the learning-interest questionnaire assessed students' attention, involvement, willingness to participate, and positive responses toward PAI learning. Before analysis, the instruments should be evaluated for validity and reliability to ensure measurement consistency. The source manuscript does not reproduce the full item wording, response anchors, construct dimensions, item-validity statistics, or internal-consistency coefficients in the article text. For scientific transparency, this revision does not invent unreported psychometric values. The absence of these statistics limits independent evaluation of measurement quality and is addressed explicitly in the study limitations.

Interviews with teachers and students supplemented the questionnaire data. Reported interview content covered teachers' flexibility in designing PAI learning, the use of project-based learning, class discussions, group presentations, reflective journals, video-based da'wah projects, records of daily worship practices, analysis of religious cases, social observation of Islamic values, student participation, classroom atmosphere, and implementation difficulties. These data were used as contextual evidence to interpret the quantitative relationship between curriculum implementation and learning interest.

2.4 Data Collection and Analysis

Questionnaire data were analyzed descriptively to characterize curriculum implementation and students' learning interest. The source manuscript classifies Merdeka Curriculum implementation as 'good,' but the article draft does not report the mean, standard deviation, or category cut-off values. Therefore, the category is retained as a source-reported descriptive result without adding unavailable summary statistics.

For inferential analysis, we used simple linear regression to test whether Merdeka Curriculum implementation (X) significantly predicted learning interest in PAI (Y). We evaluated statistical significance at $\alpha = .05$. The reported coefficient table includes the unstandardized coefficient (B), standard error (SE), standardized coefficient (β), t statistic, and significance value. The source manuscript reported the software output as Sig. = .000; in accordance with APA reporting practice, this is presented as $p < .001$ rather than $p = .000$. The model's coefficient of determination (R^2) was reported as .341, indicating that the predictor in this sample accounted for 34.1% of the observed variance in learning interest.

The source manuscript contains an important hypothesis-decision error: it states that H_0 was accepted even though $t = 6.103$ exceeded the reported critical t value of 1.994 and the significance value was below .05. This article corrects the decision. The null hypothesis is rejected, and the alternative hypothesis of a statistically significant positive relationship is supported. This correction changes the statistical wording but not the reported numerical results.

Interview evidence was interpreted descriptively alongside the regression result. The analysis sought convergence and boundary conditions: practices that plausibly explain why stronger curriculum implementation might be associated with interest, as well as constraints that could weaken that relationship. The integration is therefore explanatory rather than a formal mixed-methods joint model.

2.5 Ethical and Reporting Considerations

The source article does not report an ethics-committee approval number, consent procedure, or data-access statement. These details should be verified by the authors before submission and entered in the Declarations section. This revision does not fabricate any ethical information, participant consent details, psychometric coefficients, or data-collection dates.

3. RESULTS AND DISCUSSION

3.1 Enactment of the Merdeka Curriculum in PAI Learning

The descriptive results characterize the implementation of the Merdeka Curriculum in PAI at SMAN 3 Kota Pasuruan as generally good, although the source article also makes clear that implementation was not fully optimal. The most important evidence is not the category label itself but the shift in instructional practice described by teachers and students. The curriculum was associated with greater flexibility in selecting and developing relevant content, more room for active student participation, and a broader repertoire of learning activities than lecture-dominated instruction.

Teachers reported using project-based learning, class discussion, group presentations, and reflective writing. They translated these methods into PAI-specific activities such as producing da'wah videos, recording daily worship practices in journals, analyzing religious and moral cases, and conducting social observations related to Islamic values. These activities shift the student from a recipient of religious information to a participant who must interpret, communicate, apply, and reflect on religious knowledge. This pattern is consistent with research showing that the Merdeka Curriculum can make PAI more contextual and value-oriented when teachers use curricular flexibility to connect learning objectives with students' lived experiences (Rifa'i et al., 2022; Rahayu & Istikomah, 2024; Khair et al., 2026).

The implementation pattern also aligns with broader reforms in PAI curriculum design. Putri et al. (2026) describe the Merdeka Curriculum as shifting PAI toward competency-oriented and student-centered learning outcomes, while Batubara et al. (2025) show that project-based and contextual strategies can coexist with cognitive, affective, and psychomotor assessment. This case adds an important motivational dimension: teachers and students described active learning not merely as a curriculum requirement but as a change in classroom experience that made learning more interactive, flexible, and meaningful.

