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Identification of Challenges in Integrating Physical Education and Religious Education Curricula

ABSTRACT

The present study aimed to identify and explain the challenges associated with integrating physical education and religious education curricula from the perspectives of educational experts and practitioners. This study was conducted using a qualitative research design within an interpretivist paradigm, employing grounded theory as the main methodological approach. The research population consisted of experts and teachers with experience in curriculum planning, physical education, and religious education. Participants were selected through purposive and theoretical sampling, and data collection continued until theoretical saturation was achieved. Data were gathered using in-depth semi-structured interviews and analysis of relevant documents. The data analysis process was carried out simultaneously with data collection and followed the systematic procedures of grounded theory, including open coding, axial coding, and selective coding. Constant comparative analysis was used to refine categories and develop a coherent theoretical framework. To ensure the credibility and trustworthiness of the findings, strategies such as member checking, peer review, prolonged engagement, and maintaining an audit trail were applied. The results of the study indicated that the challenges of integrating physical education and religious education curricula can be categorized into four main domains: cultural challenges, content-related challenges, administrative and structural challenges, and methodological challenges. Cultural challenges were identified as the most influential, reflecting deep-rooted attitudinal barriers and resistance to interdisciplinary approaches. Content-related challenges revealed significant issues in resource availability, content organization, balance, and clarity, indicating weaknesses in curriculum design. Administrative and structural challenges highlighted systemic constraints such as centralized curriculum systems, lack of institutional support, and insufficient funding. Methodological challenges pointed to gaps in teaching strategies, lack of appropriate tools, insufficient teacher preparedness, and weak alignment with learners' needs and real-world contexts. Overall, the findings suggest that these challenges are interrelated and collectively hinder the effective implementation of integrated curricula. The study concludes that successful integration of physical education and religious education curricula requires addressing multidimensional challenges that span cultural, structural, content-related, and methodological domains, and emphasizes the need for systemic reform, enhanced teacher competencies, and context-sensitive curriculum design to achieve meaningful and sustainable integration.

Keywords: Curriculum Integration, Physical Education, Religious Education, Interdisciplinary Curriculum, Grounded Theory, Educational Challenges

Introduction

The increasing complexity of contemporary educational systems has necessitated a shift from fragmented, discipline-based instruction toward more integrative and interdisciplinary curriculum models. In this context, curriculum integration has emerged as a critical approach to fostering holistic learning, enabling students to connect knowledge across domains and apply it meaningfully in real-life contexts. Interdisciplinary and integrated curricula are widely recognized as effective mechanisms for promoting critical thinking, problem-solving, and the development of transferable competencies, particularly in the context of rapidly evolving societal and technological demands (1-3). Educational theorists emphasize that traditional subject boundaries often limit learners' capacity to synthesize knowledge, thereby constraining their ability to respond to complex, real-world problems that inherently require multidimensional perspectives (4, 5).

Within this broader paradigm, the integration of physical education and religious education represents a particularly significant yet underexplored area of inquiry. Physical education, traditionally associated with bodily development, health, and motor skills, has increasingly been reconceptualized as a domain that contributes to cognitive, social, and moral development (6, 7). Simultaneously, religious education is recognized not only as a vehicle for transmitting spiritual values but also as a critical domain for fostering ethical reasoning, identity formation, and social cohesion (8, 9). The potential convergence of these two domains offers a unique opportunity to promote a holistic educational experience that integrates physical, moral, and spiritual dimensions of human development. However, such integration also introduces a range of conceptual, cultural, structural, and pedagogical challenges that require systematic investigation.

Recent developments in curriculum theory underscore the importance of cross-curricular approaches in addressing global challenges such as sustainability, social responsibility, and cultural diversity. Scholars argue that integrated curricula enable learners to engage with complex issues through multiple lenses, thereby enhancing their capacity for critical reflection and informed decision-making (10, 11). In particular, the integration of diverse knowledge systems, including scientific, artistic, and spiritual perspectives, has been identified as a key strategy for promoting comprehensive and meaningful learning experiences (12, 13). This perspective aligns with emerging educational models that emphasize the interconnectedness of knowledge and the need for curricula that reflect the complexity of contemporary life (14).

