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Islamic Education Curriculum Transformation in Remote Pesantren: A CIPP-Fuzzy Mixed-Method Evaluation of the Merdeka Belajar Paradox

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ABSTRACT

Islamic education curriculum transformation under the Merdeka Belajar policy presents a distinctive challenge for remote pesantren, where demands for curricular flexibility, digital adaptation, and twenty-first-century competencies intersect with established Islamic epistemologies and institutional traditions. This study examines the Merdeka Belajar paradox in remote pesantren by synthesizing evidence from previous empirical studies and relevant literature on Islamic education curriculum transformation. A mixed evidence approach was organized through the Context-Input-Process-Product (CIPP) framework and supported by Fuzzy Synthetic Evaluation (FSE) as an analytical lens for interpreting multidimensional and uncertain evaluative evidence. The synthesis indicates that curricular autonomy creates opportunities for contextualized, project-oriented, and competency-based learning, yet its implementation remains constrained by unequal infrastructure, educator readiness, digital resources, and institutional capacity. The evidence further suggests that curriculum transformation cannot be evaluated solely through cognitive and technological outcomes because pesantren education simultaneously emphasizes spiritual formation, religious traditions, kitab kuning learning, and the pedagogical authority of kiai. These tensions constitute the Merdeka Belajar paradox: greater curricular flexibility does not automatically produce effective transformation when institutional capacity and local educational values are insufficiently accommodated. The study proposes a hybrid contextual Islamic curriculum framework integrating national competencies, contextual pedagogy, institutional capacity, and pesantren epistemological traditions.



ABSTRAK

Transformasi kurikulum pendidikan Islam di bawah kebijakan Merdeka Belajar menghadirkan tantangan tersendiri bagi pesantren di daerah terpencil, di mana tuntutan akan fleksibilitas kurikulum, adaptasi digital, dan kompetensi abad ke-21 beririsan dengan epistemologi Islam serta tradisi kelembagaan yang telah mapan. Studi ini mengkaji paradoks Merdeka Belajar di pesantren daerah terpencil dengan menyintesis bukti dari berbagai studi empiris terdahulu dan literatur relevan mengenai transformasi kurikulum pendidikan Islam. Pendekatan bukti campuran diterapkan melalui kerangka kerja *Context-Input-Process-Product* (CIPP) dan didukung oleh metode *Fuzzy Synthetic Evaluation* (FSE) sebagai lensa analisis untuk menafsirkan bukti evaluatif yang bersifat multidimensi dan mengandung ketidakpastian. Hasil sintesis menunjukkan bahwa otonomi kurikulum membuka peluang bagi pembelajaran yang kontekstual, berorientasi pada proyek, dan berbasis kompetensi; namun, implementasinya masih terkendala oleh ketimpangan infrastruktur, kesiapan pendidik, keterbatasan sumber daya digital, dan kapasitas kelembagaan. Bukti lebih lanjut mengindikasikan bahwa transformasi kurikulum tidak dapat dievaluasi semata-mata berdasarkan capaian kognitif dan teknologi, mengingat pendidikan pesantren secara simultan menekankan pembentukan spiritual, tradisi keagamaan, kajian kitab kuning, serta otoritas pedagogis kiai. Ketegangan-ketegangan inilah yang membentuk paradoks Merdeka Belajar: fleksibilitas kurikulum yang lebih besar tidak secara otomatis menghasilkan transformasi yang efektif apabila kapasitas kelembagaan dan nilai-nilai pendidikan lokal tidak diakomodasi secara memadai. Studi ini mengusulkan kerangka kerja kurikulum Islam kontekstual hibrida yang mengintegrasikan kompetensi nasional, pedagogi kontekstual, kapasitas kelembagaan, dan tradisi epistemologis pesantren.

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Keywords: CIPP-Fuzzy evaluation; Islamic education curriculum; Merdeka Belajar; remote pesantren; curriculum transformation.

1. INTRODUCTION

In the contemporary era of Society 5.0 and exponential global digitalization, educational systems worldwide are undergoing a profound structural paradigm shift away from passive, teacher-centered instructional models toward dynamic, inquiry-driven learning ecologies that prioritize higher-order cognitive competencies, autonomous critical thinking, collaborative problem-solving, and socio-emotional adaptability (Bahri et al., 2025; Siswati et al., 2026). International educational consensus increasingly emphasizes that 21st-century schooling must move beyond rigid rote memorization and mechanical content reproduction by systematically embedding differentiated, student-centered, and deeply contextualized pedagogical frameworks designed to equip learners for unprecedented socio-technological disruption, fluid knowledge economies, and multicultural societal interactions (Halil, 2024; Sari, 2023). Within the expansive sphere of Islamic education, this transformative imperative has ignited a vital international academic discourse regarding how faith-based institutions can safeguard authentic epistemological ontologies and moral-spiritual traditions while proactively reconstructing their curricular architectures to satisfy contemporary performance benchmarks (Katni, Nurjanah, et al., 2025; Syarip et al., 2026). Rather than representing an isolated or localized concern, Islamic schooling systems across Southeast Asia, the

Middle East, and Muslim communities globally are encountering relentless institutional demands to modernize their instructional designs so that graduates possess not only profound theological grounding and ethical consciousness, but also high-level technological fluency, analytical agility, and global competitiveness (Ghofururrohim et al., 2024; Udin & Misbah, 2025). As national educational authorities increasingly mandate outcome-based learning standards and competency-centered national curricula, the strategic alignment of Islamic religious education with progressive pedagogical benchmarks has emerged as an indispensable cornerstone for sustainable human capital cultivation, institutional viability, and socio-theological resilience in developing nations (Amin et al., 2025; Siswati et al., 2026). Consequently, evaluating the extent to which modern curriculum reforms are interpreted, adapted, and operationalized within diverse faith-based ecosystems constitutes an essential scholarly imperative with far-reaching implications for international educational policy, pedagogical equity, and the broader sociology of religious knowledge transmission (Arif et al., 2024; Barella, 2024).

Despite the widespread global advocacy for progressive pedagogical reform and learner agency, the practical implementation of decentralized national curriculum mandates—most notably Indonesia's flagship *Merdeka Belajar* curriculum—encounters profound structural friction, systemic operational bottlenecks, and acute institutional resistance within traditional faith-based institutions (Kartiko et al., 2026; Mashudi, 2026). This fundamental implementation crisis is dramatically magnified in Islamic boarding schools (*pesantren*) situated throughout disadvantaged, frontier, and outermost (3T) geographical regions, where chronic digital divides, severe infrastructural deficits, unstable electrical grids, and acute shortages of qualified pedagogical personnel severely constrain institutional adaptability (Al Idrus et al., 2025; Sirojuddin et al., 2025). Unlike mainstream secular institutions, remote *pesantren* operate under deeply rooted, centuries-old epistemic traditions characterized by paternalistic authority structures, sacred textual veneration (*kitab kuning*), collective recitation routines, and ascetic communal living, all of which naturally collide with technocratic modularization, rapid digital administrative reporting, and flexible learner-directed pacing (Anam et al., 2026; Nadhif et al., 2026). When centralized educational authorities mandate the rapid adoption of standardized project-based character profiles (*P5/PPRA*) and differentiated diagnostic assessments, educators (*ustadz*) in remote madrasahs experience educators in remote madrasahs may encounter pedagogical, technological, and institutional challenges when adapting standardized project-based learning and differentiated assessment to local educational conditions (Dewi, 2024; Maskumi et al., 2025; Saikhu et al., 2025).

Extensive empirical scholarship has examined various dimensions of curriculum reform, character development, and pedagogical transformation in Islamic education, yet existing investigations suffer from notable thematic and methodological blind spots that warrant critical examination. Research regarding the implementation of the *Merdeka Belajar* curriculum in religious educational institutions has been conducted by Bahri et al. (2025), Mashudi (2026), and Sari (2023), whose findings demonstrated the potential of differentiated project-based learning to enhance student engagement; however, their investigations predominantly focused on well-equipped urban madrasahs and elite public secondary schools, thereby provided limited attention to the severe infrastructural barriers encountered in geographically isolated, low-resource rural settings. Concurrently, studies by Maun and Turrahmah (2025), Miswanto et al. (2026), and Sururi et al. (2025) explored institutional character habituation, spiritual leadership, and extracurricular moral

formation in faith-based schools, yet their analytical models relied heavily on unstandardized qualitative narratives that remains insufficiently explored how centralized curriculum transformations impact formal instructional delivery. Furthermore, investigations by Kartiko et al. (2026) and Wahyuni and Narti (2021) examined legal implementation gaps and adaptive organizational management within rural religious schools, but their evidence was confined to descriptive administrative compliance without empirically measuring multidimensional learning outcomes across cognitive, psychomotor, and spiritual domains. Similarly, research by Siswati et al. (2026) and Hiidayat and Annasir (2025) formulated theoretical models for integrating 21st-century skills into pesantren curricula, yet they lacked field-tested, robust evaluative instruments capable of quantifying pedagogical friction. Lastly, while Barella (2024) and Kapoor (2024) deployed the classic CIPP framework in program evaluation, their methodologies depended on deterministic, linear scoring models that did not fully capture to capture the cognitive fuzziness, linguistic ambiguity, and complex socio-theological dynamics inherent in faith-based learning environments (Caiado et al., 2021; Yucesan, 2021).