At the same time, implementation remained uneven. The source manuscript reports limited textbooks, facility constraints, teacher discomfort with newer assessment systems, and students who were not always ready for discussion and presentation-based learning. These constraints resemble those reported by Mustofa et al. (2024), who identify limited resources, assessment difficulties, workload, time constraints, and differences in student characteristics as barriers to PAI implementation. They also parallel Candra and Wahzudik's (2024) finding that teachers may perceive curriculum innovation as beneficial while still struggling with complexity and adaptation. Thus, implementation quality should be understood as a continuum rather than a binary condition of 'implemented' versus 'not implemented.'

3.2 Regression Relationship Between Curriculum Implementation and Learning Interest

The inferential analysis indicates a statistically significant positive relationship between Merdeka Curriculum implementation and students' learning interest in PAI. Table 1 reproduces the coefficient information reported in the source manuscript, with APA-style probability notation.

Table 1

Simple Linear Regression Predicting Students' Learning Interest in PAI

Constant	62.162	5.424	-	11.461	< .001
Merdeka Curriculum implementation	0.260	0.043	0.584	6.103	< .001

Note. Dependent variable = students' learning interest in PAI. The source output reported Sig. = .000; this is presented as $p < .001$. $R^2 = .341$.

The positive unstandardized coefficient ($B = 0.260$) means that higher curriculum-implementation scores were associated with higher learning-interest scores on the observed scale. The standardized coefficient ($\beta = 0.584$) and t-statistic of 6.103 indicate that the predictor made a statistically reliable contribution in this simple regression model. Because $p < .001$, the null hypothesis of no linear relationship is rejected. This corrects the decision statement in the source manuscript, which mistakenly indicated that H_0 was accepted despite the reported test statistics.

The coefficient of determination ($R^2 = .341$) is substantively important because it shows both explanatory relevance and explanatory limits. Curriculum implementation accounted for 34.1% of the variance in learning interest within the sample, while 65.9% remained associated with other influences, measurement error, and unmodeled factors. This result should not be reduced to the claim that 'the curriculum determines 34.1% of interest.' Learning interest is multidimensional and can be affected by prior interest, teacher-student relationships, perceived competence, family support, peer climate, task difficulty, subject relevance, assessment experiences, and individual differences. The correct interpretation is that curriculum implementation was a meaningful predictor in the observed model but far from the only determinant.

The finding is broadly consistent with recent Indonesian studies. Noya et al. (2025) also report a positive and significant regression relationship between Merdeka Curriculum implementation and learning interest among senior high school students, while Sholihah et al. (2025) find that students perceive flexible and student-centered curriculum implementation as enjoyable, meaningful, and relevant to their learning. In PAI, Parhun and Junaidi (2025) report increased enthusiasm and participation when the curriculum is enacted through contextual and project-based strategies. The present study extends this literature by providing a quantitative estimate in a PAI

senior-high-school setting and by using reported classroom practices to interpret the relationship rather than treating the curriculum label as the causal mechanism itself.

3.3 Why Flexibility May Strengthen Interest: Autonomy and Student Voice

One plausible explanation for the positive relationship is that curriculum flexibility can better support student autonomy. Teachers at the study site described having more freedom to design content and activities that fit student needs, while students engaged in discussions, projects, presentations, and reflection rather than relying exclusively on lecture. From a self-determination perspective, these features can support autonomy when students have meaningful roles, understand the rationale for tasks, and have some choice or voice in how they learn (Niemic & Ryan, 2009; Ryan & Deci, 2020).

Autonomy should not be confused with unrestricted freedom. Reeve and Cheon (2021) emphasize that autonomy-supportive teaching combines student perspective-taking with structure, guidance, competence support, and meaningful choice. This distinction is directly relevant to the source data. Some students reportedly struggled when active learning required discussion or presentation without sufficient understanding. This indicates that 'freedom' can fail to generate interest when students do not yet feel competent or adequately supported. The motivational value of the Merdeka Curriculum therefore depends on the quality of scaffolding that accompanies student-centered activity.

