

Curriculum Development Pattern of Merdeka PAI in Realizing 21st Century Competencies in Schools

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Abstract

The development of the Merdeka Curriculum in Islamic Religious Education (PAI) represents a strategic response to the demands of 21st-century competencies, which emphasize critical thinking, creativity, collaboration, and communication (4C). This study aims to analyze the development pattern of the Merdeka Curriculum for PAI and its implications for fostering 21st-century competencies at the school level. Employing a qualitative approach through a structured literature review of publications from accredited national journals (Sinta) and international databases (Scopus) published between 2015 and 2025, the data were analyzed thematically using Braun and Clarke's framework to identify patterns, challenges, and best practices in curriculum development. The findings reveal that the dominant development pattern is collaborative-decentralistic, representing a form of directed autonomy in which the government establishes the framework of learning outcomes, while educational institutions engage in curriculum co-creation with teachers, students, and the community. This pattern promotes local relevance and creates opportunities for integrating Islamic values with project-based learning practices and authentic assessment. However, the success of this pattern depends strongly on teachers' capacity, valid assessment mechanisms, the availability of digital resources, and policy support. The practical implications of this study highlight the need for a systematic development process, including needs analysis, co-design, prototyping, and validation, as well as the strengthening of teacher professionalism and the development of calibrated 4C assessment instruments. These efforts are essential to ensure that the Merdeka Curriculum for PAI can effectively shape students' character and 21st-century competencies.

Keywords: Merdeka Curriculum; Curriculum Development; 21st-Century Competencies; 4C Skills; Collaborative-Decentralistic Model.

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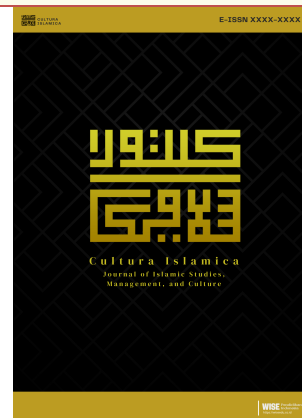
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INTRODUCTION

Curriculum planning has long been framed by classical principles formulated by theorists such as Tyler and Taba [1], which include determining objectives, selecting learning experiences, organizing experiences, and evaluating as a series of problem-solving steps in curriculum development [2]. These approaches emphasize the need for the relevance of goals to the context of learners and the role of teachers as designers of learning experiences [3], [4], making this framework still relevant as modern curricula demand higher-order skills and a competency-based orientation [5]. Conceptually, the demands of 21st-century competencies, often summarized in the 4Cs (critical thinking, creativity, collaboration, communication), require the curriculum's focus to expand from merely content to capabilities and learning experiences that support the resolution of complex problems [6].

Indonesia's policy response to these demands is embodied in the concept of the Merdeka Curriculum, which grants greater autonomy to educational units to design contextual and student-centered curricula [7], [8], while encouraging pedagogical innovation at the school level. In practice, the Merdeka Curriculum promotes the use of projects, thematic learning, and authentic assessments to develop competencies relevant to real-life situations [9], [10], however, its implementation shows variation across schools and challenges in teacher capacity [11]. Early empirical findings confirm that the Merdeka Belajar modality opens space for the development of a more flexible curriculum, but the success of this transition is highly influenced by how the curriculum development model is organized at the local level [12], [13].

Islamic Religious Education (PAI) occupies a strategic position in the national curriculum landscape due to its dual functions [14], [15]: internalizing spiritual values and shaping the social character of learners, while also contributing to the ethical competencies required in the global era [16], [17]. Studies on the integration of Islamic values with 21st-century competencies reveal practical challenges, including the fact that much of the PAI material is still presented in a normative manner without strengthening critical thinking and collaborative skills [18], [19], as well as insufficient cross-disciplinary integration (e.g., science and ethics) and suboptimal pedagogical use of technology in PAI. This situation highlights the need for a new paradigm in the development of the PAI curriculum, one that is not only adaptive to the needs of the times [20], [21], but also grounded in strong and contextual conceptual foundations [22].