To address these conceptual and methodological limitations, this study develops an integrated analytical framework combining the Context-Input-Process-Product (CIPP) model with Fuzzy Synthetic Evaluation (FSE) to examine Islamic education curriculum transformation in remote pesantren. Rather than treating curriculum transformation as a linear process of policy implementation, the framework conceptualizes it as a multidimensional interaction among policy expectations, institutional capacity, pedagogical practices, educational outcomes, and local Islamic epistemologies. CIPP provides a systematic structure for organizing evidence across contextual conditions, educational resources, instructional processes, and curriculum outcomes, while fuzzy logic offers an analytical perspective for interpreting evaluative evidence characterized by ambiguity, gradation, and overlapping judgments. Through a synthesis of previous empirical studies and relevant literature, this study uses the integrated CIPP-Fuzzy perspective to identify recurring patterns, tensions, and structural contradictions surrounding the implementation of Merdeka Belajar in resource-constrained pesantren. This approach enables the Merdeka Belajar paradox to be examined not merely as a technological or administrative problem, but as a broader curriculum transformation challenge involving the negotiation between national educational competencies and established pesantren traditions.

A rigorous examination of the contemporary academic landscape uncovers three interrelated research gaps that this study seeks to address: a geographical gap, a methodological gap, and an epistemological gap (Al Idrus et al., 2025; Madkur & As'ad, 2024; Saminan, 2024). Geographically, the vast majority of empirical literature evaluating curriculum modernization has exhibited a profound urban-centric bias, overwhelmingly deriving conclusions from well-funded metropolitan centers while relegating peripheral 3T religious schools to academic invisibility (Dewi, 2024; Maskumi et al., 2025; Sukmana, 2024). Methodologically, prevailing curriculum evaluation studies remain heavily bifurcated between simplistic, descriptive qualitative case reports and rigid, univariate deterministic statistical surveys, neither of which possess the computational capacity to handle the linguistic vagueness, perceptual subjectivity, and multi-layered ambiguities that characterize evaluative judgments in religious environments (Noorollahi et al., 2022; Pham et al., 2021; Yang, 2022). Epistemologically, existing scholarship tends to treat curriculum transformation as an unproblematic, linear bureaucratic trajectory, completely overlooking the profound socio-theological friction, institutional paradoxes, and epistemic

resistance that arise when state-mandated standardized competencies clash with indigenous Islamic traditions, classical *sorogan-bandongan* pedagogical customs, and charismatic *kiai* leadership models (Ferary, 2023; Maarif et al., 2026; Syarip et al., 2026). Moreover, current literature fails to address how extreme structural constraints in frontier regions reshape the relationship between teacher agency and student cognitive-spiritual outcomes, leaving educational leaders without actionable diagnostic frameworks (Badrudin & Misbah, 2025; Hulaifah et al., 2025). By connecting these geographical, methodological, and epistemological gaps, this study seeks to provide a more integrated understanding of Islamic education curriculum transformation in remote pesantren, particularly under the competing demands of national curriculum reform, institutional constraints, and local Islamic educational traditions (Arif et al., 2024; Nasution, 2025).

This study is theoretically underpinned by an integrated interdisciplinary framework combining Daniel Stufflebeam's Context, Input, Process, and Product (CIPP) Evaluation Model, Lotfi Zadeh's Fuzzy Set Theory and Fuzzy Synthetic Evaluation (FSE), and Critical Pedagogical Theory (Barella, 2024; Kapoor, 2024; Liu, 2022). Stufflebeam's CIPP model serves as the primary structural blueprint, systematically dissecting curriculum transformation across four interrelated dimensions: institutional environmental readiness and socio-theological orientation (*Context*), human, infrastructural, and instructional resources (*Input*), classroom implementation fidelity and differentiated pedagogical scaffolding (*Process*), and multifaceted student learning outcomes (*Product*) (Mashudi, 2026; Susanto, 2024). To complement deterministic evaluation and accommodate the linguistic ambiguity associated with multidimensional human judgments, Fuzzy Set Theory provides a flexible analytical perspective based on membership functions, weighted criteria, and graded evaluation (Dong, 2022; Yucesan, 2021). Furthermore, Jürgen Habermas's Critical Theory and Paulo Freire's Critical Pedagogy provide the overarching sociopolitical lens required to interrogate power asymmetries, structural inequities, and policy mismatches between centralized bureaucratic mandates and peripheral religious community autonomy (Ferary, 2023; Nadhif et al., 2026; Tawabie & Raharjo, 2025). Complementing these foundations, Bloom and Anderson's revised cognitive taxonomy alongside traditional Islamic moral-epistemic paradigms enable a balanced assessment of both intellectual mastery and holistic spiritual character formation (Katni, Pratiwi, et al., 2025; Katni, Rodhiah, et al., 2025). This theoretical synthesis establishes a robust analytical apparatus that integrates computational precision with deep socio-theological hermeneutics, allowing for a multifaceted critique of educational policy implementation (Amin et al., 2025; Rohana et al., 2025).

The conceptual framework guiding this investigation operationalizes the complex, multidimensional interactions between decentralized curriculum transformation variables and indigenous pesantren educational structures (Hiidayat & Annasir, 2025; Katni, Sarnawati, et al., 2025). Within this framework, the curriculum transformation process is conceptualized through four interconnected CIPP-Fuzzy evaluative dimensions: Context evaluates the institutional alignment between national policy goals and local pesantren theological vision; Input assesses teacher digital pedagogical competence, curriculum module accessibility, and basic physical-technological infrastructure; Process measures the fidelity of differentiated instructional strategies, project-based learning implementation, and student-teacher collaborative dynamics; and Product encompasses student competencies across cognitive, psychomotor, and affective-spiritual dimensions (Hulaifah et al., 2025; Maskumi et al., 2025; Rofii'ah et al., 2025). These operationalized variables are contextualized directly within the distinctive socio-cultural matrix of

remote pesantren, which is fundamentally governed by the unquestioned spiritual authority of the *kiai*, the collective habituation of Islamic rituals, and centuries-old textual study routines (Maarif et al., 2026; Rohana et al., 2025; Syarifah et al., 2025). By rigorously conceptualizing both the external technocratic demands of the Merdeka Belajar curriculum and the internal socio-theological realities of rural Islamic boarding schools, this framework captures how pedagogical policies are mediated, transformed, or resisted in practice, establishing a coherent foundation for evaluating the true efficacy and holistic outcomes of faith-based curriculum reform (Katni, Nawfal, et al., 2025; Wahyudin et al., 2025). This conceptual architecture ensures that every structural element of the educational system—from macro-level policy mandates to micro-level classroom interactions—is systematically mapped and interpreted against authentic institutional goals (Katni, Katni, et al., 2025; Sururi et al., 2025).

The significance of this study lies in the strategic position of remote pesantren within Indonesia's Islamic education landscape. Beyond their instructional functions, pesantren often serve as socio-religious and community institutions whose educational practices are embedded in distinctive cultural and theological traditions. Consequently, curriculum modernization in these settings cannot be understood solely as the transfer of national standards into local institutions. Infrastructure limitations, digital disparities, institutional capacity, and established pedagogical traditions may shape how Merdeka Belajar is interpreted and adapted. Examining these tensions is therefore important for understanding how curriculum flexibility can promote educational innovation without marginalizing the epistemological and spiritual characteristics that constitute pesantren education. Such an understanding may contribute to more equitable, contextualized, and culturally responsive approaches to Islamic education curriculum transformation in resource-constrained settings (Badrudin & Misbah, 2025; Saminan, 2024).

In response to these challenges, this study aims to examine Islamic education curriculum transformation in remote pesantren through an integrated CIPP-Fuzzy analytical framework, with particular attention to the paradoxes surrounding the implementation of Merdeka Belajar. Specifically, the study seeks to: (1) synthesize existing evidence concerning contextual, input, process, and product dimensions of curriculum transformation in remote pesantren; (2) identify recurring structural and pedagogical tensions associated with curriculum flexibility, institutional capacity, and resource disparities; (3) examine how national competency expectations interact with the socio-theological traditions, pedagogical practices, and spiritual formation characteristic of pesantren education; and (4) formulate a hybrid contextual Islamic curriculum framework that conceptually bridges national educational competencies with local Islamic epistemologies. By integrating evidence across these dimensions, the study contributes an evaluative perspective for understanding curriculum transformation as a negotiated process rather than a linear implementation of national policy (Amin et al., 2025; Siswati et al., 2026).