This interpretation also explains why teacher readiness remains central even in a curriculum that emphasizes learner independence. Student-centered learning does not displace the teacher; it shifts the teacher's role toward designing tasks, clarifying expectations, providing feedback, and creating conditions in which students can participate successfully. Amiruddin et al. (2023) show that student-centered curriculum principles connect to active learning and learner autonomy through the learning activities teachers create. In PAI, this means students' freedom to discuss, interpret, or produce religious projects must remain anchored in clear learning objectives and accurate religious understanding.

The finding further resonates with the philosophical discourse surrounding Merdeka Belajar. Siswadi (2023) and Efendi et al. (2023) connect the reform with Ki Hadjar Dewantara's view of education as guidance that develops learners' potential rather than suppressing it through excessive control. The present evidence does not test this philosophical proposition directly, but it shows a compatible classroom pattern: when students are given more active roles and their contributions are valued, they report greater enthusiasm and involvement.

3.4 Contextual Relevance as a Trigger for Situational Interest in PAI

A second mechanism concerns relevance. Students may disengage from PAI when they experience content as abstract, repetitive, or disconnected from contemporary life. The source interviews indicate that students responded positively when PAI material was linked to moral and social issues, family life, community behavior, daily worship, and practical Islamic values. Activities such as religious case analysis, social observation, and reflective journals required students to connect formal content with situations they recognized from everyday life.

The four-phase model of interest development is useful here. Hidi and Renninger (2006) distinguish between triggered situational interest, maintained situational interest, emerging individual interest, and well-developed individual interest. Contextual cases, stories, practical tasks, or socially meaningful questions can trigger attention; repeated opportunities to investigate personally meaningful issues can then help maintain interest. This cross-sectional study cannot determine whether students' situational interest developed into durable individual interest, but the reported classroom changes align with conditions that can initiate and sustain interest.

This is especially significant for PAI because religious learning is intended to connect knowledge with values and practice. Khalijah and Zuliana (2024) emphasize the relevance of PAI content to students' intellectual, spiritual, social, and practical development. Rifa'i et al. (2022) similarly argue that teachers should prioritize essential PAI content and align it with learner needs. Recent PAI curriculum research also indicates that contextual and value-based activities can make learning more meaningful (Rahayu & Istikomah, 2024; Putri et al., 2026). Therefore, the positive regression relationship observed in this study may partly reflect the fact that stronger curriculum implementation was accompanied by more contextually meaningful instruction.

However, relevance is not guaranteed by simply mentioning real-life issues. Students need conceptual support to interpret those issues accurately and ethically. The source manuscript notes that weak student understanding sometimes hindered active learning. This means that contextualization must be paired with adequate explanation, structured inquiry, and feedback. Otherwise, a superficially 'real-world' task can become confusing rather than interesting.

3.5 Active Learning, Collaboration, and the Maintenance of Interest

The third explanatory mechanism is active participation. The source manuscript identifies discussion, group presentation, project work, and practical tasks as the methods students most strongly associated with the changed classroom atmosphere. These activities increase opportunities for students to speak, negotiate meaning, produce artifacts, listen to peers, and receive social feedback. Interest can be reinforced when students are not merely attentive to the teacher but become cognitively and behaviorally involved in the task.

The distinction between interest and engagement supports this mechanism. Interest is an affective-cognitive orientation toward an object or activity, whereas engagement concerns behavioral, emotional, and cognitive involvement in learning (Fredricks et al., 2004; Wong & Liem, 2022). The two constructs can reinforce each other: interest can encourage participation, and successful participation can deepen interest. The source data illustrate this reciprocal possibility. Students who experienced discussion and practical activities as enjoyable became more willing to participate, while participation itself gave them opportunities to experience PAI as a social and meaningful subject.

Indonesian curriculum studies reinforce this interpretation. Amiruddin et al. (2023) identify active learning as an important pathway through which student-centered curriculum principles relate to learner autonomy and self-regulation. Siregar et al. (2024) similarly report increased activeness and enthusiasm in classrooms implementing the Merdeka Curriculum. In PAI, Khair et al. (2026) document discussion, role play, reflective questioning, Qur'anic practice, and value-based projects as forms of student-centered enactment. These converging findings suggest that the curriculum's motivational promise is likely to be realized when curricular flexibility becomes active pedagogy rather than remaining a planning document.