Despite the theoretical support for curriculum integration, empirical studies indicate that its implementation remains fraught with difficulties. One of the primary challenges lies in the epistemological differences between disciplines, which can create tensions in defining shared goals and pedagogical approaches (2, 4). In the case of physical education and religious education, these differences are particularly pronounced, as the former is often grounded in empirical and experiential learning, while the latter may involve doctrinal and value-based frameworks. This divergence can lead to resistance among educators and stakeholders who perceive integration as a threat to disciplinary integrity or as a dilution of core subject content (15, 16).

Another significant challenge pertains to the preparedness of teachers to design and implement integrated curricula. Research highlights that many educators lack the interdisciplinary expertise required to effectively bridge different subject areas, resulting in superficial or fragmented integration efforts (1, 17). Teacher education programs often remain rooted in disciplinary specialization, providing limited opportunities for developing the competencies necessary for interdisciplinary teaching. Consequently, teachers may struggle to conceptualize integration beyond simple content overlap, failing to achieve the deeper synthesis of knowledge that characterizes effective integrated curricula.

In addition to pedagogical challenges, structural and organizational factors play a crucial role in shaping the feasibility of curriculum integration. Educational systems are frequently characterized by rigid structures, standardized curricula, and centralized decision-making processes that limit flexibility and innovation (18, 19). These constraints can hinder the

development and implementation of integrated curricula, particularly in contexts where assessment systems and accountability measures are aligned with traditional subject-based models. Furthermore, limited financial resources and institutional support can impede efforts to develop appropriate materials, training programs, and collaborative frameworks necessary for successful integration (20, 21).

Cultural and ideological factors also significantly influence the integration of physical education and religious education. In many contexts, religious education is closely tied to cultural identity and societal values, making it a sensitive domain that may resist change or reinterpretation (22, 23). Similarly, physical education may be perceived as a distinct and autonomous domain, leading to resistance against its integration with other subjects. These cultural dynamics can manifest in biased attitudes, misconceptions, and a lack of shared understanding among stakeholders, thereby complicating the integration process (24, 25).

Moreover, the content-related challenges associated with curriculum integration cannot be overlooked. The development of integrated curricula requires careful consideration of content selection, organization, and balance to ensure coherence and relevance. Studies indicate that the absence of appropriate resources, unclear learning objectives, and poorly structured content can lead to confusion among both teachers and students, undermining the effectiveness of integration efforts (26, 27). In the context of integrating physical education and religious education, achieving a balance between physical activities and moral or spiritual content presents a particular challenge, as it requires aligning diverse learning outcomes within a cohesive framework.

From a methodological perspective, the implementation of integrated curricula necessitates the adoption of innovative teaching strategies and assessment methods. Traditional instructional approaches, which are often teacher-centered and content-driven, may not be suitable for facilitating interdisciplinary learning experiences. Instead, educators are required to employ student-centered, inquiry-based, and experiential learning approaches that encourage active engagement and collaboration (28, 29). However, the lack of appropriate tools, training, and support systems can hinder the adoption of such methodologies, resulting in a gap between theoretical aspirations and practical realities.

In the Iranian educational context and similar systems, efforts to design and implement integrated curricula have gained increasing attention in recent years. Researchers have emphasized the importance of aligning curriculum development with cultural, religious, and societal values while also addressing contemporary educational needs (30, 31). Studies on curriculum planning have highlighted the need for comprehensive models that integrate cognitive, affective, and behavioral dimensions of learning, particularly in the context of religious education (32, 33). However, the integration of physical education into such models remains relatively underdeveloped, indicating a gap in both research and practice.

Furthermore, contemporary educational discourse increasingly emphasizes the role of holistic and human-centered approaches in curriculum design. The concept of “holistic education,” for instance, advocates for the integration of cognitive, emotional, and physical dimensions of learning to promote comprehensive human development (14). This perspective reinforces the relevance of integrating physical education and religious education, as both domains contribute to different aspects of human growth and well-being. Nevertheless, translating these theoretical frameworks into practical curriculum models requires a nuanced understanding of the challenges and constraints involved.

Given the complexity of integrating physical education and religious education, it is essential to adopt research approaches that can capture the multifaceted nature of this phenomenon. Qualitative methodologies, particularly grounded theory, are well-suited for exploring the underlying processes, perceptions, and contextual factors that shape curriculum integration. Such approaches enable researchers to generate contextually grounded insights and develop theoretical models that reflect the lived experiences of educators and stakeholders (3, 17). By examining the challenges associated with curriculum integration from the perspectives of those directly involved, it becomes possible to identify key barriers and opportunities for improvement.