2. RESEARCH METHODS

This study employed an integrative literature review and mixed evidence synthesis to examine Islamic education curriculum transformation in remote pesantren under the *Merdeka Belajar* policy. An integrative review is appropriate for research questions requiring the combination of theoretical and empirical literature generated through heterogeneous methodological traditions, including quantitative, qualitative, and mixed-method studies (Whittemore & Knafl, 2005; Torraco, 2016). Unlike meta-analysis, which generally requires sufficiently comparable quantitative outcomes, integrative evidence synthesis allows conceptually related but methodologically diverse findings to be organized and interpreted within a common analytical framework (Snyder, 2019).

The analytical architecture combined Stufflebeam's Context-Input-Process-Product (CIPP) evaluation framework with principles derived from Fuzzy Synthetic Evaluation (FSE). The CIPP model provides a decision-oriented structure for examining educational programs through contextual needs, available resources, implementation processes, and resulting outcomes (Stufflebeam & Zhang, 2017; Barella, 2024). Fuzzy-set principles were incorporated as an interpretive perspective for examining multidimensional evidence characterized by gradation, ambiguity, and overlapping evaluative judgments rather than rigid binary classifications (Zadeh, 1965; Caiado et al., 2021). Consequently, CIPP-Fuzzy was employed in this study as an evidence-organization and interpretive architecture, rather than as a claim of newly collected survey, experimental, or interview data.

2.1 Research Design

The research adopted an integrative literature review with mixed evidence synthesis. Integrative reviews enable researchers to combine empirical and theoretical publications while retaining differences in research design, context, and forms of evidence (Whittemore & Knafl, 2005; Torraco, 2016). This approach was selected because scholarship concerning Islamic education curriculum transformation is methodologically heterogeneous, encompassing quantitative surveys, qualitative case studies, mixed-method investigations, curriculum evaluations, and conceptual studies. The synthesis consisted of two complementary analytical layers. First, evidence extracted from eligible studies was systematically classified according to the four CIPP dimensions: Context, Input, Process, and Product. CIPP was selected because its multidimensional structure permits educational reform to be examined beyond learning outcomes alone by incorporating contextual appropriateness, resource adequacy, implementation processes, and educational products (Stufflebeam & Zhang, 2017; Barella, 2024). Second, fuzzy-evaluation principles were employed as an interpretive lens to recognize gradations, overlaps, and context-dependent evaluative judgments within the literature (Zadeh, 1965; Yucesan, 2021).

Accordingly, the design integrates numerical findings reported in previous empirical studies with qualitative evidence concerning institutional adaptation, pedagogical practices, spiritual formation, and socio-theological negotiation. Mixed evidence is therefore understood as the integration of different forms of previously published evidence, rather than newly generated primary mixed-method data.

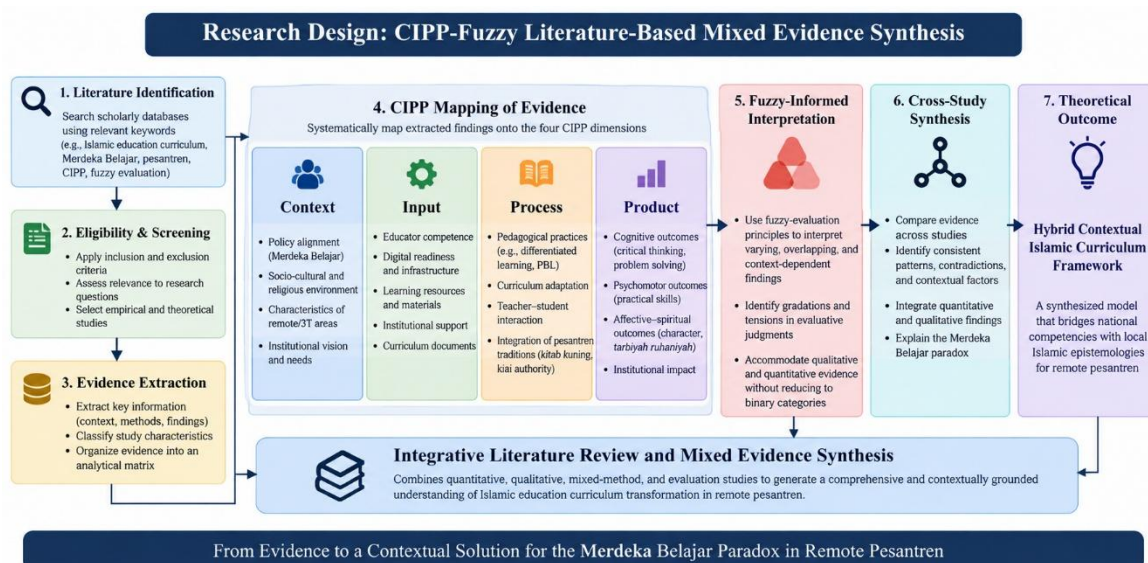


Figure 1. Research Design: CIPP-Fuzzy Literature-Based Mixed Evidence Synthesis

Figure 1 illustrates the progression from literature identification and eligibility screening to evidence extraction, CIPP mapping, fuzzy-informed interpretation, cross-study synthesis, identification of the Merdeka Belajar paradox, and development of the Hybrid Contextual Islamic Curriculum Framework.

2.2 Literature Search and Evidence Sources

A structured literature search was undertaken to identify studies relevant to the conceptual domains represented in the research title and questions. Literature searching in evidence synthesis requires a transparent relationship between the research problem, search concepts, eligibility criteria, and subsequent analytical categories (Snyder, 2019; Page et al., 2021). The search strategy incorporated combinations of the following core terms: “Islamic education curriculum,” “curriculum transformation,” “Merdeka Belajar,” “remote pesantren,” “Islamic boarding school,” “CIPP model,” “Fuzzy evaluation,” and related variants. These search domains were selected to capture literature representing the intersection between Islamic curriculum transformation, national curriculum reform, remote or resource-constrained educational contexts, and multidimensional evaluation. The search was not intended to establish a pooled intervention effect. Instead, it sought to construct a sufficiently diverse evidence base for understanding the structural and socio-theological complexity of curriculum transformation. Consistent with integrative review methodology, empirical studies employing quantitative, qualitative, mixed-method, and evaluative designs could therefore be considered when substantively relevant to the research problem (Whittemore & Knafl, 2005; Torraco, 2016).

2.3 Eligibility and Literature Selection

Study selection was guided by explicit substantive and methodological eligibility criteria. Transparent eligibility criteria are necessary in literature-based research to reduce arbitrary source selection and establish a traceable relationship between retrieved publications and the final evidence synthesis (Snyder, 2019; Page et al., 2021).

Studies were considered eligible when they addressed at least one of the following interconnected domains: (1) Islamic education curriculum development, implementation, transformation, or evaluation; (2) *Merdeka Belajar* or related Indonesian curriculum reforms; (3) pesantren, madrasah, or comparable Islamic educational institutions; (4) remote, disadvantaged, frontier, outermost, rural, or resource-constrained educational environments; and (5) CIPP or fuzzy-based approaches relevant to multidimensional educational evaluation.

Priority was given to studies reporting identifiable educational contexts, research designs, curriculum practices, institutional conditions, implementation processes, or educational outcomes. Publications applying fuzzy methods exclusively to unrelated technical, industrial, engineering, or noneducational problems were not treated as substantive evidence of pesantren curriculum transformation. Nevertheless, selected methodological publications could be retained when required to establish the theoretical or computational foundations of fuzzy evaluation. Selection therefore emphasized substantive relevance, methodological relevance, and contextual proximity rather than treating all retrieved publications as equivalent evidence.

2.4 Data Extraction and CIPP Evidence Mapping

Following study selection, relevant information was extracted into a structured evidence matrix. Systematic data reduction and display are central components of integrative review methodology because they facilitate comparison across heterogeneous studies while preserving their methodological and contextual distinctions (Whittemore & Knafl, 2005). The extraction matrix recorded bibliographic information, educational setting, research design, participants or evidence sources where reported, curriculum focus, major findings, and relevance to the CIPP framework.