Collaboration also adds a relatedness dimension. Group discussion and presentations create opportunities for peer recognition, mutual support, and shared meaning-making. Self-determination theory predicts that relatedness can support internal motivation when students feel respected and connected in the learning environment (Niemiec & Ryan, 2009; Ryan & Deci, 2020). The source manuscript specifically notes that open discussion, empathetic teaching, and a comfortable classroom atmosphere made students feel valued. Thus, social climate may be an unmeasured factor through which implementation quality translates into learning interest.

3.6 Teacher Mediation: Curriculum Policy Does Not Teach by Itself

The results underscore a central implementation principle: curriculum policy does not teach students directly. Teachers mediate policy through choices about explanation, task design, pacing, grouping, feedback, assessment, and classroom relationships. The source manuscript identifies teacher delivery and classroom atmosphere as major influences on student interest. Students appreciated stories, open discussion, direct practice, and teachers who communicated empathetically. This indicates that curriculum implementation should be analyzed as enacted pedagogy rather than as a simple measure of policy compliance.

Teacher mediation is particularly important during curriculum transition. Candra and Wahzudik (2024) show that teachers' interpretation of the Merdeka Curriculum influences how innovation is adopted, while Churairoh et al. (2025) demonstrate that differentiated instruction can remain superficial when conceptual understanding is incomplete. Batubara et al. (2025) likewise identify assessment and implementation challenges in PAI even where institutional commitment is strong. These studies help explain the mixed picture at SMAN 3 Kota Pasuruan: greater pedagogical flexibility was associated with stronger interest, but teachers still felt uncomfortable with newer assessment practices and faced resource constraints.

The implication is that professional development should focus less on procedural compliance and more on pedagogical judgment. Teachers need support to translate curriculum principles into clear learning objectives, differentiated scaffolding, relevant tasks, formative feedback, and fair assessment. PAI teachers additionally need to maintain theological and ethical accuracy while encouraging discussion and student voice. Professional autonomy is therefore most productive when accompanied by strong subject knowledge and pedagogical competence.

This point also clarifies why 65.9% of learning-interest variance remained unexplained by the model. Even when curriculum implementation is measured broadly, students respond to the specific teacher, task, peer group, classroom climate, prior experiences, and personal interests they encounter. The curriculum creates possibilities, but teachers and classroom interactions shape how students experience them.

3.7 Implementation Constraints as Boundary Conditions

The qualitative evidence identifies four recurring boundary conditions: learning resources, teacher readiness, assessment adaptation, and student preparedness. Limited textbooks and facilities can constrain the range of activities teachers can design. Teacher uncertainty about new assessment practices can reduce confidence and

increase workload. Students who are accustomed to lecture-based instruction may initially struggle with discussion, presentation, and independent tasks. These conditions do not negate the positive regression relationship; rather, they help explain why implementation quality varies and why the relationship is not deterministic.

Comparable problems appear across the literature. Mustofa et al. (2024) report limitations in infrastructure, time, assessment, teacher workload, and student diversity in PAI. Churairoh et al. (2025) identify conceptual and digital-literacy constraints in differentiated instruction, while Candra and Wahzudik (2024) emphasize the complexity of teacher adaptation. At the same time, studies such as Parhun and Junaidi (2025) show that teacher readiness, supportive facilities, a conducive learning environment, and innovative strategies can strengthen students' interest in PAI. These findings suggest that curriculum implementation should be viewed as an organizational-pedagogical system rather than an isolated teacher behavior.

The presence of constraints also cautions against attributing changes in learning interest solely to the curriculum. In an ex post facto design, students were not randomly assigned to different curriculum conditions, no pre-implementation baseline was established, and other explanatory variables were not statistically controlled. A positive coefficient therefore demonstrates a relationship within the observed data, not a causal effect in the experimental sense. This distinction is particularly important because curriculum studies often use the language of 'influence' more strongly than their designs can justify.

