

Dual Curriculum as an Integrative Model for Improving Educational Quality: A Systematic Literature Review

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ABSTRACT

This study examines the dual curriculum as an integrative model for improving educational quality in response to the growing need for adaptive and holistic learning frameworks. Using a Systematic Literature Review (SLR) guided by PRISMA 2020 procedures, this study synthesizes findings from 43 selected articles retrieved from Scopus, Google Scholar, and the Directory of Open Access Journals (DOAJ), covering diverse educational contexts including Islamic boarding schools, higher education, and vocational education. The analysis conceptualizes the dual curriculum as a multidimensional framework that integrates curriculum design, pedagogical practices, institutional leadership, and policy alignment. The findings indicate that dual curriculum implementation is associated with improvements in academic competence, critical thinking, social literacy, and learners' readiness to meet evolving societal and workforce demands. These outcomes are influenced by key enabling factors such as leadership commitment, teacher capacity, and institutional support. However, several challenges persist, including increased curricular load, tensions between differing knowledge paradigms, socio-cultural resistance, and limitations in assessment practices. This study contributes to the field of educational management by offering a synthesized conceptual model that positions the dual curriculum as a cross-contextual and adaptive integrative framework. It also highlights the importance of systemic alignment across educational dimensions and underscores the need for more rigorous comparative and empirical research to strengthen the evidence base of dual curriculum implementation.

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INTRODUCTION

The curriculum functions as a fundamental and strategic instrument in education, shaping not only the structure of learning but also the direction of competency development required to respond to increasingly complex global challenges (Afifah et al., 2025; Fullan, 2016; Voogt & Roblin, 2012). In the context of rapid transformations driven by technological advancement, globalization, and socio-economic shifts, educational systems are required to continuously adapt their curriculum models to remain relevant and responsive to future demands (OECD, 2018; Schleicher, 2019). Consequently, curriculum design can no longer be viewed as static; instead, it must evolve dynamically to integrate diverse forms of knowledge and competencies that support lifelong learning and adaptability.

One emerging response to this demand is the adoption of a dual curriculum as an integrative model that combines two distinct curriculum systems to achieve synergy in competency development. However, as Kysilka (2006) and Drake and Reid (2020) argue, curriculum integration is not merely a technical process of merging content but involves reconstructing relationships among disciplines to foster meaningful learning. In this sense, the dual curriculum should not be understood as a parallel coexistence of two systems, but rather as a transformative framework that enables epistemological integration across domains of knowledge (Beane, 1997; Harden, 2000).

The integrative nature of the dual curriculum aligns closely with constructivist learning theory, which emphasizes learners as active agents in constructing knowledge through experience, reflection, and contextual engagement (Piaget, 1972; Vygotsky, 1978; Fosnot, 2013). Within this perspective, learning is most effective when students are able to connect concepts across disciplines and relate them to real-world contexts. Furthermore, this approach resonates with the principles of Whole Person Education, which highlight the importance of developing not only cognitive competencies but also affective, social, ethical, and spiritual dimensions of learners (Miller, 2007; Palmer, 2010). Therefore, the integration embedded in dual curriculum models serves both pedagogical and philosophical purposes by fostering holistic human development.

Despite its conceptual strengths, the implementation of the dual curriculum faces significant challenges across educational contexts. At the administrative level, integration often remains superficial, limited to document alignment without deep pedagogical transformation (Bistomy et al., 2025; Priestley & Biesta, 2013). Similarly, studies in interdisciplinary and technical education indicate that the lack of coordination among educators and misalignment of learning outcomes frequently hinder effective integration (Nurcendani & Ratnasari, 2020; Jacobs, 1989). In tradition-based institutions such as Islamic boarding schools, the challenge becomes more complex, as the integration process must negotiate between preserving religious identity and accommodating modern knowledge systems (Ahmad et al., 2020; Tan, 2014). These tensions suggest that curriculum integration is not solely a structural issue but also involves epistemological, cultural, and institutional dimensions.

