

Implementation and Evaluation of the “Physical Education” Policy in Indonesian Senior High Schools : A Systematic Review

Sigid Widiyanto, Heny Setyawati, Donny Wira Yudha Kusuma, Sri Sumartiningsih, Fajar Syamsudin*

Department of Physical Education, Faculty of Sport Science, Universitas Negeri Semarang, Kampus Sekaran, Gunungpati, Semarang, Jawa Tengah, Indonesia, 50229

Corresponding author: Fajar Syamsudin*, Faculty of Physical Education, Universitas Negeri Semarang, Kampus Sekaran, Gunungpati, Semarang, Jawa Tengah, Indonesia, 50229, ORCID: <https://orcid.org/0000-0001-7506-5616>

ABSTRACT

The implementation of physical education (PE) policy in Indonesian senior high schools continues to show a gap between national policy directives and classroom-level practices. This systematic review aims to evaluate how physical education policies are implemented across Indonesian senior high schools. The review focuses on four key aspects: teacher competence, curriculum objectives and applicability, availability of resources, and stakeholder attitudes toward physical education. Relevant studies were identified through searches of Google Scholar, ScienceDirect, and ProQuest using Publish or Perish and the Mendeley Web Importer. A total of 337 records were screened following the PRISMA framework, resulting in 10 eligible studies included in the analysis. The review reveals that while physical education policies are nominally implemented across Indonesian senior high schools, substantive alignment with policy goals remains limited. A key contribution of this study is its synthesis of implementation inconsistencies across curriculum fidelity, pedagogical readiness, and infrastructural adequacy highlighting systemic gaps that undermine national objectives. This analysis provides a sharper, evidence-based foundation for rethinking PE policy evaluation frameworks in decentralized education systems, with limited cases reaching a “very good” level. Common challenges identified across studies include inadequate sports facilities and high student–teacher ratios, which hinder effective teaching and learning processes. These findings suggest that increased government support is needed, particularly through the recruitment of additional physical education teachers in public schools and greater investment in sports

infrastructure, including essential equipment and multipurpose facilities to support diverse physical education activities.

Keywords: Sports school, Policy Evaluation, Sports Senior High School, Curriculum Implementation, Sports Indonesia

INTRODUCTION

Schools are among the most important institutions in shaping children's habits and lifestyles from early childhood through adolescence, including aspects related to physical activity and exercise (Egan, 2019; Kliziene et al., 2021; Rohmah & Muhammad, 2021). Children and adolescents in Indonesia spend most of their time at school, so this environment has a major influence on the formation of healthy behaviours, including the habit of exercising (Rasberry et al., 2011; Singh et al., 2019). Amidst the rising prevalence of sedentary lifestyles, obesity, and mental health issues among school children, exercise has been proven to offer significant benefits, both physically and psychologically (Biddle et al., 2019; Fenwick-Smith et al., 2018). Various studies have demonstrated that regular participation in exercise not only improves physical fitness, but also enhances academic performance, concentration, and social development (Donnelly et al., 2017; Liegro et al., 2019; Sewell et al., 2021). Therefore, every school must provide opportunities and supportive environment that encourages students to exercise consistently and in a structured way. This has been incorporated into various national education policies through the subject of Physical Education, but its implementation exhibits dynamics that require further studi (Lengkana & Sofa, 2017; Woods et al., 2021).

As a sign of its commitment to the importance of exercise, the Indonesian government, through the Ministry of Education, Culture, Research and Higher Education, has established Physical Education (PE) as part of the national curriculum (Harahap & Sihombing, 2024; Syarifatunnisa et al., 2021). In line with national policy supporting PE subjects, schools are required to organize PE lessons, provide facilities and equipment, raise awareness of active living among students, and develop the potential of students interested in exercise (Prasetyo et al., 2018). Local governments, such as the “Department of Education and Department of Sports”, also play a role in supporting students' awareness of active living and developing their sporting talents by hosting championships like POPDA (Pekan Olahraga Pelajar Daerah/ Regional Student Sports

Week), in collaboration with related sports branches (Enggelita Benu et al., 2024; Farmani et al., 2023; Yusnitasari et al., 2023).