Several previous studies have shown that the relationship between the Merdeka Curriculum and the development of 21st-century competencies has been widely discussed. However, these studies generally focus on implementation and classroom practice rather than on the conceptual aspects or patterns of curriculum development. For instance, U. Inayati [23] highlighted the application of active methods in 21st-century learning at Islamic elementary schools; I. Rahmawati [24] described teachers' experiences in implementing the Merdeka Curriculum while identifying limitations in the design of competency-based curricula; I. H. Noor, A. Izzati, and M. Z. Azani [25] examined the implementation of the Merdeka Curriculum for Islamic Religious Education at the junior secondary level and identified teachers' difficulties in designing themes for the Pancasila Student Profile; H. Zainuri [26] proposed the development of an interdisciplinary-based curriculum; while I. Anas and I. M. [27] demonstrated the potential integration of Islamic values into a STEM-based curriculum. These

five studies make important contributions to learning practice, yet none of them has reached the stage of systematically formulating a development pattern for the Islamic Religious Education curriculum, particularly in terms of how the curriculum is designed, structured, and validated to meet the actual needs of schools.

Based on this gap, it is evident that studies on the Merdeka Curriculum for Islamic Religious Education have predominantly addressed “how it is implemented” rather than “how it is developed.” In fact, the curriculum development process serves as the foundation for successful implementation in educational practice. This study seeks to fill this gap by focusing on a participatory and need-based development pattern for the Merdeka Curriculum in Islamic Religious Education. This model positions the identification of local needs, including social, cultural, and digital literacy needs, as the initial step, which is then developed through a co-creation mechanism involving teachers, students, parents, and the school community. This approach aims to operationally integrate 4C competencies with Islamic values through a contextual, flexible, and sustainable curriculum design [28].

This study aims to analyze the patterns and models of developing the Merdeka Curriculum for Islamic Religious Education in promoting 21st-century competencies in schools. The analysis focuses on how curriculum development principles, from planning and implementation to evaluation, are adapted within the context of Islamic Religious Education in order to produce a curriculum design that is oriented not only toward religious content but also toward the development of students’ critical thinking, creativity, collaboration, and communication skills. In addition, this study examines the extent to which a participatory and need-based approach is applied in the process of developing the Islamic Religious Education curriculum at the school level, as well as how the involvement of teachers, students, and other stakeholders shapes a contextual and sustainable development pattern. Through this study, a more systematic conceptual understanding is expected to emerge regarding a model for developing the Merdeka Curriculum in Islamic Religious Education that is relevant to the demands of the 21st century while remaining spiritually grounded.

METHODS

This study employed a qualitative approach using a literature review method to examine, integrate, and synthesize various scholarly findings relevant to the development pattern of the Merdeka Curriculum in Islamic Religious Education within the context of 21st-century competencies. The literature sources were systematically selected from accredited Sinta journals, reputable international journals indexed in Scopus/DOAJ, and national education policy documents. The literature search was conducted through Google Scholar, Garuda, ResearchGate, and Scopus using keywords such as “Merdeka Curriculum for Islamic Religious Education,” “curriculum development model,” “21st-century skills,” and “need-based curriculum.” The search and selection strategy followed the guidelines for systematic literature reviews as described by Snyder [29] and J. MacDonald [30], while also considering the integrative principles recommended by Richard J. Torraco [31] and Okoli C [32].

Data were analyzed using thematic analysis, which emphasizes a multi-layered process involving data familiarization, coding, theme identification, and critical thematic

interpretation. This approach was strengthened by recent methodological guidelines to ensure the quality and transparency of the analysis. The validity of the findings was maintained through source triangulation, by comparing results from different types of literature, rigorous selection of peer-reviewed articles, and documentation of the analytical process through an audit trail to enhance the credibility and dependability of the data [29].

RESULTS AND DISCUSSION

Results

This study found that the development of the Merdeka Curriculum in Islamic Religious Education (PAI) reflects a collaborative-decentralistic development pattern, in which schools and teachers are granted autonomy to adapt the curriculum to local needs and students' characteristics. This provides space for integrating Islamic values with 21st-century skills, including critical thinking, creativity, collaboration, and communication (4C) [33], [34]. The development pattern adopted in the Merdeka Curriculum for PAI enables greater autonomy for teachers and educational institutions in designing contextual learning that is relevant to real-life situations [35], [36]. However, the main challenge identified in its implementation is the continued high administrative burden placed on teachers, which limits their potential for creativity and innovation in curriculum development [37]. The successful implementation of the Merdeka Curriculum for PAI also depends heavily on teachers' capacity, with particular emphasis on professional development through continuous training [38]. In addition, the integration of digital literacy with Islamic values offers significant opportunities for students to develop 21st-century skills through activities that are relevant to the realities of digital life [39], [40]. Overall, this study indicates that the development pattern of the PAI curriculum within the Merdeka Curriculum can enhance the relevance of Islamic Religious Education to contemporary needs, provided that adequate professional support for teachers and sufficient resources are made available.