In conclusion, while the integration of physical education and religious education holds significant potential for enhancing holistic learning and addressing contemporary educational challenges, it is also accompanied by a wide range of cultural, structural, content-related, and methodological obstacles. Addressing these challenges requires a comprehensive and context-sensitive approach that considers the perspectives of educators, the constraints of educational systems, and the broader socio-cultural environment. Therefore, the aim of the present study is to identify the challenges of integrating physical education and religious education curricula.

Methods and Materials

The present study was conducted within an interpretivist paradigm and employed a grounded theory approach as its primary methodological framework. Within this epistemological stance, reality is understood as socially constructed and dependent on the experiences and interpretations of individuals rather than as an objective and independent entity. Accordingly, the research did not begin with predefined hypotheses; instead, it sought to explore and identify the challenges associated with integrating physical education and religious education curricula through an inductive and iterative process. The unit of analysis in this study was conceptual, focusing on meanings, perceptions, and experiences articulated by participants.

The study population consisted of key informants and experts who possessed substantial academic knowledge and/or practical experience in the domains of curriculum studies, physical education, and religious education. These participants were selected because of their ability to provide rich, in-depth, and contextually grounded insights into the phenomenon under investigation. Sampling was conducted using a purposive and theoretical sampling strategy, which is consistent with grounded theory methodology. In this approach, participants were not selected to statistically represent a larger population but rather to contribute to the development and refinement of emerging concepts and categories. The sampling process was iterative and flexible; initial participants were selected based on their relevance to the research topic, and subsequent participants were chosen based on the evolving needs of the analysis. This process continued until theoretical saturation was achieved, meaning that no new concepts, properties, or relationships emerged from additional data collection and the categories were sufficiently developed in terms of their dimensions and variations.

Data were collected primarily through in-depth semi-structured interviews, complemented by the analysis of relevant written documents. The semi-structured interview format allowed the researcher to maintain a focused yet flexible line of inquiry, enabling participants to elaborate on their experiences, perspectives, and interpretations regarding the challenges of curriculum integration. An initial interview guide was developed based on the research objective, but it was continuously refined throughout the data collection process in response to insights gained from earlier interviews. This iterative process ensured that emerging concepts were explored in greater depth and that data collection remained closely aligned with the evolving analytical framework.

In addition to interviews, document analysis was employed to enrich and triangulate the data. Relevant policy documents, curriculum frameworks, and scholarly materials related to physical education and religious education were reviewed to provide contextual background and to support the identification of key concepts and categories. To enhance the trustworthiness of the data, several strategies were employed, including repeated engagement with the data, peer debriefing, and member checking. Interview transcripts and preliminary interpretations were reviewed by participants to confirm the accuracy of representation, and multiple researchers or knowledgeable peers were involved in examining the coding process to ensure consistency and rigor. All data units were systematically coded and documented to maintain an audit trail, thereby increasing transparency and allowing for external review of the analytical process.

Data analysis was conducted concurrently with data collection, following the systematic procedures of grounded theory. The process began with repeated readings of the interview transcripts to achieve immersion in the data and to develop an initial understanding of participants' perspectives. Open coding was then carried out through a line-by-line examination of the data, during which discrete concepts were identified and labeled. These initial codes represented the fundamental units of meaning derived directly from the data.

Following open coding, axial coding was employed to organize and relate the identified concepts into higher-level categories. During this stage, connections between categories and subcategories were established based on their properties and dimensions. The analysis focused on identifying patterns of relationships, including conditions, interactions, and consequences associated with the challenges of integrating the two curricular domains. In the final stage, selective coding was undertaken to integrate and refine the categories into a coherent theoretical framework. A central category was identified, and all other categories were systematically related to it to form an explanatory model grounded in the data.

Throughout the analytical process, constant comparative analysis was used, whereby new data were continuously compared with existing codes and categories to refine their properties and ensure conceptual consistency. The process was iterative and non-linear, involving frequent movement between data collection and analysis. The emerging theory was continuously evaluated and refined until it demonstrated internal coherence, explanatory power, and strong alignment with the empirical data. To ensure the credibility and dependability of the findings, strategies such as prolonged engagement with the data, peer review of coding decisions, and systematic documentation of analytical steps were rigorously applied.