Empirical studies have demonstrated that integrative curriculum models, including dual curriculum approaches, can significantly enhance educational outcomes. For instance, Jalal et al. (2025), alongside Harden (2000) and Drake and Burns (2004), highlight that integrated curricula contribute to improved critical thinking, problem-solving, and interdisciplinary understanding. At the higher education level, integrative programs have been shown to strengthen collaboration and communication skills across disciplines (Halid, 2019; Lattuca et al., 2017). In the context of Islamic education, curriculum integration has also been associated with enhanced social literacy and multicultural competence among students (Sinan & Yusuf, 2019; Abdullah, 2018). These findings indicate that integrative curricula extend beyond content alignment to foster comprehensive competency development across cognitive, social, and vocational domains.

However, previous research also reveals persistent gaps in the design and implementation of integrative curricula. Studies by Maslan and Daulai (2024) and Beane (1997) emphasize that successful integration requires continuous alignment between institutional vision, curriculum structure, and learner needs. Additionally, Nurwachidah and Thoifah (2024), supported by findings from Drake and Reid (2020), argue that curriculum integration is a dynamic and context-dependent process shaped by institutional culture and socio-historical factors. Despite these insights, existing literature remains fragmented, often focusing on specific contexts such as pesantren-based education or disciplinary integration in higher education, without offering a comprehensive conceptual framework of dual curriculum as a cross-contextual integrative model. Moreover, research examining the contribution of dual curriculum models to the development of 21st-century competencies—such as critical thinking, collaboration, creativity, and digital literacy—remains limited (Voogt & Roblin, 2012; Trilling & Fadel, 2009). This gap highlights the need for a systematic synthesis that integrates findings across diverse educational contexts to better understand the operational mechanisms, effectiveness, and challenges of dual curriculum implementation.

Based on these gaps, this study employs a Systematic Literature Review (SLR) to identify the fundamental principles, integration approaches, and determining factors influencing the effectiveness of dual curriculum models. Furthermore, this study aims to construct a conceptual synthesis that explains how the dual curriculum operates as an integrative framework across various educational settings. By synthesizing evidence from multiple contexts—including higher education, vocational education, and Islamic education—this study is expected to contribute both theoretically and practically to the development of adaptive, integrative, and future-oriented curriculum models.

METHOD

This study employs a Systematic Literature Review (SLR) method, guided by the PRISMA 2020 framework to ensure methodological transparency, rigor, and replicability (Page et al., 2021; Moher et al., 2009). The SLR approach is utilized to systematically identify, evaluate, and synthesize scholarly evidence related to the dual curriculum as an integrative model for improving educational quality. In addition, thematic analysis is applied to categorize recurring conceptual patterns, methodological approaches, and key findings across the selected studies, enabling a deeper interpretation of trends and relationships within the literature (Braun & Clarke, 2006).

The data sources consist of peer-reviewed articles retrieved from major academic databases, including Scopus, Google Scholar, and the Directory of Open Access Journals (DOAJ). These databases were selected due to their extensive coverage of international and interdisciplinary research, as well as their accessibility to recent publications (Falagas et al., 2008). The initial search yielded 43 articles relevant to curriculum integration and dual curriculum models. The search process was conducted using a combination of keywords such as “*dual curriculum*,” “*curriculum integration*,” “*integrated learning*,” and “*interdisciplinary curriculum*”, which were adapted across databases to optimize retrieval results [ADD REF].

To ensure the quality and relevance of the selected studies, a structured screening process was conducted following the four stages of PRISMA: identification, screening, eligibility, and inclusion. During the identification stage, all retrieved articles were compiled and duplicates were removed. In the screening stage, titles and abstracts were reviewed to exclude studies that were not aligned with the research focus. The eligibility stage involved a full-text assessment to ensure methodological clarity, relevance, and accessibility. Finally, articles that met all inclusion criteria were selected for synthesis. This systematic procedure enhances the reliability and reproducibility of the review process (Page et al., 2021).

The selected articles encompass diverse educational contexts, including higher education, vocational education, medical education, and Islamic education, particularly in Islamic boarding school settings. This diversity enables a comprehensive understanding of how dual curriculum models are implemented across different institutional and socio-cultural contexts. By integrating findings from various domains, this study aims to capture both the conceptual and practical dimensions of curriculum integration.

The research questions (RQs) are formulated to guide the synthesis and analysis process, focusing on the role of dual curriculum as an integrative educational model. The research questions are as follows:
 RQ1: How is the dual curriculum implemented across different formal educational contexts?
 RQ2: What factors influence the effectiveness of the dual curriculum as an integrative model?
 RQ3: What challenges are encountered in the implementation of the dual curriculum, and what best practices can be identified?