Conceptual Orientation of Merdeka Curriculum Development in Islamic Religious Education (PAI)

The findings of this study indicate that the conceptual orientation of developing the Merdeka Curriculum for Islamic Religious Education (PAI) cannot rely solely on classical curriculum development models that are linear and rational in nature, such as the formulation of objectives, selection of learning experiences, organization of content, and evaluation. Although the frameworks of Tyler, Taba, and Oliva remain relevant as systematic foundations for curriculum development, PAI within the context of the Merdeka Curriculum needs to be directed toward the integration of Islamic values mastery and the development of 21st-century competencies. In other words, PAI learning should not stop at the transmission of religious knowledge; rather, it must encourage students to develop reflective abilities, critical thinking skills, ethical decision-making, real-life problem-solving competencies, and the internalization of spiritual values in everyday behavior. Thus, the conceptual orientation of PAI should position Islamic teachings as the foundation for competency formation, rather than merely as normative content taught textually.

Another finding shows that the flexibility of the Merdeka Curriculum provides significant opportunities for teachers and educational institutions to develop PAI in a more

contextual, integrative, and meaningful manner through thematic modules, interdisciplinary projects, and authentic assessment. However, this flexibility also presents challenges, particularly in ensuring that Islamic values are not reduced to learning activities that are merely thematic and procedural. Therefore, the development of the Merdeka Curriculum for PAI requires a conceptual orientation capable of balancing pedagogical freedom with spiritual responsibility. An ideal development framework needs to integrate value transmission, interdisciplinary learning, process-based assessment, and the formation of Islamic character, so that PAI can serve a dual role: as a means of strengthening religious values and as a vehicle for shaping students who are creative, collaborative, communicative, critical, productive, and ethical in modern society.

Analysis of the Development Pattern of the PAI Curriculum from the Perspective of the Merdeka Curriculum

The findings of this study indicate that the development pattern of the Islamic Religious Education (PAI) curriculum within the perspective of the Merdeka Curriculum has shifted from a centralized model toward a collaborative-decentralistic pattern. Whereas curriculum development in the 2013 Curriculum was largely controlled through a top-down approach, the Merdeka Curriculum provides broader space for schools and teachers to adapt the curriculum to students' needs, the characteristics of educational institutions, and local potential. In the context of PAI, this pattern expands the role of teachers from merely implementing the curriculum to designing learning experiences that connect religious content with the formation of religious character, 21st-century competencies, and students' socio-religious realities.

Therefore, the development pattern of the Merdeka Curriculum for PAI can be understood as a form of a modified grassroots model, namely a model that remains guided by national learning outcomes while allowing schools room for innovation through the School Operational Curriculum (*Kurikulum Operasional Satuan Pendidikan* or KOSP), teaching modules, thematic projects, authentic assessment, and the integration of Islamic values into real-life contexts. Another finding shows that this development pattern is not entirely free, as it remains situated within a framework of "guided autonomy." The government continues to provide standards, learning outcomes, and general guidelines, while schools and teachers are granted the authority to develop learning content, strategies, and assessments according to their respective contexts.

However, this flexibility also presents challenges, particularly teachers' administrative burden, their readiness and competence in curriculum design, and the potential quality gap among schools. Thus, the successful development of the Merdeka Curriculum for PAI depends heavily on teachers' ability to analyze students' needs, integrate Islamic values with contemporary issues, and build collaboration with school principals, supervisors, teacher communities, and society. The ideal future pattern for PAI development needs to balance flexibility and accountability, as well as pedagogical freedom and professional responsibility, so that PAI does not merely function as a normative subject but also becomes a space for shaping students who are faithful, morally grounded, critical, creative, collaborative, and adaptive to the changing demands of the times.

Implications and Future Directions for Developing the PAI Curriculum toward 21st-Century Competencies

The findings of this study indicate that the implications of developing the Islamic Religious Education (PAI) curriculum toward 21st-century competencies require fundamental changes in curriculum design, learning strategies, and assessment systems. The PAI curriculum can no longer be developed merely as a learning instrument oriented toward the mastery of religious content; rather, it must be designed through a directed, collaborative, and contextual process. Stages such as needs analysis, co-design, module prototype development, validation, and regular monitoring are essential to ensure that the curriculum truly corresponds to students' needs and the school environment. In this direction, project-based learning, inquiry-based learning, and co-creation are relevant instructional patterns because they encourage students to think critically and creatively, collaborate, communicate, and connect Islamic values with real-life issues. In addition, authentic assessment through critical thinking rubrics, project portfolios, teamwork assessment, and presentations becomes an important instrument for measuring the learning process, 4C competencies, and the internalization of Islamic values in a more tangible manner. Another finding shows that the direction of 21st-century PAI curriculum development must consider teacher readiness, equitable access, and the sustainability of implementation.