However, a gap remains between policy design and actual school implementation (Mustafa & Winarno, 2020). Some schools report limited exercise facilities, scarce teacher resources, lack of support from school management, and a school culture that often emphasizes academic subjects (Aprilia & Rusli, 2025; Rosalinda & Nugroho, 2022). Additionally, changes in education policy, such as shifting from the 2013 Curriculum to the Merdeka Curriculum, create new challenges in adapting materials, learning methods, and assessment criteria for PE subjects (Tuasikal et al., 2023). Therefore, it is essential to review and evaluate the implementation of PE policies in schools thoroughly to address weaknesses and promote successful practices.

The gap between government and its implementation has become a key focus in discussions about developing PE subjects in schools (Sari et al., 2025; Siagian et al., 2020; Siagian & Ayuningtyas, 2019). Despite a growing body of research on physical education, few studies adopt a systematic approach that critically examines implementation gaps within the Indonesian context particularly in light of recent curricular transitions. This review uniquely integrates multi-method findings to construct a layered understanding of how policy goals diverge from on-ground practices, offering theoretical and empirical insights into the structural and pedagogical bottlenecks that persist. Evidence-based evaluation is urgently needed to objectively identify the factors that hinder and support policy execution. This article aims to provide a comprehensive overview of the implementation and assessment of PE subject policies at the Senior High School in Indonesia. Using a systematic review approach, the author seeks to compile findings from previous studies to develop relevant recommendations for stakeholders, strengthening the role of PE as a foundation for fostering a healthy, active, and competitive younger generation.

METHODS

Study Design

This systematic review article followed the guidelines for Preferred Reporting Items for Systematic Reviews and Meta-Analyses 2020 (PRISMA) (Page et al., 2021). In order to find systematic review investigations, the researchers searched extensively via journal databases Google Scholar, Science Direct and ProQuest with the help of apps and tools Publish or Perish

and Mendeley Web Importer. Google Scholar, Science Direct and ProQuest was chosen because it covers not only research journal articles but also theses, dissertations, and all types of scientific papers. The search for articles for review in this study began in June 2017, and then analysis was conducted according to inclusion and exclusion criteria in July 2025. These search engines are regarded as the greatest in Indonesia for gathering publications with substantial impact and solid scientific foundations. Using previously established inclusion and exclusion criteria, the search results were further filtered.

Eligibility criteria

In order to keep data relevant, this research carefully selected articles that could be included in this research by determining several inclusion criteria. For example, this research only included articles investigating with PICOS (Population, Intervention, Comparison, Outcome, Study Design). P: Senior High School in Indonesia; I: Evaluation and Implementation Physical Education; C: Not applicable; O: Evidence on the extent of PE policy implementation, covering curriculum alignment, teacher competence, instructional practices, availability of facilities, student–teacher ratio, and overall evaluation ratings; S: Observational studies, including descriptive quantitative, qualitative, and mixed-methods approaches.

Electronic databased were searched in Google Scholar, Science Direct and ProQuest. The keywords used in the search process were completed with MeSH Terms, Titles / Abstracts, and asterisks (*) for words that are likely to have various types of subsequent words. “Evaluasi mata pelajaran PJOK OR Evaluation of Physical Education OR Implementasi PJOK Sekolah Menengah Atas OR Implementation of Physical Education at Senior High School” were used in the article search, and published within the last eight years (2017-2025).

Assessment of Bias. Two investigators independently performed the electronic search and retrieved the articles that matched with our searched terms. Any disagreement was settled by discussion and consensus with all the authors. Final decision was merely based on the agreements of all authors.

Procedure

After deciding the inclusion and exclusion criteria, this research was ready to collect the data. First, the articles' titles, abstracts, and full texts were screened from the aforementioned databases. They were verified and stored in Mendeley Dekstop software. This process generated 337 articles, yet only 303 articles were selected. Next, these articles were screened again. If the title and abstract were not suitable, the articles were discarded. This screening yielded 53 articles that advanced to the subsequent screening process. We filtered the articles based on their overall suitability. Finally, we analyzed 10 articles because they matched the PICOS required beforehand. The process of this data collection and analysis is illustrated in a flowchart to make it easy to understand. The flowchart refers to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). For this research, the flowchart is documented in Figure 1.