Table 1. Inclusion and Exclusion Criteria

Category	Inclusion Criteria	Exclusion Criteria
Year of Publication	2010–2024	Articles before 2010
Language	English or Indonesian	Articles in other languages
Research Focus	Discuss dual curriculum, curriculum integration, integrated learning, pesantren-national curriculum, or cross-disciplinary curriculum models	Articles not related to curriculum integration models
Education Level	Secondary education, higher education, vocational education, religious education (pesantren)	Basic education
Article Type	Scientific journals, peer-reviewed articles, empirical or conceptual research results	Proceedings, editorials, organizational reports, blogs
Accessibility	Full text is available in the uploaded PDF document	Only abstracts are available
Methodological Quality	Have clear research objectives, frameworks, and data or analysis	Articles without methodological descriptions

The screening process follows the four stages of PRISMA 2020. In the identification stage, all 43 articles were collected from PDF documents uploaded by researchers. During screening, articles that were not relevant to the topics of dual curriculum, curriculum integration, or educational quality were excluded. In the eligibility stage, the remaining articles were evaluated based on full accessibility, methodological clarity, and thematic relevance. Finally, in the inclusion stage, articles that met all the criteria were selected and included in the final synthesis.

This SLR approach is then strengthened by thematic analysis, which allows researchers to group conceptual patterns across studies, including integration models, supporting factors, challenges, and implementation recommendations. The entire process is carried out systematically to ensure that the study's results provide a comprehensive portrait of the dynamics, effectiveness, and relevance of the dual curriculum in improving the quality of education.

Temporal Trends in Dual Curriculum Studies

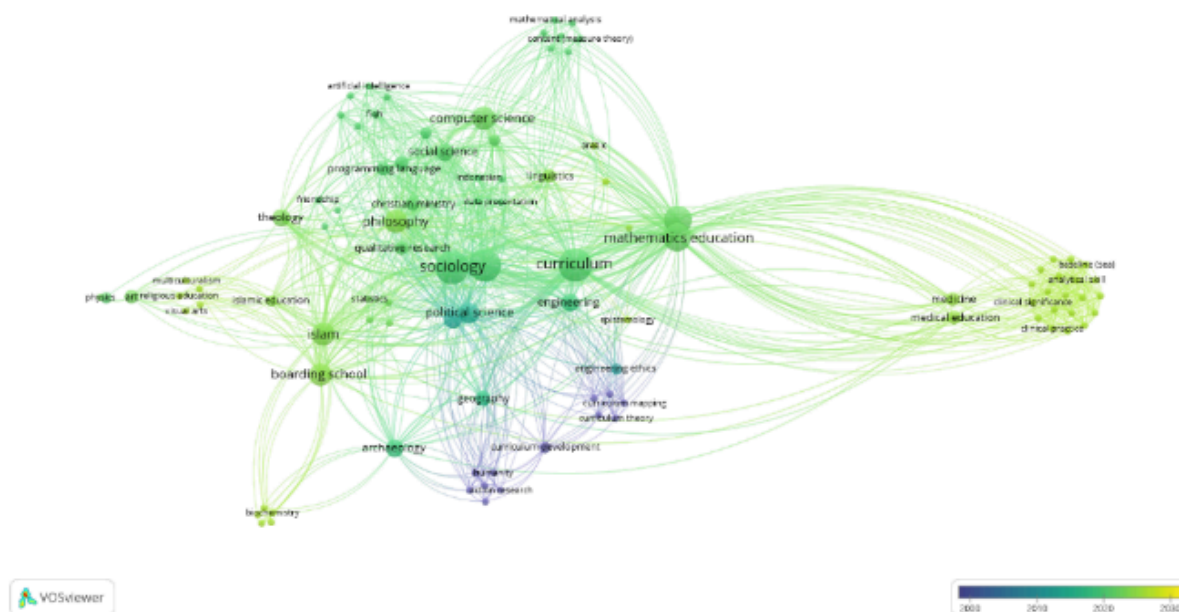


Figure 2. Overlay visualization of Temporal Research Trends

Overlay visualization provides a temporal dimension with color gradation from blue (longer research) to yellow (latest research). The color pattern shows the evolution of the focus of the dual curriculum study over time. The Islamic education ("Islamic", "boarding school") cluster is dominated by green-blue hues, indicating that research in the context of pesantren is among the earliest to discuss curriculum integration. In contrast, the medical education ("medical education", "clinical practice") cluster appears more yellowish, indicating that integration in professional education is a more recent development.