Findings and Results

After operationalizing a total of 15 interviews with teachers familiar with curriculum integration and repeatedly reviewing the data, four main themes and 18 subthemes were extracted. These subthemes included biased attitudes, unfamiliarity with the phenomenon of curriculum integration, lack of stakeholder involvement in curriculum integration, a traditional view toward curriculum integration, limited knowledge regarding curriculum integration, lack of appropriate resources for curriculum integration, improper organization of integrated curriculum content, imbalance in curriculum integration, ambiguity of content, excessive reliance on theoretical aspects in curriculum integration, neglect of integrated curriculum within the curriculum planning system, lack of attention to integrative thinking in education, insufficient funding, inflexibility of the educational structure for implementing integrated curricula, lack of appropriate tools for teaching integrated curricula, insufficient familiarity of implementers with integrated curricula, lack of attention to learners in integrated curricula, and lack of connection between integrated curricula and the environment. These 18 subthemes were categorized into broader thematic groups, resulting in four main themes: cultural challenges, content-related challenges, administrative and structural challenges, and methodological challenges.

Table 1. Main and Subthemes Extracted from Interviews

Main Themes	Subthemes
Cultural Challenges	Biased attitudes Unfamiliarity with the phenomenon of curriculum integration Lack of stakeholder involvement in curriculum integration Traditional view toward curriculum integration
Content-Related Challenges	Limited knowledge regarding curriculum integration Lack of appropriate resources for curriculum integration Improper organization of integrated curriculum content Imbalance in curriculum integration Ambiguity of content Excessive reliance on theoretical aspects

Administrative and Structural Challenges	Neglect of integrated curriculum in the curriculum planning system Lack of attention to integrative thinking in education Insufficient funding
Methodological Challenges	Inflexibility of the educational structure Lack of appropriate teaching tools Insufficient familiarity of implementers Lack of attention to learners Lack of connection with the environment

Theme 1: Cultural Challenges

Biased attitudes were identified as a major challenge, referring to superficial and subjective reactions to the issue of curriculum integration. One participant noted that when discussing integration, especially between physical education and religious education, some individuals react defensively as if such integration is inappropriate or unacceptable.

Unfamiliarity with curriculum integration was another key issue, as many individuals, including specialists, lack sufficient understanding of its nature. A participant emphasized the need for cultural development and fostering multidimensional thinking among teachers to enhance their understanding of integrated curricula.

Lack of stakeholder involvement was also highlighted as a critical challenge. Participants indicated that some stakeholders, particularly teachers, show little interest in linking different subject areas, often due to a single-subject mindset shaped by traditional educational practices.

A traditional perspective toward curriculum integration was another barrier. Some individuals mistakenly perceive integration as merely combining content from different subjects without understanding its philosophical and conceptual foundations.

Limited knowledge in this field further exacerbates these challenges. Participants noted that many individuals responsible for implementing integration lack the necessary expertise, leading to ineffective or incomplete execution of integrated curricula.

Theme 2: Content-Related Challenges

One of the major issues identified was the lack of appropriate resources. Participants reported the absence of guiding materials or reference books that could support the integration of different curricula.

Improper organization of content was another concern. Some integrated curricula fail to follow sound principles of content structuring, resulting in confusion for both teachers and students.

Imbalance in curriculum integration was also emphasized. Participants noted that integrated curricula often lean disproportionately toward one subject area, undermining the balance necessary for effective integration.

Ambiguity of content emerged as a significant issue, with participants highlighting that poorly designed curricula result in unclear and fragmented content that is difficult for learners to comprehend.

Additionally, excessive reliance on theoretical aspects was identified as a challenge. Participants argued that curriculum integration is inherently practical, yet in practice, it is often treated as a purely theoretical concept with limited application.

Theme 3: Administrative and Structural Challenges

Neglect of integrated curricula within the formal curriculum planning system was identified as a major issue. Participants observed that official documents and frameworks provide minimal attention to integration.

A lack of integrative thinking within the educational system was another barrier. The system tends to emphasize subject separation, reinforcing isolated teaching practices rather than interconnected learning.

Insufficient funding was also highlighted as a critical challenge. Developing integrated curricula requires significant investment in expertise and resources, which is often lacking.

Inflexibility of the educational structure further complicates implementation. Participants noted that centralized curriculum systems limit the ability of schools or teachers to design and implement integrated programs.

Theme 4: Methodological Challenges

A lack of appropriate teaching tools was identified as a major obstacle. Integrated curricula require innovative and compatible instructional methods, yet such tools are often unavailable or underutilized.

Insufficient familiarity of implementers with integrated curricula was another issue. Participants emphasized that even well-designed curricula may fail if educators lack the necessary understanding and skills for implementation.