For practice, the most productive response to constraints is not to abandon active learning but to strengthen its scaffolding. Students who are unfamiliar with discussion may need structured roles and guiding questions. Project work may require staged deadlines, examples, rubrics, and feedback. Reflective journals may need explicit criteria that connect personal reflection with PAI concepts. These structures can protect competence while maintaining autonomy, consistent with autonomy-supportive teaching principles (Reeve & Cheon, 2021).

3.8 Integrated Interpretation of Quantitative and Contextual Evidence

The quantitative and contextual evidence can be integrated without claiming that the qualitative themes were statistically tested as mediators. Table 2 presents a joint interpretive display that connects the regression result with classroom practices and theoretical mechanisms.

Table 2

Joint Interpretation of the Quantitative Result and Reported Classroom Evidence

Regression	$B = .260; \beta = .584; p < .001; R^2 = .341$	Implementation is meaningfully associated with learning interest, but most variance remains outside the model.	Treat curriculum implementation as one important predictor, not a complete causal explanation.
Active pedagogy	Projects, discussion, presentations, reflective journals, practical PAI activities	Autonomy, competence, participation, cognitive involvement	Design student-centered activities with clear scaffolding and feedback.
Contextual relevance	Religious cases, social observation, everyday moral and worship contexts	Triggered and maintained situational interest; perceived usefulness	Connect PAI concepts with authentic student experience without weakening conceptual rigor.
Boundary conditions	Limited books/facilities, assessment adaptation, uneven student readiness	Implementation quality moderates how curriculum flexibility is experienced	Strengthen teacher professional learning, resources, and gradual student preparation.

Note. The interpretive mechanisms are theoretically informed explanations of the reported pattern; they were not estimated as statistical mediators in the original regression model.

The joint interpretation shows why the statistical and qualitative strands are more informative together than separately. The regression establishes that students who reported stronger Merdeka Curriculum implementation also tended to report stronger learning interest. The interview evidence indicates what stronger implementation looked like in practice: greater teacher flexibility, active participation, contextualized PAI tasks, reflective learning, and more interactive classroom relationships. The theoretical literature then provides plausible motivational mechanisms—autonomy, competence, relatedness, relevance, and situational interest—through which these practices can influence students' experience of learning.

The most important conceptual contribution is therefore a distinction between curriculum adoption and curriculum enactment. Adoption refers to the formal use of the Merdeka Curriculum. Enactment refers to what teachers and students actually do in response. The results suggest that learning interest is more plausibly linked to enactment than to the policy label itself. This distinction helps explain why curriculum reform can produce positive results in one classroom and limited change in another, even when both formally follow the same curriculum.

A second contribution is the distinction between direct curriculum effects and pedagogically mediated relationships. The study does not provide a mediation test, but the qualitative evidence makes it unreasonable to assume that a policy document directly changes student interest. Instead, the curriculum creates pedagogical affordances flexibility, contextualization, project work, student participation, differentiated support which teachers can activate to varying degrees. These affordances then shape students' classroom experiences.

3.9 Implications for PAI Teaching and Current Curriculum Policy

The findings have direct implications for PAI teaching. First, teachers should use curricular flexibility to increase meaningful student responsibility, not simply to vary activities. A discussion is not student-centered if only a few students speak; a project is not autonomy-supportive if students do not understand its purpose; and a reflective journal is not meaningful if it becomes routine copying. The educational value lies in how activities support students' understanding, competence, voice, and connection with Islamic values.

Second, contextual relevance should be deliberately designed. PAI offers abundant opportunities to connect learning with ethical decisions, digital behavior, family relationships, community responsibility, worship practice, religious moderation, and social issues. Haris et al. (2024) demonstrate that PAI teachers can use the Merdeka Curriculum to strengthen religious moderation, while Putri et al. (2026) emphasize competency and character outcomes in curriculum design. These directions are compatible with the study's finding that students respond positively when PAI feels useful for moral and social life.

Third, student-centered learning needs structured progression. Students who have experienced teacher-centered instruction may require time to develop discussion skills, reflective capacity, independent task management, and confidence in presentation. Differentiation is therefore relevant not only to content difficulty but also to students' readiness for participation. Churairoh et al. (2025) show that differentiated PAI instruction requires more than grouping students by perceived learning style; it requires adaptation of content, process, support, and product. For SMAN 3 Kota Pasuruan, this implies that active learning should be accompanied by explicit scaffolding and formative feedback.