The "mathematics education" cluster features green-yellow gradations, serving as a bridge between old and new discourses. Meanwhile, the central node of "curriculum" is in a consistent green gradation, signifying that the curriculum concept remains a relevant meeting point in the research time span. In general, these visualizations show a shift in research trends from traditional contexts (such as religious education) to more contemporary professional and technological contexts.

Synthesis of Key Research Findings

The findings of this study show that the dual curriculum has diverse application dynamics and is influenced by different epistemological, pedagogical, and institutional structures in each educational context. The results of the bibliometric visualization show that curriculum integration does not stand as a single concept, but rather interacts with various fields such as Islamic education, professional education, and STEM disciplines. This indicates that the dual curriculum works as a flexible and adaptive model to the needs of the institution. However, when examined more deeply through the results of the SLR synthesis, the implementation shows a consistent pattern: the success of integration is determined not only by curriculum design, but also by leadership strength, teacher readiness, institutional culture, and learning ecosystem support. Thus, the dual curriculum needs to be understood as a holistic system, not just a structural innovation. This section of the discussion critically interprets the findings, relates them to the theoretical framework, and highlights their implications for the future development of integrative curriculum models.

Table 2. Synthesis of Key Research Findings on Dual Curriculum Implementation

Category	Inclusion Criteria	Exclusion Criteria
Implementation Pattern	The implementation of the dual curriculum varies across educational contexts, including Islamic boarding schools, higher education, vocational education, and professional education. The reviewed studies show that integration is not merely a structural combination of two curricula, but also involves epistemological and pedagogical alignment between different knowledge systems.	Dual curriculum should be understood as a context-sensitive and adaptive model. Its success depends on how well institutions align curriculum content, learning processes, and educational goals.
Determinants of Effectiveness	The effectiveness of the dual curriculum is influenced by several interconnected factors, particularly leadership commitment, teacher competence, governance structure, infrastructure support, and institutional culture. These factors work together in shaping the depth and sustainability of curriculum integration.	Effective implementation requires systemic alignment rather than isolated curriculum reform. Institutions need strong leadership, trained teachers, and supportive environments to achieve meaningful integration.
Implementation Challenges	The most common challenges include excessive learning load, pedagogical mismatch between curriculum traditions, socio-cultural resistance, and limited integrative assessment practices. These issues often hinder the realization of deep and meaningful curriculum integration.	Without strategic management and pedagogical innovation, dual curriculum implementation risks remaining superficial. Institutions need adaptive scheduling, interdisciplinary teaching approaches, and more authentic assessment systems.
Emerging Best Practices	Several studies highlight promising practices such as thematic learning, project-based learning, life-based curriculum models, teacher mentoring, and value-integrated institutional ecosystems. These approaches promote stronger connections between knowledge domains and real-life experiences.	Best practices indicate that successful integration is strengthened when curriculum design is supported by holistic pedagogy and institutional consistency in everyday learning experiences.
Overall Synthesis	The dual curriculum emerges as a multidimensional framework that integrates structural, pedagogical, cultural, and epistemological dimensions. Across contexts, it functions as a flexible educational model designed to respond to both traditional values and contemporary competency demands.	The findings support the position of dual curriculum as an integrative model for improving educational quality, particularly when implemented through coherent and context-responsive educational systems.

As presented in Table 2, the reviewed studies consistently show that the dual curriculum is implemented in diverse forms across educational contexts. Despite these variations, the literature indicates several recurring patterns. First, dual curriculum integration operates beyond structural curriculum design and involves broader epistemological and pedagogical alignment. Second, its effectiveness is highly dependent on institutional and human factors, especially leadership, teacher capacity, and governance support. Third, persistent challenges remain, particularly in relation to learning load, pedagogical coherence, and assessment practices. These synthesized findings provide the basis for the subsequent discussion on how the dual curriculum functions as an integrative model for improving educational quality.