Lack of attention to learners was also highlighted. Participants stressed that learners' needs and interests are often overlooked in the design of integrated curricula, despite their central role in the educational process.

Finally, the lack of connection between integrated curricula and the environment was identified as a challenge. Participants noted that many curricula are detached from real-world contexts, reducing their relevance and effectiveness in practical settings.

Discussion and Conclusion

The findings of the present study revealed that the challenges associated with integrating physical education and religious education curricula can be categorized into four major domains: cultural challenges, content-related challenges, administrative and structural challenges, and methodological challenges. These findings provide a comprehensive and multi-layered understanding of the barriers that hinder effective curriculum integration and are consistent with the broader literature on interdisciplinary education and curriculum reform. The identification of cultural challenges as a primary category highlights the deeply rooted attitudinal and epistemological barriers that influence the acceptance and implementation of integrated curricula. Participants' references to biased attitudes, traditional perspectives, and unfamiliarity with curriculum integration suggest that resistance to integration is not merely technical but fundamentally cultural in nature. This aligns with previous research indicating that interdisciplinary initiatives often encounter resistance due to entrenched disciplinary identities and belief systems (2, 4). Similarly, studies have shown that successful interdisciplinary implementation requires a shift in teachers' epistemological beliefs and the development of integrative thinking skills (1, 3).

The finding related to the lack of stakeholder involvement further reinforces the importance of collaborative engagement in curriculum reform processes. The absence of active participation by teachers and other stakeholders reflects a systemic issue that limits the co-construction of knowledge and shared ownership of curriculum innovations. This is consistent with research emphasizing that interdisciplinary curricula require collective effort and dialogue among stakeholders to ensure alignment and sustainability (17, 20). Moreover, the identified lack of knowledge among educators regarding curriculum integration highlights a significant gap in teacher preparation and professional development. Previous studies have similarly noted that teachers often lack the necessary competencies to design and implement interdisciplinary curricula effectively, leading to superficial integration efforts (1, 5).

Content-related challenges constituted another major category of findings, with issues such as lack of appropriate resources, poor content organization, imbalance, ambiguity, and excessive theoretical orientation being prominently highlighted. These findings underscore the complexity of designing integrated curricula that are both coherent and meaningful. The absence of adequate instructional resources and guiding materials is a critical barrier that has been widely documented in the literature (26, 27). Without clear frameworks and exemplars, educators may struggle to translate abstract integration concepts into practical teaching strategies. Furthermore, the issue of content imbalance, where one domain dominates the other, reflects a lack of conceptual clarity in defining the goals and structure of integration. This finding is consistent with research indicating

that achieving balance in interdisciplinary curricula requires careful alignment of learning objectives and content from multiple disciplines (10, 13).

The ambiguity and fragmentation of content identified in this study also resonate with previous findings on the challenges of interdisciplinary curriculum design. When integration is not grounded in a clear conceptual framework, it can result in disjointed and confusing learning experiences for students (6, 7). Additionally, the overemphasis on theoretical aspects at the expense of practical application reflects a common disconnect between curriculum design and classroom practice. Research has highlighted the importance of experiential and practice-oriented approaches in interdisciplinary education, particularly in domains such as physical education, where learning is inherently embodied and activity-based (5, 11). The findings of the present study suggest that neglecting this practical dimension can undermine the effectiveness of integration efforts.

Administrative and structural challenges emerged as another critical dimension, encompassing issues such as neglect of integrated curricula in formal planning systems, lack of integrative thinking within the educational system, insufficient funding, and inflexible organizational structures. These findings highlight the systemic nature of barriers to curriculum integration and the need for institutional support and policy alignment. The limited attention to integrated curricula in official documents and frameworks reflects a broader trend in education systems that prioritize standardized, subject-based approaches (18, 19). This structural rigidity can constrain innovation and limit the capacity of educators to experiment with new pedagogical models. Furthermore, the lack of integrative thinking across different levels of the educational system indicates that curriculum integration requires not only changes at the classroom level but also a transformation of institutional culture and practices.

The issue of insufficient funding identified in this study further underscores the resource-intensive nature of curriculum integration. Developing integrated curricula requires investment in training, materials, and collaborative processes, all of which depend on adequate financial support. Previous research has similarly emphasized that resource constraints can significantly hinder the implementation of interdisciplinary initiatives (20, 21). Additionally, the inflexibility of the educational structure, particularly in centralized systems, poses a major challenge to the adaptation and localization of integrated curricula. This finding aligns with studies suggesting that decentralized and flexible systems are more conducive to innovation and context-sensitive curriculum development (18).