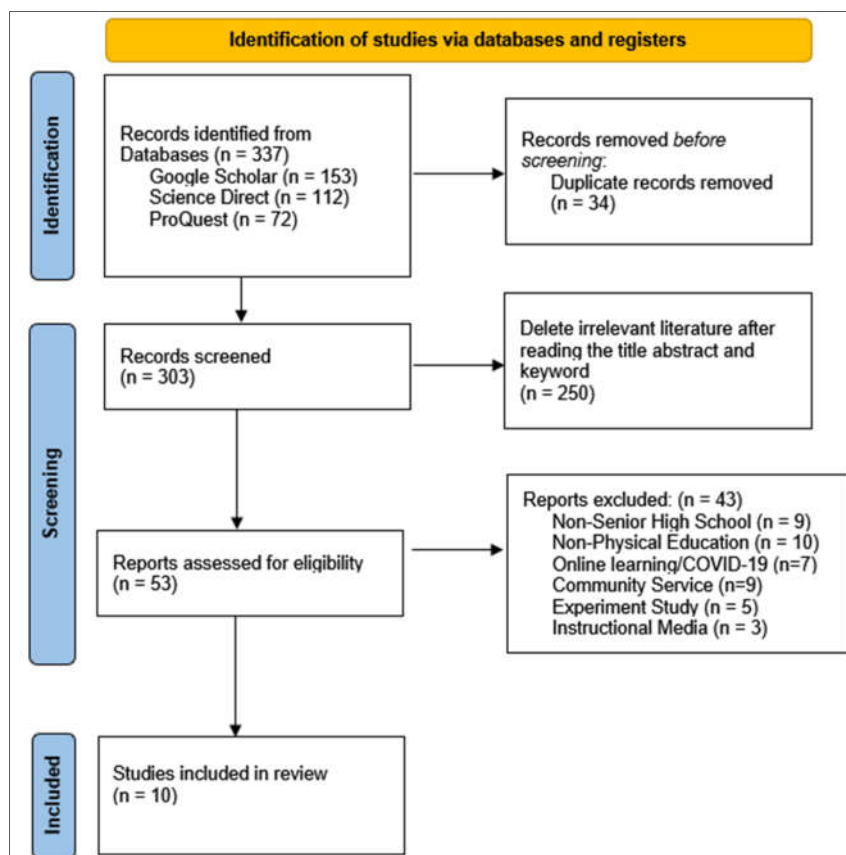


Figure 1. PRISMA flowchart of the article selection process

Source: The authors

RESULTS

Table 1. is a summary of the research containing sample details, main findings and future challenges.

No.	Author (s) & Year	Method & Sample	Key Findings	Implementation Challenges
1	(Subawa, 2024)	Descriptive-quantitative; 23 senior high schools in Buleleng City, Province of Bali	Teacher competency, curriculum design, and instructional delivery rated as good; school facilities are adequate, safe, and comfortable	Imbalanced teacher–student ratio, excessive teaching hours for teachers, difficulty managing learning environments
2	(Darmawan, 2019)	Qualitative Study, CIPP; OIQ; Senior High School Muhammadiyah in Palembang City, Province of South Sumatra	Legal foundation and resources are sufficient; teacher competence and instructional implementation are good	Need for improvement in sports facilities to enhance competence and student achievement
3	(Suwanta, 2020)	Descriptive Quantitative-percentage; 7 Madrasah Aliyah in Purwakarta City, Province of West Java	Implementation of the 2013 Curriculum was deemed successful, from 100% having a 79.3%	Some schools lack proper facilities; teachers need creativity to manage learning
4	(Raufi & Hutauruk, 2023)	Descriptive Quantitative-percentage; 5 schools, Sungai Penuh City, Province of Jambi	Facilities rated “fair,” not meeting national standards, only 55,22% and 48,35% from 100%	Lack of adequate facilities limits teachers’ ability to deliver effective instruction
5	(Wulandari, 2023)	Mix Method Qualitative and Quantitative, CIPP; OIQ; likert 1-4; 5 headmasters, 5 admin staff, 5 PJOK teachers, 50 students, Kendari City, Province of South East Sulawesi	Implementation of the Merdeka Curriculum was rated very good (average score: 3.5/4). With details as follows: context (3,64), input (3,44), process (3,54), and product (3,50).	Athletics and Gymnastics Infrastructure in 2 out of 5 schools are inadequate, Ball Games in 5 schools are inadequate.
6	(Sebtika et al., 2017)	SWOT-based evaluation; SMAN 1 Kesamben, Province of East Java	Implementation of PE is good, but has limited infrastructure	Inadequate facilities, 27 classes share one multi-use court; insufficient sports equipment (e.g. athletics, javelins,