Discussion

Implementation of Dual Curriculum in Various Formal Education Contexts

The implementation of the dual curriculum in formal education, particularly in Indonesia, demonstrates a dynamic and context-dependent process shaped by the interaction between Islamic educational traditions, the demands of modernity, and global competency requirements (Mufarokah et al., 2025; Maduningtias, 2022). Rather than functioning as a mere structural combination of two curriculum systems, this integration reflects an epistemological effort to reconcile the dichotomy between religious and general knowledge. In this regard, Mahmudin (2024) emphasizes that dual curriculum integration represents a reconstruction of knowledge systems aimed at bridging moral values with technical competencies. This finding indicates that curriculum integration operates not only at the structural level but also at the level of knowledge transformation.

From a structural perspective, the structural-temporal integration model—such as that implemented at Amanatul Ummah Islamic Boarding School—illustrates a mature approach to managing dual curricula through parallel organization (Supriatnoko & Redyanita, 2023). By maintaining the distinct identity of each curriculum while ensuring balanced time allocation, the institution demonstrates that effective integration requires strategic resource management and careful instructional planning (Fathurrochman et al., 2019). This suggests that the success of integration is not solely determined by curriculum design, but also by institutional managerial capacity and leadership effectiveness. Therefore, integration emerges as an operational challenge that demands strong governance and visionary leadership.

In contrast, the multidimensional content integration and coaching model implemented at TMI Al-Amien Prenduan reflects a more holistic and systemic approach (Saleh et al., 2019). In this model, curriculum alignment extends beyond formal instructional design into the broader educational ecosystem,

including character development, organizational culture, and life skills formation. This finding highlights that dual curriculum integration can transcend classroom boundaries and function as a comprehensive educational system. Consequently, integration is not confined to curricular structures but becomes embedded within institutional practices and student life experiences.

At a more conceptual level, the thematic-threaded integration model, as observed in MQS Yogyakarta, represents a higher level of integration by linking multiple domains of knowledge through thematic learning (Maghfiroh et al., 2023; Sholihah et al., 2022). This approach enables learners to establish meaningful connections between religious values and contemporary scientific knowledge, thereby fostering reflective and contextual learning processes. More importantly, this model demonstrates that the ultimate goal of integration lies in the unification of worldviews, where knowledge is no longer fragmented but understood as an interconnected system. This finding reinforces the argument that deep integration involves epistemological transformation rather than mere content alignment.

Furthermore, the total experience-based integration model, as practiced in institutions such as IC Bin Baz, represents the most comprehensive form of curriculum integration (Widiyanto & Tamami, 2023). By positioning all student activities as part of the curriculum, this model eliminates the distinction between academic and non-academic spaces and transforms the entire educational environment into a learning ecosystem. This indicates that integration reaches its highest level when it becomes embedded in daily life practices, forming what can be described as a “living curriculum.” Such an approach underscores that effective integration is achieved not only through curriculum design but also through the construction of a holistic learning environment.

Overall, the implementation of the dual curriculum reveals a diverse spectrum of models that vary according to institutional context, resources, and socio-cultural background (Lailiyah & Imami, 2023). However, this diversity also indicates that there is no universal model of integration. Instead, the effectiveness of the dual curriculum depends on the alignment between curriculum design, institutional capacity, and contextual needs. This finding contributes to the broader discourse on educational management by demonstrating that curriculum integration is inherently contextual and adaptive. Moreover, although many empirical findings are rooted in Islamic educational settings, the underlying principles of integration—such as interdisciplinarity, holistic learning, and systemic alignment—suggest broader applicability across different educational systems and disciplines.

Factors Affecting the Effectiveness of the Dual Curriculum as an Integrative Model

The effectiveness of the dual curriculum as an integrative model is determined by the configuration of several interrelated determinants, with institutional leadership as the most fundamental variable. Visionary leadership, an understanding of the philosophy of integration, and the ability to bridge diverse epistemological interests are prerequisites for success. The study at Gontor shows that strong, stable, and systematic leadership—manifested through *the Trimurti* collective system—is the key to maintaining the sustainability of curriculum integration for decades, thus making it part of the institutional DNA (Kirno, 2023). This shows that leadership functions not only as a manager, but as a transformation agent that directs integration from the concept level to sustainable institutional practice. These findings confirm that leadership is not just a managerial function but is a key driving and unifying force that crystallizes an integrative vision into sustainable institutional practice.