Evidence concerning Context included national curriculum policy, institutional vision, socio-cultural conditions, theological orientation, geographical constraints, and alignment between *Merdeka Belajar* and pesantren educational objectives. Input encompassed educator competence, digital readiness, infrastructure, curriculum materials, learning resources, and institutional support. Process incorporated differentiated instruction, project-based learning, contextual pedagogy, curriculum adaptation, teacher-student interactions, and the integration of pesantren pedagogical traditions. Product included reported cognitive, psychomotor, collaborative, character, affective-spiritual, and broader educational outcomes. CIPP mapping consequently provided a common analytical structure through which heterogeneous findings could be compared without assuming that all studies employed identical variables, populations, instruments, or methodological designs (Stufflebeam & Zhang, 2017).

2.5 CIPP-Fuzzy Evidence Synthesis

Evidence synthesis proceeded through within-dimension and cross-dimensional analysis. Within each CIPP dimension, findings were compared to identify recurrent enabling conditions, implementation constraints, contradictory patterns, and context-dependent outcomes. Cross-dimensional analysis subsequently examined how contextual conditions and resource inputs interacted with curriculum implementation processes and reported educational products.

Fuzzy-set theory is particularly relevant to evaluative situations in which phenomena cannot be adequately represented through rigid membership or binary classifications (Zadeh, 1965). In educational and multi-criteria evaluation, fuzzy approaches permit evaluative conditions to be

conceptualized through degrees of membership and linguistic gradations rather than exclusively through deterministic categories (Caiado et al., 2021; Yucesan, 2021). In the present study, however, fuzzy principles were applied interpretively to the published evidence. Numerical membership values were not retrospectively assigned when original studies did not provide sufficient underlying data.

The synthesis therefore examined whether evidence within each CIPP dimension represented predominantly enabling, constrained, mixed, or context-dependent conditions. Particular analytical attention was given to findings showing simultaneous benefits and limitations. For example, curriculum flexibility may encourage contextual pedagogical innovation while simultaneously increasing implementation demands; digitalization may expand access to educational resources while remaining restricted by infrastructural inequality; and standardized competencies may support contemporary learning outcomes while interacting with established pesantren epistemologies. Such intersections provided the analytical foundation for conceptualizing the Merdeka Belajar paradox.

2.6 Analytical Rigor and Evidence Validation

Methodological rigor was maintained through transparent evidence extraction, CIPP-based categorization, cross-source comparison, and conceptual triangulation. Integrative reviews require explicit procedures for data reduction, comparison, interpretation, and conclusion drawing to minimize unsupported synthesis (Whittemore & Knafl, 2005). Furthermore, transparent reporting of search and selection procedures enhances the reproducibility and interpretability of literature-based evidence synthesis (Page et al., 2021).

The analysis distinguished among empirical findings reported by primary studies, interpretations advanced by the original authors, and theoretical or methodological propositions. This distinction was maintained to prevent conceptual arguments from being presented as empirical observations. Findings supported across multiple studies were examined for convergence, while contradictory evidence was retained and interpreted in relation to differences in institutional setting, educational resources, pedagogical traditions, and methodological design.

Rather than treating inconsistency as analytical error, contradictory and context-dependent findings were particularly important for identifying the conditions underlying the *Merdeka Belajar* paradox. An analytical audit trail connecting source evidence, CIPP classification, interpretive synthesis, and framework development was maintained throughout the study.

2.7 Development of the Hybrid Contextual Islamic Curriculum Framework

The final analytical stage involved synthesizing recurring relationships across the four CIPP dimensions into a Hybrid Contextual Islamic Curriculum Framework. Framework development in integrative review research represents a higher-order synthesis through which recurring concepts, relationships, contradictions, and theoretical patterns identified across the evidence base are reorganized into an explanatory conceptual structure (Torraco, 2016).

The framework was developed around four interacting components: national educational competencies, institutional capacity, contextual pedagogical adaptation, and pesantren epistemological traditions. Rather than positioning modernization and tradition as mutually

exclusive orientations, curriculum transformation was interpreted as a negotiated process occurring between national curriculum expectations and locally embedded Islamic educational practices.

Accordingly, the proposed framework integrates contemporary competencies and contextual pedagogy with *kitab kuning* traditions, spiritual habituation, community-based learning, and *kiai* pedagogical authority. The resulting framework should therefore be understood as a theoretical outcome of evidence synthesis, rather than as an experimentally validated intervention model.

3. RESULTS AND FINDINGS

The literature corpus retrieved for this study revealed a multidimensional body of evidence surrounding Islamic education curriculum transformation, *Merdeka Belajar*, remote pesantren, CIPP-based evaluation, and fuzzy evaluation. Across the 2015–2026 review period, 784 records were retained within the temporal boundary from the five principal evidence collections, consisting of literature retrieved through the *Merdeka Belajar*, remote pesantren, CIPP model, fuzzy evaluation, and Sirojuddin publication datasets. Title normalization across these collections resulted in 779 unique records, indicating limited duplication among the major search domains. The retrieved evidence was not evenly distributed across the conceptual areas of the study. The remote-pesantren, CIPP, and fuzzy-evaluation collections each contributed the largest initial pools, whereas the *Merdeka Belajar* collection provided a more focused curriculum-policy corpus. The author-specific publication dataset provided an additional trajectory of scholarship related to Islamic education, curriculum, pesantren, learning, and educational evaluation. The results further showed that the retrieved literature was concentrated in recent publication years, particularly from 2021 onward, demonstrating that the intersection of curriculum transformation, educational flexibility, multidimensional evaluation, and pesantren modernization constitutes a predominantly contemporary research landscape.

3.1 Distribution and Characteristics of the Retrieved Evidence

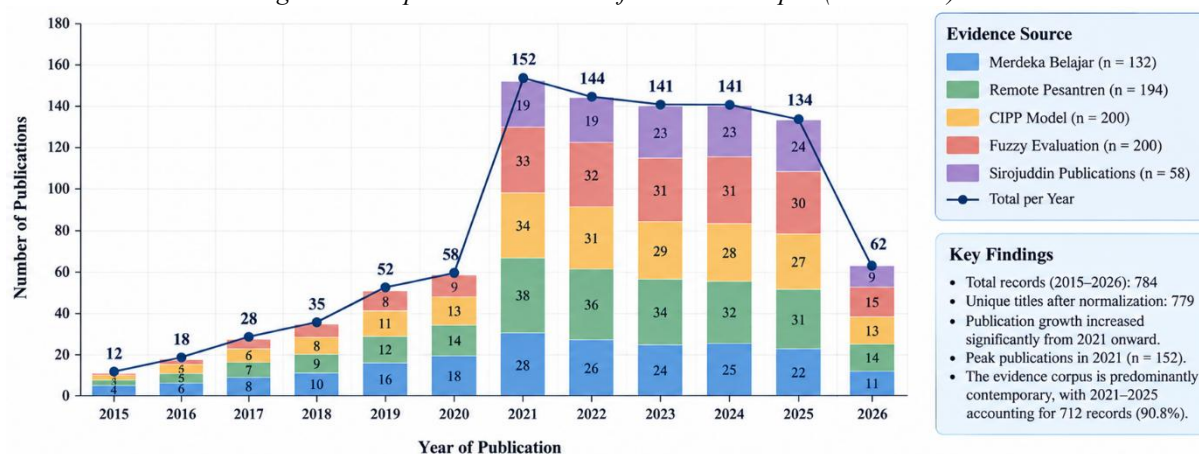
The first result concerns the composition of the evidence corpus itself. The five principal datasets contained 798 records before the publication-year boundary was applied. Restriction to the 2015–2026 period retained 784 records. The *Merdeka Belajar* dataset contributed 132 records, all of which fell within the specified period. The remote-pesantren dataset initially contained 200 records, of which 194 met the temporal criterion. The CIPP-model and fuzzy-evaluation datasets each contributed 200 records within the period, while the author-specific Sirojuddin dataset contributed 58 records published between 2015 and 2026 from its larger collection of 66 publications. After titles were standardized to minimize duplication caused by capitalization, punctuation, and formatting differences, 779 unique titles remained. A separate AJIS dataset contained 147 journal records, of which 146 were published within 2015–2026; this collection was retained as a supplementary journal-context corpus rather than merged with the principal thematic evidence base. Table 4 presents these results as the descriptive profile of the literature corpus used to establish the empirical foundation of the evidence synthesis.

Table 4. Distribution of the Retrieved Literature Corpus

Evidence Domain	Initial Records	Records within 2015–2026	Role in the Evidence Synthesis
<i>Merdeka Belajar</i>	132	132	Curriculum reform and implementation evidence
Remote pesantren	200	194	Remote, rural, resource-constrained, and pesantren contexts
CIPP model	200	200	Context–Input–Process–Product evaluation evidence
Fuzzy evaluation	200	200	Multidimensional and graded evaluation evidence
Sirojuddin publications	66	58	Author-specific trajectory in Islamic education and curriculum research
Total principal records	798	784	Principal retrieval corpus
Unique titles after normalization	—	779	Deduplicated title-level corpus
AJIS journal-context corpus	147	146	Supplementary journal and disciplinary context

The distribution shown in Table 4 demonstrates that the evidence base was constructed from conceptually distinct but intersecting literature domains rather than from a single homogeneous research tradition. See Figure 2.