No.	Author (s) & Year	Method & Sample	Key Findings	Implementation Challenges
				shot puts, volleyballs)
7	(Zakiah et al., 2020)	Qualitative Study, CIPP; OIQ; likert 1-5; 3 headmasters, 18 PE teachers, 100 students, Medan City, Province of North Sumatra	Teacher score: 4.05; Student score: 4.12; overall good quality of instruction	Potential for improvement to achieve excellence in teaching and learning outcomes
8	(Lahia et al., 2023)	Qualitative Study, Questionnaire; 25 students; Bengkulu City, Province of Bengkulu	Teachers' competence in conducting learning evaluations is considered lacking	Need to improve PE teachers' assessment and evaluation skills
9	(Kaloka & Kurniawan, 2021)	Qualitative Study, CIPP; 180 students, 6 teachers, 3 Senior High School in Yogyakarta; Province of Yogyakarta	Teacher competence 75,35% from 100%, there is damaged equipment that is still in use, use of the same sports field as other schools, the learning process and curriculum implementation are carried out smoothly	Updating of basic and supporting tools is required, training to improve teacher quality is necessary, additional multipurpose fields are needed for
10	(Fadila et al., 2021)	Descriptive percentage; 26 teachers and 828 students, Banyumas City, Province of Central Java	Implementation of PE 2013 Curriculum rated good: teacher competence 85%, Implementation of the learning process 86,1%	Improving teacher competence is necessary in order to maximise results.

Note: CIPP (Context, Input, Process, Product), OIQ (Observation, Interview, Questionnaire)

Findings of Ten PRISMA Study Results

The systematic review involved the analysis of 10 studies conducted between 2017 and 2025 across various Indonesian regions. These studies focused on evaluating the implementation and outcomes of the “teacher competence, curriculum objectives and applicability, available resources, and stakeholder attitudes” subject in senior high schools. Overall, most studies reported that PE implementation in terms of learning quality, teacher competency, and curriculum delivery was rated as good or very good. For instance, (Darmawan, 2019; Subawa, 2024; Suwanta, 2020).

(Darmawan, 2019; Subawa, 2024; Suwanta, 2020) found that learning processes were well-executed, supported by sufficient planning and teacher competence. However, significant challenges were repeatedly noted across the studies. A predominant issue was the inadequacy of sports facilities and infrastructure. At least seven of the reviewed studies (e.g., Suwanta, Raufi & Hutauruk, Sebtika et al., Kaloka & Kurniawan) highlighted that physical environments often did not meet national education standards. This deficit affected the effectiveness of instruction and student engagement. For example, one school used a single multipurpose field for 27 classes (Sebtika, 2017), limiting access and practice quality.

The shift to the Merdeka Curriculum was also a focus of several studies,³¹ Wulandari reported positive outcomes such as increased student motivation and engagement; however, they emphasized that success relied on teacher readiness and adequate resource availability. Some schools struggled to adapt assessment systems and learning resources to the new curriculum.

Evaluation and assessment aspects of PE were identified as areas requiring improvement. (Lahia et al., 2023) found that over 50% of students perceived the assessment process as insufficient. Kaloka & Kurniawan, (2021) emphasized the need for improved teaching media, better use of technology, and motivational strategies to foster active living cultures among students.

The review uncovers a fragmented implementation landscape shaped by regional disparities, underfunded infrastructures, and a lack of standardized evaluation frameworks. Particularly revealing is the mismatch between teacher competence and institutional capacity schools with skilled educators often remain hamstrung by inadequate resources, while well-equipped schools may lack pedagogical leadership. These intersecting tensions suggest that improving PE outcomes requires both horizontal (inter-school) and vertical (policy-to-practice) alignment strategies.

highlights school health and prevention discourse, linking school health service, sedentary lifestyle, and prevention and control, demonstrating the integration of public health narratives within the field. Notably, explicit policy-related terms (e.g., policy implementation, governance, curriculum reform) appear peripheral and less densely connected, suggesting that policy-oriented research remains underrepresented compared to pedagogical and physiological studies.