The second crucial factor is teachers' capacity. Integration requires educators who master the content of their discipline while having a cross-disciplinary understanding. Religious teachers must be able to contextualize religious texts with the development of modern science, while general subject teachers need to place their material within the relevant frame of values and ethics (Ridwan et al., 2023). This inability causes learning to remain fragmentary. Therefore, leading institutions such as Amanatul Ummah and MQS Yogyakarta develop ongoing training and mentoring programs to build these integrative competencies. These findings indicate that the quality of integration at the classroom level is highly determined by the teacher's ability to manage interdisciplinary pedagogical content knowledge. Thus, the professional development of teachers who are oriented towards scientific duality is a strategic investment that determines the depth and quality of the integration process at the learning level.

Infrastructure support and effective governance are both physical and systemic foundations. Adequate facilities such as laboratories, libraries, and dormitories form a learning ecosystem that supports interaction between different types of knowledge (Karami & Dahlan, 2022). IC In addition, structured governance, such as the eight-division model at IC Bin Baz, ensures that the curriculum is operationalized synergistically in the rhythm of daily life, transforming it from a document into a living practice (Widiyanto & Tamami, 2023). This confirms that integration requires consistent systemic support; Without planned infrastructure and governance, integration tends to stop at the conceptual level and is not optimally implemented.

Finally, institutional culture serves as a "hidden curriculum" that binds and reinforces formal integration. The culture of discipline, respect, cooperation, and internalization of values that lives in Islamic boarding schools such as Gontor, Al-Amien, and MQS creates a consistent environment for the formation of a complete student identity. This culture serves as a mechanism for internalizing values that complement the formal curriculum, so that integration does not occur only at the structural level but also in students' life experiences. This culture serves as a socio-cultural glue that transforms structural integration into a coherent life experience and as a counterweight to purely academic pressures.

Overall, the effectiveness of dual curriculum depends on the synergistic integration of visionary leadership, integrative teacher competence, supportive infrastructure and governance, and a strong institutional culture (Muhardi, 2025). These four factors do not work in isolation but rather reinforce each other in a dynamic system. The configuration of these four factors forms a systemic framework that explains the success of the dual curriculum is essentially the result of the alignment between the dimensions of leadership, people, systems, and culture. These findings not only align with constructivist and integrated curriculum perspectives but also extend them by demonstrating that curriculum integration operates beyond classroom learning processes, encompassing institutional systems, leadership structures, and cultural environments.

Implementation Challenges and Recommended Best Practices

The implementation of the dual curriculum faces several multidimensional challenges that can reduce its effectiveness. The most prominent structural challenge is the very heavy learning load. A busy schedule that combines a general curriculum, book study, and dormitory coaching often causes cognitive *overload* for students, because they have to process two types of knowledge with different epistemologies and demands in a limited time (Da'i et al, 2023; Amirudin & Rohimah, 2020). In addition, excessive load can reduce the depth of understanding because students are more oriented towards completing tasks than to the reflection process. This condition shows that without a proportionate arrangement of learning load, curriculum integration can hinder the achievement of meaningful learning goals. This suggests that temporal integration that is not balanced with an adaptive pedagogical design can be counterproductive to the quality of learning.

Pedagogical challenges arise from the difference in the orientation of teaching methods between the national curriculum that emphasizes 21st century skills and the early curriculum which is often based on memorization and textual authority (Tiya, 2025). This misalignment causes methodological confusion among teachers, which ultimately hinders the realization of truly integrative learning (Widiyanto & Tamami, 2023). Furthermore, this difference also has an impact on the inconsistency of evaluation strategies and learning activities in the classroom, so that students experience difficulties in connecting the various learning experiences obtained. Thus, this pedagogical gap confirms that curriculum integration demands a reconciliation of learning approaches, not just the unification of content.

At the socio-cultural level, resistance challenges often arise, especially in highly traditionalist environments such as salaf boarding schools. Concerns about the erosion of classical scientific authority and the shift in the priorities of students are significant obstacles (Fatkhurrokhim & Widodo, 2024). This resistance comes not only from institutions, but also from communities that have a strong attachment to traditional values, so curriculum changes are often perceived as a threat to institutional identity. This confirms that curriculum integration is essentially a process of social change that requires a cultural, negotiable, and persuasive leadership approach, beyond just administrative instruction.