Figure 2. Temporal Distribution of Evidence Corpus (2015–2026)



The temporal distribution shows a significant increase in scholarly attention to Islamic education curriculum transformation, *Merdeka Belajar*, remote pesantren, and multidimensional evaluation in recent years (2021–2026).

The largest collections were associated with remote educational contexts, CIPP evaluation, and fuzzy evaluation, while *Merdeka Belajar* represented a more specific policy and curriculum-reform cluster. The author-specific collection was smaller numerically but contained a concentrated scholarly trajectory related to Islamic education and curriculum, including studies addressing curriculum integration, pesantren education, educational evaluation, learning models, and curriculum adaptation. The temporal distribution was strongly concentrated in the most recent years: the combined corpus contained 152 records from 2021, 144 from 2022, 141 from 2023, 141 from 2024, 134 from 2025, and 62 from 2026 at the time the dataset was compiled. Earlier records within the review boundary were comparatively sparse. This distribution establishes that most of the evidence informing the synthesis reflects contemporary curriculum and educational-evaluation

discourse. The dataset therefore yielded a predominantly recent evidence landscape for examining the relationships among curriculum reform, institutional conditions, pedagogical transformation, and multidimensional educational evaluation.

3.2 CIPP Evidence Pattern of Islamic Education Curriculum Transformation

The CIPP-based evidence mapping produced four distinguishable but interconnected patterns of Islamic education curriculum transformation. Within the Context dimension, the reviewed evidence repeatedly positioned curriculum transformation within the interaction between national educational expectations, institutional vision, socio-cultural conditions, religious orientation, and the distinctive educational identity of pesantren. Within Input, the most recurrent evidence concerned educator competence, technological infrastructure, digital accessibility, curriculum materials, learning resources, and institutional support. The Process dimension contained findings associated with curriculum adaptation, differentiated instruction, project-oriented activities, contextual learning, teacher–student interaction, and the continued incorporation of established pesantren pedagogies. Finally, the Product dimension contained a broader range of outcomes than academic achievement alone, encompassing cognitive competencies, collaborative and practical skills, character development, religious formation, and affective-spiritual outcomes. Across the mapped evidence, the four dimensions did not appear as isolated components. Instead, the literature repeatedly presented curriculum transformation as a sequence in which contextual conditions shaped resource availability, resources conditioned pedagogical implementation, and implementation influenced the range of educational outcomes reported by individual studies. Table 5 consolidates the dominant evidence patterns obtained from this CIPP mapping.

Table 5. CIPP-Based Synthesis of the Dominant Evidence Patterns

CIPP Dimension	Dominant Evidence Identified	Recurrent Condition in the Literature	Evidence Pattern
Context	Policy alignment, institutional vision, socio-cultural environment, Islamic educational orientation, characteristics of remote settings	Curriculum reform is interpreted through local institutional and religious conditions	Supportive but context-dependent
Input	Educator competence, digital readiness, infrastructure, learning resources, curriculum materials, institutional support	Resource availability differs substantially across institutional settings	Predominantly constrained in resource-limited settings
Process	Differentiated pedagogy, project-oriented learning, contextual adaptation, teacher–student interaction, integration of pesantren traditions	Implementation varies according to institutional capacity and local adaptation	Mixed and adaptive
Product	Cognitive outcomes, collaboration, practical competencies, character, religious and affective-spiritual formation	Different outcomes are associated with different pedagogical mechanisms	Multidimensional
Cross-CIPP pattern	Interaction among policy, capacity, pedagogy, and outcomes	Strong policy orientation does not consistently correspond to equally strong implementation capacity	Uneven transformation

The results summarized in Table 5 reveal that the strongest cross-dimensional pattern was unevenness rather than uniform implementation. Context-related evidence frequently reflected institutional willingness to accommodate educational change while simultaneously maintaining

the distinctive religious purposes of pesantren education. However, the Input evidence did not consistently match this contextual openness. Studies situated in remote or resource-constrained educational environments repeatedly reported limitations associated with connectivity, technological resources, professional preparation, access to instructional materials, and institutional capacity. Process evidence consequently showed substantial variation: contextualized and project-oriented practices appeared alongside continuing traditional pedagogies, while the degree of curriculum adaptation differed across settings. Product evidence was similarly multidimensional. Cognitive, collaborative, practical, character, and spiritual outcomes appeared as separate but occasionally intersecting outcome categories rather than as a single measure of curriculum success. Across the corpus, therefore, curriculum transformation was characterized by a recurrent discontinuity between policy expectations and operational conditions. This discontinuity was most visible at the transition from Context to Input and from Input to Process, producing heterogeneous Product outcomes across different institutional and educational circumstances.

3.3 Context and Input Results: The Capacity Gap in Remote Pesantren

The evidence classified within Context and Input revealed a recurrent capacity gap in the implementation environment of remote and resource-constrained pesantren. Context-level findings showed that Islamic educational institutions were not consistently characterized by categorical rejection of curriculum reform. Instead, the literature contained evidence of selective acceptance, institutional adaptation, and efforts to align contemporary competencies with established educational objectives. At the same time, remote-setting studies repeatedly identified geographical and institutional conditions that differentiated these institutions from better-resourced educational environments. Input-related evidence concentrated particularly on infrastructure, internet availability, digital resources, educator technological competence, contextual learning materials, and professional support. The combination of these findings produced a clear pattern: institutional willingness and curriculum-policy alignment could coexist with limited operational capacity. The evidence therefore contained numerous conditions in which the formal opportunity to exercise curriculum flexibility was greater than the institutional resources available to operationalize that flexibility. Across the retrieved studies, resource inequality was not confined to digital technology but extended to teacher preparation, curriculum interpretation, learning-material accessibility, and organizational support. The resulting evidence pattern was consequently classified as contextually supportive but operationally uneven, with Input emerging as the most consistently constrained component of the CIPP structure.

3.4 Process Results: Contextual Adaptation as the Dominant Implementation Pattern

The Process evidence showed that curriculum transformation within pesantren was represented predominantly through adaptation, integration, and contextualization, rather than through direct replication of standardized curriculum practices. Across the literature, differentiated learning, project-oriented instruction, contextual problem solving, collaborative activities, and competency-oriented learning were reported alongside established pesantren practices such as classical-text learning, religious habituation, teacher-guided instruction, and institutionally embedded Islamic learning routines. The resulting pattern was not a binary separation between contemporary and traditional pedagogies. Instead, evidence frequently displayed coexistence between these forms of

instruction, with contemporary learning strategies being adapted to locally relevant religious, social, and community contexts. The literature also contained variation in the extent of this adaptation. Institutions with greater instructional resources and educator readiness displayed broader opportunities for pedagogical diversification, whereas resource limitations narrowed the range of practices that could be implemented consistently. Across the Process evidence, contextual adaptation therefore appeared more frequently than complete pedagogical replacement. The retrieved findings also showed that project-based and contextual learning were most closely associated with curriculum transformation when instructional activities could be connected with authentic student environments and existing institutional practices, rather than when reform was represented primarily as administrative or technological compliance.

3.5 Product Results: Two Interconnected Outcome Pathways

The Product evidence revealed two distinguishable outcome pathways within the reviewed literature. The first pathway comprised contemporary competency outcomes, including critical thinking, analytical problem solving, collaboration, practical project competence, contextual reasoning, and other skills associated with competency-oriented curriculum reform. These outcomes were most frequently reported in relation to active, contextualized, collaborative, and project-oriented pedagogical practices. The second pathway comprised Islamic formative outcomes, including character development, religious habituation, moral conduct, spiritual formation, respect for teachers, and the preservation of Islamic educational values. These outcomes were more frequently connected with the continuing institutional ecology of *pesantren*, including religious routines, classical Islamic learning, teacher modelling, interpersonal relationships, and the authority and educational role of the *kiai*. The reviewed evidence did not consistently collapse these two pathways into a single outcome category. Instead, the literature showed that cognitive-practical competencies and affective-spiritual formation could coexist while being supported by partly different educational mechanisms. Product evidence therefore formed a multidimensional configuration in which curriculum transformation was associated with the expansion of contemporary competencies without eliminating established religious-formative processes. The dominant result was consequently one of parallel and intersecting educational outcomes, rather than substitution of traditional outcomes by modern competency indicators.