Teachers are the key actors determining curriculum success; therefore, continuous professional development is needed to strengthen their capacity to design projects, develop assessment rubrics, integrate digital literacy, and embed Islamic values into learning activities. The integration of digital literacy and religious literacy also provides opportunities for students to apply Islamic ethics in digital spaces through the creation of positive content, online reflection, and information analysis. However, digital innovation must be balanced with non-digital alternatives so as not to widen disparities among schools. Therefore, the future development of the Merdeka Curriculum for PAI should be directed toward balancing pedagogical innovation, strengthening spiritual values, simplifying administrative burdens, providing policy support, ensuring sustainable funding, and documenting best practices. With this direction, PAI can serve as a foundation for shaping students who are religious, morally grounded, critical, creative, collaborative, communicative, and adaptive to contemporary challenges without losing their roots in Islamic values.

Discussions

The development of the Merdeka Curriculum for Islamic Religious Education (PAI) indicates that religious education can no longer be positioned merely as the transmission of normative knowledge, but must instead be directed toward the formation of religious competencies that are manifested in action. In this context, classical theories of curriculum development remain important as a rational foundation for formulating objectives, learning experiences, content organization, and evaluation. However, the challenges of the 21st century require an expansion of curriculum orientation so that it does not stop at content mastery, but moves toward students' ability to use Islamic values to interpret, evaluate, and respond to real-life issues [41]. Therefore, PAI needs to be developed as a learning space that integrates spiritual, moral, intellectual, and social dimensions in a holistic manner.

This direction demonstrates that the Merdeka Curriculum provides an important opportunity for PAI to become more contextual, flexible, and responsive to students' needs. The autonomy granted to schools and teachers enables PAI learning to be designed through thematic modules, cross-subject projects, and authentic assessments that are more closely connected to students' lived experiences [42]. However, this flexibility should not be interpreted as freedom without direction. In PAI, pedagogical freedom must always be situated within the framework of spiritual responsibility, so that Islamic values do not lose their depth of meaning when translated into creative learning activities [43]. Thus, curriculum innovation in PAI must remain grounded in a clear value orientation.

This discussion also shows that the development pattern of the Merdeka Curriculum for PAI is more appropriately understood as collaborative-decentralistic, rather than merely as the implementation of a curriculum from the central authority to schools. The government continues to play a role in providing learning outcomes, general standards, and curriculum guidelines, while schools and teachers are given space to develop content, strategies, and assessments according to local characteristics [44], [45]. This pattern positions teachers as curriculum designers at the practical level, not merely as implementers of curriculum documents. In the context of PAI, this position is essential because teachers need to translate Islamic values into learning experiences that correspond to students' socio-religious realities.

However, the concept of autonomy in the Merdeka Curriculum for Islamic Religious Education (PAI) cannot be separated from structural issues within schools. Autonomy that is not accompanied by a reduction in administrative burdens may turn into a new source of pressure for teachers. The preparation of teaching modules, diagnostic assessments, project planning, and learning outcome reports often consumes teachers' time, thereby limiting the space for innovation [46]. Therefore, the Merdeka Curriculum for PAI requires more proportional implementation governance, one that provides teachers with creative space while also offering technical support, collaborative time, and administrative simplification. Without such support, the idea of *Merdeka Belajar* risks remaining merely a policy slogan.

On the other hand, the development of PAI toward 21st-century competencies requires serious changes in the assessment system. If learning is directed toward fostering critical thinking, creativity, collaboration, communication, and Islamic character, assessment cannot rely solely on cognitive tests. Authentic assessments, such as project portfolios, reflection rubrics, presentations, teamwork assessment, and behavioral observation, are more appropriate instruments for measuring both learning processes and learning outcomes [47]. However, such assessments require clear rubrics, assessor training, and inter-teacher calibration forums to prevent assessment from becoming overly subjective. Thus, strengthening assessment practices constitutes a strategic component of the Merdeka Curriculum reform in PAI.