Evaluation challenges are also systemic obstacles. The dominance of separate conventional assessments is unable to measure the achievement of integrative learning. The implementation of the necessary cross-disciplinary authentic assessments is still hampered by the complexity of the device and teacher readiness (Widodo, 2025). In addition, the limitations of evaluation instruments that are able to capture cognitive, affective, and skill dimensions simultaneously cause integrative learning outcomes to not be comprehensively measurable. As a result, the absence of an evaluation system aligned with the integration philosophy can undermine accountability and hinder sustainable improvement.

Despite the challenges, various best practices have been developed. Institutions such as Gontor and IC Bin Baz show that modern institutional governance and discipline are a solid foundation (Setyaningsih et al., 2025). The thematic approach at MQS Yogyakarta and the "life curriculum" model at TMI Al-Amien succeeded in bringing together learning in a contextual manner. This success shows that effective integration depends not only on curriculum design but also on the consistency of implementation and internalization of values in the daily lives of learners. In addition, pedagogical innovations such as project-based learning and case-based learning have been proven to bridge the relationship between religious science and general science in a more practical way.manner (Mearns & Platteel, 2021). This approach allows learners to relate abstract concepts to the realities of life, thereby reinforcing the relevance and meaning of learning.

At the heart of these various best practices is a trilogy of keys: integrated learning outcomes planning, sustainable teacher development, and the creation of a dorm ecosystem that supports the internalization of values (Riquarts & Hansen, 2016). These three aspects complement each other in building integration that is not only structural but also pedagogical and cultural. This trilogy shows that successful integration depends on the synergy between curriculum design, the capacity of educational actors, and a supportive learning environment. Thus, a partial approach cannot produce deep integration. This synthesis offers an operational framework that addresses challenges by transforming integration from structural policies into vibrant cultural and pedagogical practices.

Based on the synthesis of findings across implementation patterns, influencing factors, and contextual challenges, this study proposes a conceptualization of the dual curriculum as a multi-layered integrative system encompassing structural, pedagogical, cultural, and epistemological dimensions. This framework not only extends existing constructivist and integrated curriculum perspectives but also repositions the dual curriculum as a systemic transformation model that operates across interconnected levels of educational practice. By bridging curriculum design, instructional processes, institutional systems, and cultural environments, the model highlights that meaningful integration arises from the alignment of these dimensions rather than from structural combination alone. Consequently, the dual curriculum is better understood as a dynamic and adaptive framework capable of responding to diverse educational contexts while maintaining coherence in learning experiences and outcomes.

Novelty and Contribution of the Study

The implementation of the dual curriculum faces several mu.

This study offers a distinct novelty by conceptualizing the dual curriculum not merely as a structural combination of two curriculum systems, but as a multi-layered integrative framework encompassing epistemological, pedagogical, cultural, and institutional dimensions. Unlike previous studies that tend to focus on specific contexts—such as pesantren-based education or disciplinary integration in higher education—this study synthesizes findings across diverse educational settings to construct a more comprehensive and cross-contextual understanding of curriculum integration.

The main contribution of this study lies in the development of a synthesized conceptual model that explains how dual curriculum operates as an adaptive and systemic approach to improving educational quality. By integrating insights from various disciplines and institutional contexts, this study extends existing theories of integrated curriculum and constructivist learning by demonstrating that successful curriculum integration depends on the alignment of leadership, teacher competence, institutional systems, and socio-cultural environments. Furthermore, this study provides practical implications for policymakers and educational leaders in designing integrative curriculum models that are both context-sensitive and future-oriented.

CONCLUSION

This study shows that the dual curriculum is a multidimensional integrative model aligning curriculum design, pedagogy, leadership, and institutional systems, while extending beyond structural aspects to include epistemological and socio-cultural dimensions that support holistic learning. Its effectiveness, however, depends on strong synergy among leadership, teacher competence, governance, infrastructure, and institutional culture, as challenges such as excessive workload, pedagogical misalignment, socio-cultural resistance, and weak evaluation systems may hinder meaningful integration. The study contributes a conceptual framework positioning the dual curriculum as an adaptive model for contemporary education, emphasizing the need for cross-disciplinary integration, teacher capacity building, pedagogical innovation, integrated governance, and authentic assessment systems. Overall, despite its transformative potential, the success of the dual curriculum relies on the depth and consistency of its implementation.

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