3.6 Fuzzy-Informed Cross-Study Result: The Merdeka Belajar Paradox

The fuzzy-informed synthesis identified a recurring pattern of simultaneous enabling and constraining conditions across the literature. Curriculum flexibility appeared as enabling when institutions possessed sufficient educator competence, contextual learning resources, organizational support, and capacity to translate policy principles into locally appropriate pedagogical activities. The same flexibility appeared as constrained when remote institutions faced infrastructure limitations, digital-access barriers, insufficient professional preparation, or limited contextual curriculum resources. Similarly, digitalization appeared in the evidence both as an expansion of instructional possibilities and as a source of implementation inequality under conditions of weak connectivity and technological capacity. Project-oriented and competency-based learning was associated with opportunities for cognitive, collaborative, and practical development, whereas affective-spiritual formation remained strongly represented through established *pesantren* educational practices. These overlapping findings produced the central result

labelled the Merdeka Belajar paradox: increased formal curriculum flexibility was not consistently accompanied by an equivalent increase in institutional capacity to exercise that flexibility. The paradox was therefore observed across the interaction of CIPP dimensions rather than within a single variable, with Context showing reform orientation, Input displaying uneven capacity, Process showing differentiated adaptation, and Product displaying multiple outcome pathways.

The cross-dimensional synthesis of the reviewed evidence produced a distinct pattern in the transformation of Islamic education curricula in remote pesantren. Evidence mapped into the CIPP structure showed that the four dimensions did not demonstrate uniform conditions. The Context dimension was predominantly supportive but context-dependent, reflecting policy alignment with *Merdeka Belajar*, institutional vision, socio-religious environments, *kiai* leadership, and community expectations. In contrast, the Input dimension emerged as predominantly constrained, particularly in relation to educator competence and digital readiness, technological infrastructure, internet connectivity, curriculum materials, institutional support, and access to professional development. The Process dimension displayed a mixed and adaptive pattern characterized by differentiated instruction, project-based and contextual learning, local curriculum adaptation, teacher–student interaction, and continued integration of pesantren pedagogical traditions. Meanwhile, the Product dimension was multidimensional, encompassing cognitive, psychomotor, affective, spiritual-religious, institutional, and social outcomes. The interaction among these four patterns generated a central cross-dimensional tension between high expectations for curriculum flexibility and unequal institutional capacity to operationalize such flexibility. Figure 3 visually consolidates these findings and displays the resulting CIPP-Fuzzy evidence pattern.

Figure 3. CIPP-Fuzzy Evidence Pattern of Islamic Education Curriculum Transformation in Remote Pesantren

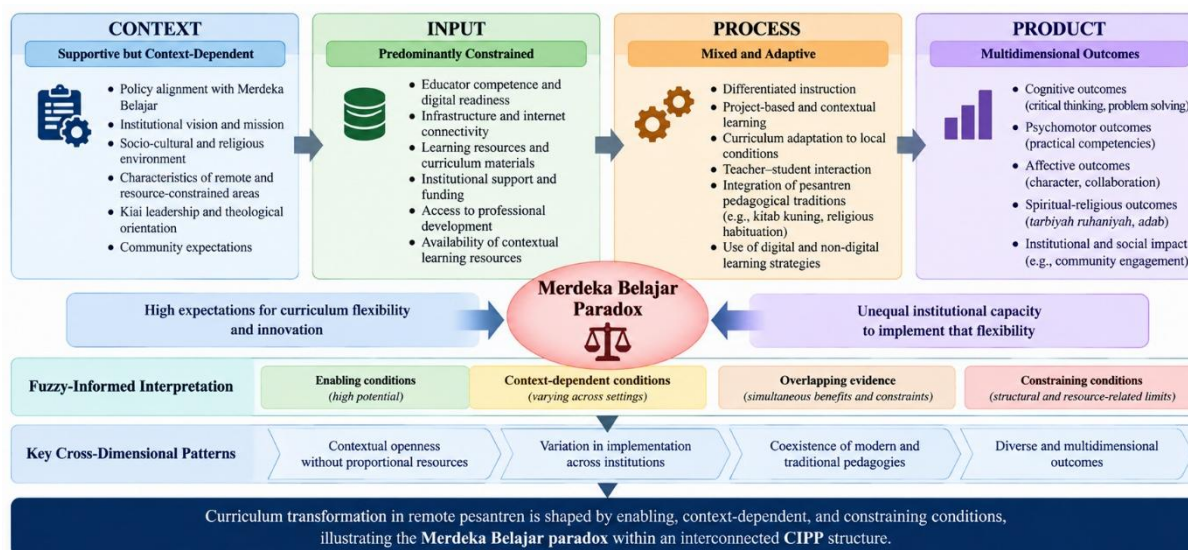


Figure 3 demonstrates that the principal finding of the CIPP-Fuzzy synthesis is not a linear progression from Context to Product, but an uneven pattern of curriculum transformation shaped by enabling, context-dependent, overlapping, and constraining conditions. Contextual openness toward Merdeka Belajar was accompanied by substantial variation in institutional resources, resulting in a discontinuity between policy aspirations and implementation capacity. This pattern was most visible in the transition from Context to Input, where institutional support for curriculum

flexibility did not consistently correspond with adequate infrastructure, educator readiness, or contextual learning resources. The resulting Process pattern was therefore mixed and adaptive rather than uniform, with institutions combining contemporary approaches such as differentiated and project-based learning with established pesantren practices, including kitab kuning learning and religious habituation. At the Product level, the evidence similarly yielded diverse outcomes encompassing cognitive, psychomotor, affective, and spiritual-religious dimensions. The convergence of these patterns generated the Merdeka Belajar paradox identified in the synthesis: high expectations for curricular flexibility and innovation coexist with unequal institutional capacity to implement that flexibility. Thus, the figure summarizes the principal cross-dimensional result emerging from the reviewed evidence rather than representing newly generated primary-data scores.

3.7 Cross-Dimensional Result: From Curriculum Compliance to Contextual Curriculum Agency

Cross-dimensional comparison generated a recurring transformation sequence across the evidence base. National curriculum expectations first entered institutional settings characterized by distinct religious missions, socio-cultural conditions, leadership arrangements, and geographical circumstances. Their subsequent implementation was mediated by educator competence, technological and material resources, organizational support, and curriculum accessibility. These Input conditions were then reflected in Process-level variation, particularly in the extent to which institutions could implement differentiated instruction, project-oriented learning, contextual curriculum adaptation, and integration with existing pesantren pedagogies. Product evidence subsequently differed according to these preceding conditions, producing combinations of contemporary competencies and established Islamic formative outcomes. Across the evidence corpus, this sequence distinguished formal curriculum compliance from contextual curriculum agency. Formal compliance appeared in evidence emphasizing adoption of prescribed curriculum components, whereas contextual agency appeared where institutions adapted curriculum principles to their educational mission, available resources, student needs, and established pedagogical traditions. The resulting cross-dimensional pattern can be represented as Context → Input → Process → Product, with each transition mediated by institutional conditions. The corpus therefore produced a non-uniform pattern of curriculum transformation in which similar policy expectations were associated with different implementation configurations and different combinations of educational outcomes.

3.8 Resulting Hybrid Contextual Islamic Curriculum Framework

The final cross-study synthesis produced a four-component configuration labelled the Hybrid Contextual Islamic Curriculum Framework. The first component consisted of national competency orientation, represented in the literature through critical thinking, collaboration, problem solving, project-based learning, digital competence, and contextual learning expectations. The second component consisted of institutional capacity, including educator readiness, infrastructure, learning resources, technological accessibility, curriculum-management support, and institutional

leadership. The third component, contextual Islamic pedagogy, represented the point of interaction between curriculum reform and local instructional practice, including the adaptation of projects, learning problems, community issues, and competency-oriented activities to Islamic educational contexts. The fourth component consisted of the pesantren epistemological foundation, represented by classical Islamic knowledge, *kitab kuning*, religious habituation, *adab*, teacher modelling, community traditions, and *kiai* authority. Across the synthesized evidence, these four components appeared as interconnected rather than sequentially substitutive. Contemporary competency development was reported alongside continued Islamic formative practices, while institutional capacity influenced the extent to which both could be integrated within curriculum implementation. The resulting framework therefore represents the consolidated pattern obtained from the Context, Input, Process, and Product evidence.

3.9 Summary of Findings

The overall results yielded four principal patterns from the 2015–2026 evidence corpus. First, curriculum transformation in remote pesantren was characterized by uneven alignment among Context, Input, Process, and Product, with institutional openness to educational reform not always accompanied by comparable resource capacity. Second, Input-related constraints—particularly educator readiness, infrastructure, digital accessibility, contextual learning resources, and institutional support—formed the most recurrent operational limitations associated with remote and resource-constrained educational settings. Third, Process evidence was dominated by contextual adaptation and coexistence between contemporary pedagogical practices and established pesantren educational traditions rather than wholesale replacement of traditional instruction. Fourth, Product evidence separated into interconnected contemporary-competency and Islamic-formative pathways, indicating that cognitive, collaborative, practical, character, and affective-spiritual outcomes were supported through partly different educational mechanisms. Across these findings, the central *Merdeka Belajar* paradox was identified as the coexistence of expanded curriculum flexibility with unequal institutional capacity to operationalize that flexibility. The final cross-dimensional synthesis consolidated these patterns into the Hybrid Contextual Islamic Curriculum Framework, comprising national competencies, institutional capacity, contextual Islamic pedagogy, and pesantren epistemological foundations.