Fourth, the findings are increasingly relevant to the current national emphasis on deep learning. Regulation Number 13 of 2025 strengthened the existing curriculum framework and emphasized learning that is meaningful, mindful, and enjoyable rather than announcing a replacement curriculum (Kementerian Pendidikan Dasar dan Menengah Republik Indonesia, 2025). The present results suggest that these qualities are not achieved by terminology alone. Meaningfulness emerges when PAI connects to real experience; mindful learning requires reflection and conceptual understanding; enjoyment is more likely when students experience competence, respectful interaction, and active participation.

Finally, school leaders should treat curriculum implementation as an ecosystem. Teacher training, access to textbooks and digital resources, assessment support, time for collaborative planning, and opportunities to share practice are necessary if pedagogical flexibility is to become consistent across classrooms. A regression coefficient can indicate that implementation matters, but sustainable improvement depends on the organizational conditions that allow teachers to enact the curriculum well.

3.10 Methodological Limitations and Directions for Further Research

Several limitations constrain the strength of inference. First, the study used a single-school, ex post facto design. The absence of random assignment, a pre-implementation baseline, or a comparison group means that the positive relationship cannot be interpreted as experimental evidence that the curriculum caused the observed level of interest. Longitudinal or quasi-experimental designs would provide stronger evidence about change over time.

Second, the quantitative sample was selected purposively after sample-size estimation. This limits population generalization and may introduce selection bias. Future studies should use stratified or cluster probability sampling when school conditions allow, especially when the objective is to generalize to all Grade XI students or across schools.

Third, both the predictor and outcome were measured through questionnaires, which raises the possibility of common-method variance and social-desirability bias. More rigorous studies should combine student questionnaires with classroom-observation rubrics, teacher implementation measures, participation records, and longitudinal

interest measures. The source article also does not report item-level validity evidence, scale anchors, or reliability coefficients; future publication should include content validity, construct validity where appropriate, and internal-consistency statistics.

Fourth, the qualitative evidence came from two PAI teachers and students described later in the manuscript as Grade XII, whereas the quantitative survey involved Grade XI. This means the interviews provide school-level explanatory context rather than respondent-matched triangulation. Future mixed-methods research should purposefully connect quantitative respondents with qualitative follow-up sampling and report the qualitative coding procedure in detail.

Fifth, 65.9% of the variance in learning interest remained unexplained. Future models should consider teacher autonomy support, perceived relevance, competence, classroom relatedness, prior PAI interest, academic self-efficacy, peer climate, family religiosity, digital learning resources, and assessment experiences. Structural equation modeling could then test whether the theoretical pathway proposed in Figure 1 is supported empirically rather than only interpretively.

4. CONCLUSION

The study demonstrates a positive and statistically significant relationship between Merdeka Curriculum implementation and students' learning interest in Islamic Religious Education at SMAN 3 Kota Pasuruan. The simple regression coefficient for curriculum implementation was positive and significant ($B = 0.260$, $\beta = 0.584$, $t = 6.103$, $p < .001$), and the model explained 34.1% of the observed variance in learning interest. The correct statistical decision is therefore to reject the null hypothesis, not accept it as stated in the original manuscript. At the same time, the ex post facto design requires caution: the result supports association and prediction within the sample, not experimental causation. Contextual interview evidence helps explain why stronger implementation may be linked with interest. Project work, discussion, presentations, reflective journals, practical religious activities, contextual cases, and greater student participation created conditions that can support autonomy, competence, relatedness, relevance, and situational interest. The central contribution is the distinction between curriculum adoption and curriculum enactment. A student-centered curriculum is motivationally meaningful only when teachers translate flexibility into well-scaffolded, contextually relevant, and participatory pedagogy. Implementation constraints—limited resources, assessment adaptation, teacher readiness, and differences in student preparedness—remain important boundary conditions. For PAI practice, schools should strengthen teacher professional learning, learning resources, formative assessment, and gradual preparation for student autonomy. Future research should employ stronger sampling, validated measurement reporting, longitudinal or comparative designs, and direct tests of the motivational mechanisms proposed in this study.

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