The integration of digital literacy with religious literacy has also become an important direction in contemporary PAI learning. Students live in a digital space filled with diverse information, opinions, and values. Therefore, PAI needs to help students develop social media ethics, the ability to evaluate information critically, and the skills to produce positive digital content grounded in Islamic values [48], [49]. Projects such as reflective videos, thematic blogs, digital campaigns, or religious educational content can serve as learning media to foster creativity, communication, and collaboration [50], [51]. However, digital innovation must be

accompanied by equitable access strategies so that it does not widen disparities among students or educational institutions [52].

The learning models relevant to this direction are a combination of project-based learning, inquiry-based learning, and co-creation. These three models enable students to experience an active, exploratory, and meaningful learning process, while also providing space for the internalization of Islamic values through concrete actions [53]. However, their implementation must be carefully designed so that collaboration does not become merely formalistic. Each PAI project should have clear objectives, measurable success indicators, rubrics for assessing values and behavior, and facilitators who are able to manage group dynamics effectively [54]. In this way, PAI learning does not merely produce learning products, but also shapes students' thinking processes, attitudes, sense of responsibility, and moral awareness.

Overall, the direction of developing the Merdeka Curriculum for PAI underscores the need for a balance among values, competencies, and supporting systems. The three findings of this study indicate that conceptual strengthening, collaborative development patterns, and a 21st-century competency orientation must be integrated into a single sustainable implementation framework. This means that the success of the Merdeka Curriculum for PAI is determined not only by the quality of its curricular ideas, but also by teacher readiness, assessment clarity, policy support, resource availability, and schools' ability to preserve Islamic values within interdisciplinary learning [41], [42], [54]. Thus, PAI has the potential to become an educational foundation that not only shapes students who are religious, but also critical, creative, collaborative, communicative, adaptive, and civilized in responding to the changing demands of the times.

CONCLUSION

The findings of this study indicate that the development pattern of the Merdeka Curriculum for Islamic Religious Education (PAI) is moving toward a collaborative-decentralistic model that emphasizes the active role of teachers and educational institutions in designing contextual and learner-centered instruction. This approach shifts the previous top-down paradigm toward a model of directed autonomy, in which schools are granted innovative freedom within the framework of national learning outcomes. This pattern has been shown to provide space for integrating Islamic values with 21st-century competencies, so that PAI no longer merely teaches normative knowledge, but also cultivates students' critical thinking, collaboration, communication, and creativity (4C). Conceptually, the literature findings indicate that the Merdeka Curriculum for PAI becomes more effective when developed through a participatory and need-based mechanism of co-creation, involving teachers, students, and the community in the curriculum design process.

The integration of Islamic value-based projects, authentic assessment, and religious digital literacy serves as a key element in contextualizing the 4C competencies. However, the success of this pattern remains constrained by teachers' capacity and high administrative burdens; therefore, professional training support and adaptive policy frameworks are urgently needed to ensure that autonomy does not become a structural burden. Thus, the ideal direction for developing the Merdeka Curriculum for PAI is one that balances innovation flexibility with

spiritual responsibility. The 21st-century PAI curriculum is not only intended to produce intelligent and skilled students, but also to develop a generation of character who are able to implement Islamic values within the complexities of global life. If the balance between pedagogical freedom, collaboration, and Islamic values can be maintained, the Merdeka Curriculum for PAI can become a strong foundation for developing students who are morally grounded, creative, and competitive in the 21st century.

LIMITATIONS

The limitations of this study include several aspects. First, the study relies on secondary literature without direct primary data collection in the field, which limits its ability to capture the actual conditions of implementing the Merdeka Curriculum for Islamic Religious Education (PAI). Second, this study focuses only on the theoretical analysis of curriculum development patterns, without taking into account variations in implementation at the school level, which may differ depending on local capacity, resources, and understanding. In addition, this study does not examine in depth how 4C skills are measured and applied in student assessment, nor does it cover practical implementation across different levels of education. These limitations reduce the extent to which the findings can be generalized across the broader education system. Therefore, although this study provides important conceptual insights, further research is needed to confirm these findings in more concrete field-based contexts.

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AUTHOR CONTRIBUTION

SF designed the research framework, conducted the literature review, and prepared the initial draft of the manuscript. FB contributed to data analysis, developed the discussion

section, and provided input during manuscript revision. PG assisted in literature collection, thematic analysis, and manuscript finalization.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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