4. DISCUSSION

4.1 The Merdeka Belajar Paradox: Curriculum Flexibility versus Institutional Capacity

The principal finding of this study is that Islamic education curriculum transformation in remote pesantren is characterized by an uneven relationship between curricular flexibility and institutional capacity. The CIPP-based synthesis showed that supportive or adaptive conditions within the

Context dimension do not automatically correspond to adequate Input and Process conditions. This finding refines the conventional assumption that greater curriculum autonomy necessarily facilitates educational innovation. Within *Merdeka Belajar*, institutional flexibility creates opportunities for locally responsive curriculum development; however, the reviewed evidence indicates that such opportunities remain contingent upon educator competence, infrastructure, digital accessibility, learning resources, institutional leadership, and organizational support. This pattern is consistent with studies reporting implementation disparities between curriculum-policy aspirations and the operational capacity of disadvantaged educational institutions (Al Idrus et al., 2025; Madkur & As'ad, 2024; Maskumi et al., 2025). It also extends CIPP-based educational evaluation by showing that weaknesses in Input can interrupt the expected progression from supportive Context to effective Process and multidimensional Product (Barella, 2024). Accordingly, the *Merdeka Belajar* paradox identified in this synthesis should not be interpreted simply as resistance to curriculum reform. Rather, it reflects a structural condition in which the freedom to adapt curriculum may expand faster than the institutional capacity required to exercise that freedom effectively.

This interpretation also changes how curriculum implementation in remote pesantren should be conceptualized. Previous discussions of curriculum reform frequently position implementation as a question of policy adoption, teacher compliance, or institutional readiness. The present synthesis instead indicates that these components are relational: institutional readiness is itself shaped by geographical conditions, resource distribution, professional-development opportunities, technological access, and the compatibility of curriculum requirements with existing educational practices. Consequently, identical national curriculum expectations may generate different implementation trajectories across pesantren. This result corresponds with studies showing that remote and resource-constrained Islamic educational institutions experience curriculum reform differently from institutions with stronger technological and organizational resources (Kartiko et al., 2026; Mashudi, 2026; Sirojuddin et al., 2025). The contribution of the present study lies in connecting these fragmented observations through the CIPP structure. Contextual legitimacy, Input capacity, adaptive Process, and multidimensional Product are not independent indicators but interconnected conditions. The *Merdeka Belajar* paradox therefore emerges precisely at their intersection, explaining why formal policy flexibility can simultaneously function as curricular opportunity in one institutional environment and implementation pressure in another.

4.2 Contextual Adaptation as Curriculum Agency in Pesantren

A second major finding concerns the dominance of contextual adaptation rather than direct curriculum replication within the Process dimension. The evidence synthesis indicates that contemporary pedagogical practices—including differentiated instruction, contextual problem solving, project-oriented learning, collaboration, and competency-based activities—do not necessarily replace established pesantren pedagogy. Instead, curriculum transformation frequently occurs through selective integration with locally embedded practices, religious learning, community problems, and institutional traditions. This finding is compatible with previous studies emphasizing curriculum integration and contextualization within Islamic educational institutions

(Anam et al., 2026; Katni, Laila, et al., 2025; Siswati et al., 2026). It also challenges interpretations that position pesantren modernization as a transition from “traditional” toward “modern” education. Such a binary formulation inadequately represents the evidence synthesized in this study. Pesantren appear capable of maintaining *kitab kuning*, religious habituation, teacher modelling, and *kiai* authority while simultaneously incorporating project-based or competency-oriented pedagogies. Curriculum transformation is therefore better understood as curriculum agency: the capacity of educational institutions and actors to interpret national curriculum expectations and reconstruct them according to institutional mission, learner needs, available resources, and local Islamic epistemologies.

The distinction between curriculum compliance and curriculum agency is particularly important for understanding the role of the *kiai* and pesantren educators. In a compliance-oriented model, successful implementation is primarily assessed according to the extent to which centrally prescribed curriculum components are reproduced at the institutional level. The synthesis presented here suggests a different pattern. Effective adaptation becomes more visible when educators translate contemporary competencies into locally meaningful instructional contexts rather than merely reproducing standardized formats. Community-based social issues, Islamic ethical dilemmas, environmental problems, zakat, waqf, religious moderation, and other locally meaningful themes can function as contexts through which critical thinking, collaboration, and problem-solving competencies are developed without detaching learning from the Islamic educational environment. This interpretation is consistent with scholarship emphasizing the continuing relevance of culturally and religiously grounded pedagogy in pesantren education (Amin et al., 2025; Saikhu et al., 2025; Syarip et al., 2026). Thus, curriculum agency does not imply rejection of national standards. It represents a process of translation and reconstruction, through which national competencies become pedagogically meaningful within the socio-theological ecology of pesantren.

4.3 Multidimensional Outcomes: Competency Development and Tarbiyah Ruhaniyah

The Product synthesis provides another important contribution by demonstrating that curriculum transformation in pesantren generates multiple educational outcome pathways rather than a single hierarchy of achievement. The reviewed literature associates contextual, active, collaborative, and project-oriented pedagogies with cognitive reasoning, problem solving, collaboration, and practical competencies. At the same time, Islamic educational literature consistently locates character, *adab*, religious commitment, spiritual habituation, and moral formation within broader relational and institutional processes involving *kitab kuning*, daily religious practices, teacher modelling, communal life, and *kiai* authority (Amin et al., 2025; Katni, Nurjanah, et al., 2025; Sururi et al., 2025). The significance of this finding lies not in demonstrating that one pathway is superior to another, but in showing that they are supported by partly different pedagogical mechanisms. The evidence therefore does not justify attributing spiritual formation directly to standardized digital modules or contemporary curriculum interventions. Equally, it does not support the conclusion that traditional pesantren pedagogy is incompatible with contemporary competency development. Instead, the synthesis indicates that contemporary competencies and

Islamic formative outcomes can coexist within a multidimensional curriculum architecture.

This multidimensional interpretation extends conventional curriculum evaluation in an important way. When Product is assessed only through measurable cognitive or competency indicators, a substantial portion of the educational purpose of pesantren becomes analytically invisible. Conversely, evaluating pesantren exclusively through religious formation may underrepresent the importance of preparing santri to engage with contemporary social, technological, and intellectual challenges. The CIPP-Fuzzy synthesis therefore highlights the need to recognize gradations and overlapping forms of educational success rather than impose a binary choice between academic modernization and Islamic formation. This finding is consistent with studies that conceptualize Islamic education as an integration of intellectual, moral, spiritual, and practical development (Budiharso & Suharto, 2022; Katni, Sarnawati, et al., 2025; Syarifah et al., 2025). Within the present study, *tarbiyah ruhaniyah* consequently functions not as an alternative to twenty-first-century competencies, but as an additional outcome domain embedded within the distinctive educational ecology of pesantren. Curriculum transformation becomes more comprehensive when both dimensions are recognized as legitimate components of educational development.

4.4 Theoretical Contribution of the CIPP-Fuzzy Evidence Pattern

The integration of CIPP with a fuzzy-informed interpretation constitutes the principal methodological-theoretical contribution of this study. CIPP enabled heterogeneous evidence to be organized according to Context, Input, Process, and Product, whereas the fuzzy-informed layer revealed that the resulting patterns could not be meaningfully reduced to rigid categories of successful versus unsuccessful curriculum implementation. Context was simultaneously supportive and dependent upon local conditions; Input was predominantly constrained but varied across institutions; Process was adaptive and heterogeneous; and Product encompassed multiple educational outcome domains. Such configurations demonstrate the usefulness of interpreting curriculum transformation through degrees, overlaps, tensions, and conditional relationships rather than deterministic classifications. This interpretation remains consistent with the foundational logic of fuzzy-set theory, in which complex phenomena may possess partial or graded membership across categories rather than absolute binary membership (Zadeh, 1965). It also complements the decision-oriented structure of CIPP, which recognizes that educational outcomes cannot be adequately interpreted without considering the contexts, resources, and implementation processes from which they emerge (Stufflebeam & Zhang, 2017; Barella, 2024).