Methodological challenges constituted the fourth major category of findings, including the lack of appropriate teaching tools, insufficient familiarity of implementers, lack of attention to learners, and weak connection between curricula and real-world contexts. These findings highlight the practical difficulties associated with translating integrated curriculum models into effective classroom practices. The lack of suitable instructional tools and methods reflects a gap between theoretical frameworks and pedagogical implementation, which has been widely acknowledged in the literature (28, 29). Effective interdisciplinary teaching requires innovative and student-centered approaches that facilitate active engagement and meaningful learning experiences.

The insufficient familiarity of implementers with integrated curricula further exacerbates these challenges. Even well-designed curricula may fail if educators lack the necessary understanding and skills to implement them effectively. This finding is consistent with research emphasizing the critical role of teacher competence in the success of interdisciplinary education (1, 17). The lack of attention to learners' needs and interests identified in this study also reflects a fundamental issue in curriculum design. Student-centered approaches are essential for ensuring the relevance and effectiveness of integrated curricula, as they allow for the alignment of learning experiences with learners' motivations and contexts (8, 14). Finally, the weak connection between integrated curricula and the environment highlights the importance of contextualization in curriculum design. Learning experiences that are disconnected from real-world contexts are less likely to engage students and achieve meaningful outcomes, as emphasized in previous studies on interdisciplinary and experiential learning (12, 16).

Overall, the findings of this study are consistent with and extend the existing body of literature on curriculum integration by providing a nuanced understanding of the specific challenges associated with integrating physical education and religious education. The identification of cultural, content-related, structural, and methodological barriers underscores the multifaceted nature of this issue and highlights the need for comprehensive and context-sensitive approaches to curriculum reform. These findings also contribute to the theoretical discourse on interdisciplinary education by emphasizing the importance of aligning epistemological, pedagogical, and institutional dimensions in the design and implementation of integrated curricula (3, 10). Moreover, the study reinforces the relevance of holistic and human-centered educational models that seek to integrate physical, moral, and cognitive dimensions of learning (14, 25).

The limitations of this study should be acknowledged to provide a balanced interpretation of the findings. One limitation relates to the qualitative nature of the research design, which, while allowing for in-depth exploration of participants' perspectives, may limit the generalizability of the results to broader populations. Additionally, the reliance on expert participants may have introduced a degree of subjectivity, as their views are shaped by their specific experiences and professional contexts. Another limitation concerns the contextual specificity of the study, as the findings are influenced by the cultural and institutional characteristics of the educational system in which the research was conducted. Furthermore, the use of interviews as the primary data collection method may be subject to biases such as social desirability and selective recall, which could affect the accuracy of the reported experiences.

Future research could build on the findings of this study by exploring the challenges of curriculum integration in different educational contexts and cultural settings to enhance the transferability of the results. Comparative studies examining the integration of physical education and religious education across various countries and systems could provide valuable insights into the role of contextual factors in shaping integration processes. Additionally, future studies could investigate the perspectives of other stakeholders, such as students, parents, and policymakers, to develop a more comprehensive understanding of the issue. Longitudinal research designs could also be employed to examine the evolution of integration efforts over time and to assess the long-term impact of integrated curricula on student outcomes. Moreover, further research could focus on developing and testing practical models and frameworks for effective curriculum integration, with particular attention to teacher training and professional development.

From a practical perspective, the findings of this study have important implications for educators, curriculum developers, and policymakers. There is a clear need for targeted professional development programs that enhance teachers' interdisciplinary competencies and equip them with the skills necessary to design and implement integrated curricula effectively. Educational institutions should also prioritize the development of appropriate instructional resources and tools that support integration and facilitate meaningful learning experiences. In addition, policymakers should consider revising curriculum frameworks and assessment systems to create greater flexibility and encourage interdisciplinary approaches. Collaborative structures and networks should be established to promote dialogue and knowledge sharing among stakeholders, thereby fostering a culture of integration and innovation. Finally, efforts should be made to ensure that integrated curricula are responsive to learners' needs and contexts, thereby enhancing their relevance and effectiveness in promoting holistic education.

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Authors' Contributions

All authors equally contributed to this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

All ethical principles were adhered in conducting and writing this article.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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