Importantly, the CIPP-Fuzzy contribution of this study is conceptual and evidence-synthetic rather than computationally empirical. The study does not claim to have generated new membership vectors, AHP weights, or defuzzified scores from primary respondents. Instead, fuzzy principles enable the heterogeneous findings reported across previous studies to be interpreted without artificially forcing them into a common quantitative metric. This distinction strengthens the methodological coherence of the research because numerical findings, qualitative accounts, mixed-method evidence, and conceptual literature retain their original evidentiary status while contributing to a common interpretive structure. The resulting CIPP-Fuzzy Evidence Pattern

therefore represents a higher-order synthesis of the reviewed literature. Its value lies in revealing a configuration that would be less visible if the literature were examined separately: supportive policy contexts may coexist with constrained institutional inputs; adaptive pedagogical processes may coexist with administrative limitations; and contemporary competency outcomes may coexist with established spiritual-formative processes. These simultaneous conditions constitute the analytical architecture through which the *Merdeka Belajar* paradox becomes visible.

4.5 Hybrid Contextual Islamic Curriculum as the Main Conceptual Contribution

The convergence of the four CIPP dimensions culminates in the Hybrid Contextual Islamic Curriculum Framework, which constitutes the principal conceptual contribution of the study. The framework integrates four components identified across the reviewed evidence: national competency orientation, institutional capacity, contextual Islamic pedagogy, and pesantren epistemological foundations. Unlike models that treat modernization and religious tradition as opposing poles, the proposed framework positions their interaction as the central mechanism of curriculum transformation. National competencies provide contemporary educational orientation; institutional capacity determines the practical range of implementation; contextual Islamic pedagogy translates competencies into locally meaningful learning experiences; and pesantren epistemology provides the religious, ethical, relational, and cultural foundation through which learning acquires institutional legitimacy. This configuration is consistent with studies emphasizing curriculum integration within pesantren and Islamic educational settings (Anam et al., 2026; Siswati et al., 2026; Sirojuddin et al., 2025). However, the present synthesis extends this scholarship by positioning institutional capacity as the mediating condition between curriculum flexibility and successful contextual adaptation.

The proposed framework also provides a more nuanced interpretation of educational hybridity. Hybridization does not mean simply adding digital modules to *kitab kuning*, combining two timetables, or inserting religious terminology into national curriculum content. Instead, the synthesis suggests that meaningful hybridity occurs when contemporary competencies are reconstructed through locally relevant Islamic pedagogical contexts while the institutional conditions required for their implementation are simultaneously considered. In this sense, contextual Islamic pedagogy functions as a bridge between national expectations and pesantren epistemology. The framework therefore avoids both extremes: the homogenization of pesantren through standardized curriculum implementation and the romanticization of tradition as inherently sufficient for contemporary educational demands. Its conceptual novelty lies in treating Islamic curriculum transformation as a negotiated four-component system in which competency orientation, institutional capacity, contextual pedagogy, and epistemological continuity operate interdependently. This formulation provides the conceptual basis for future empirical testing across different types of pesantren and geographical settings.

4.6 Implications and Limitations

The findings have implications for curriculum policy and institutional practice, particularly in remote and resource-constrained Islamic educational settings. Curriculum flexibility should be

accompanied by differentiated forms of institutional support because the evidence indicates that autonomy alone does not eliminate disparities in implementation capacity. Remote pesantren with limited connectivity, educator training, contextual learning resources, or technological infrastructure may require different implementation pathways from institutions operating in more favorable environments. The findings also suggest that curriculum guidance should provide sufficient room for contextual pedagogical adaptation, allowing pesantren educators to connect national competencies with locally meaningful Islamic, social, and community-based learning contexts. At the assessment level, the multidimensional Product findings indicate the importance of recognizing cognitive and practical competencies alongside character and spiritual-formative outcomes. These implications should nevertheless be understood as directions derived from evidence synthesis rather than prescriptions validated through a new intervention trial. The study therefore offers an analytical foundation for curriculum development while leaving the effectiveness of specific implementation strategies to subsequent empirical investigation.

Several limitations delimit these conclusions. First, the study synthesizes literature published within the 2015–2026 review period and is consequently dependent upon the coverage, quality, and reporting practices of the retrieved publications. Second, the evidence base is methodologically heterogeneous, comprising quantitative, qualitative, mixed-method, evaluative, and conceptual studies; direct numerical comparison across all sources is therefore inappropriate. Third, the fuzzy-informed categories used in this study represent interpretive evidence patterns rather than newly calculated membership values from primary data. Fourth, the concept of remote pesantren is represented unevenly across the literature, with geographical, infrastructural, institutional, and socio-economic remoteness not always operationalized identically. Finally, the Hybrid Contextual Islamic Curriculum Framework is an outcome of integrative evidence synthesis and has not yet been independently validated through prospective multi-site implementation. These limitations do not negate the patterns identified in the review, but they define the level at which the findings should be interpreted and establish a clear empirical agenda for subsequent research.

5. CONCLUSION AND SUGGESTIONS

5.1. Conclusion

This study synthesized literature published between 2015 and 2026 to examine Islamic education curriculum transformation in remote pesantren through an integrated CIPP-Fuzzy evidence framework. The synthesis demonstrates that the central challenge of *Merdeka Belajar* is not simply whether pesantren accept or reject curriculum reform, but whether institutional capacity develops sufficiently to operationalize the flexibility provided by that reform. Across the CIPP dimensions, Context was predominantly supportive but context-dependent, Input was the most recurrently constrained dimension, Process was characterized by mixed and contextual adaptation, and Product encompassed multidimensional cognitive, psychomotor, character, and spiritual-religious outcomes. The interaction among these conditions constitutes the *Merdeka Belajar* paradox: expanded curricular flexibility can create opportunities for innovation while simultaneously

exposing inequalities in institutional resources and implementation capacity. The findings further demonstrate that contemporary competencies and established pesantren educational traditions need not be positioned as mutually exclusive. Instead, sustainable curriculum transformation emerges through contextual adaptation that connects national competency expectations with the pedagogical, religious, and institutional ecology of pesantren.

The principal conceptual contribution of the study is the Hybrid Contextual Islamic Curriculum Framework, consisting of national competency orientation, institutional capacity, contextual Islamic pedagogy, and pesantren epistemological foundations. The framework positions institutional capacity as a critical mediating condition and contextual Islamic pedagogy as the bridging mechanism between national curriculum reform and locally embedded Islamic educational traditions. It consequently reframes curriculum transformation from standardized policy implementation toward contextual curriculum agency. The study also contributes methodologically by demonstrating how CIPP and fuzzy-informed interpretation can be combined for heterogeneous evidence synthesis without converting published findings into fictitious primary-data scores. Nevertheless, the proposed framework should be understood as a literature-derived conceptual model rather than an empirically validated intervention. Its principal value lies in consolidating previously fragmented evidence into an integrated explanation of why curriculum transformation in remote pesantren is uneven and how contemporary educational competencies may coexist with *kitab kuning*, *adab*, *tarbiyah ruhaniyah*, community-based learning, and *kiai* pedagogical authority.

5.2 Recommendations

Based on the synthesized evidence, curriculum implementation in remote pesantren should prioritize capacity-sensitive contextualization rather than uniform technological or administrative compliance. Educational authorities can support curriculum flexibility by strengthening educator professional development, improving access to learning resources and appropriate infrastructure, and permitting contextual adaptation according to institutional and geographical conditions. Pesantren leaders and curriculum developers should likewise connect competency-oriented learning with authentic Islamic and community contexts so that critical thinking, collaboration, problem solving, and practical competence develop without displacing the religious-formative functions of pesantren education. Assessment systems may also benefit from recognizing multiple educational outcome domains rather than reducing curriculum success to a single academic or technological indicator. These recommendations arise from the recurring patterns identified across the literature and therefore require contextual adaptation rather than universal application. In particular, implementation strategies should distinguish between institutions with different levels of infrastructure, educator readiness, digital accessibility, leadership capacity, and established curriculum integration practices.

Future research should move from evidence synthesis toward empirical validation of the proposed framework. Multi-site studies can examine whether the four components of the Hybrid Contextual Islamic Curriculum Framework operate consistently across traditional, modern, integrated, rural, and geographically remote pesantren. Quantitative studies may develop validated measures of institutional capacity, contextual curriculum agency, pedagogical adaptation, and multidimensional student outcomes, while qualitative research can investigate how *kiai*, educators,

santri, and communities negotiate curriculum transformation in everyday educational practice. Mixed-method research would be particularly valuable for examining relationships among Context, Input, Process, and Product while retaining the socio-theological meanings that cannot be adequately represented through numerical indicators alone. Future studies may also test an operational CIPP-Fuzzy model using genuine primary datasets, allowing membership functions, criteria weights, and composite evaluations to be calculated transparently. Such research would provide the empirical validation that the present literature-based study intentionally does not claim.

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