This structural configuration indicates that global physical education research is predominantly driven by health, psychology, and teaching effectiveness frameworks, while systemic policy analysis occupies a marginal position. The relative absence of governance-centered keywords substantiates the research gap addressed in this study, particularly concerning policy–practice alignment within secondary education contexts. Therefore, the bibliometric mapping not only illustrates thematic concentration but also empirically justifies the need for a more integrated policy-evaluation framework in physical education research, especially in emerging education systems.

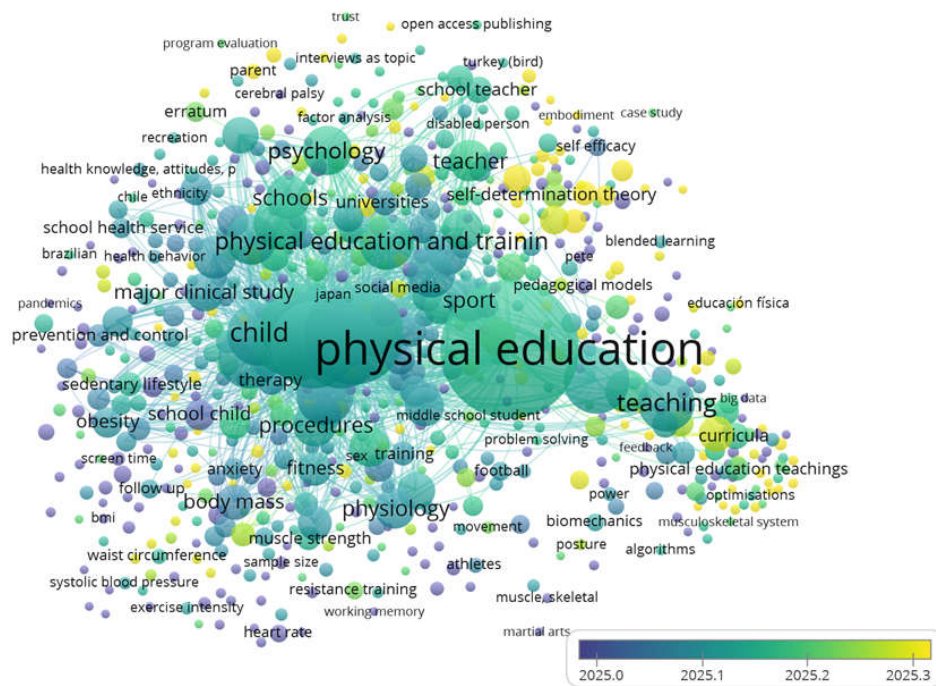


Figure 3 Overlay Visualization

Source: The authors

The overlay visualization Figure 3 illustrates the temporal evolution of research themes in physical education. Earlier studies were predominantly concentrated on biomedical and physiological dimensions, as reflected by keywords such as *body mass*, *obesity*, *muscle strength*, and *exercise intensity*. This pattern indicates that the field was initially driven by health-oriented and clinical perspectives, positioning physical education primarily as a tool for physical fitness measurement and disease prevention.

More recent publications show a thematic shift toward pedagogical and motivational constructs, including *self-determination theory*, *curricula*, *pedagogical models*, and *blended learning*. This transition suggests an intellectual movement from performance-based and physiological paradigms toward instructional innovation and learner-centered approaches. However, policy- and governance-related terms remain comparatively peripheral, indicating that systemic policy analysis has not developed proportionally with pedagogical research. This imbalance reinforces the relevance of the present study, which addresses the underexplored dimension of policy implementation and institutional alignment in secondary education contexts.

DISCUSSION

Policy-Practice Gap and Curriculum Challenges in PE Implementation

This study critically foregrounds the persistent misalignment between policy formulation and ground-level execution in PE programs. Rather than treating infrastructure deficits or teacher overload as isolated issues, the review positions them as symptoms of a deeper policy design flaw: an overemphasis on curricular ideals without corresponding systemic support. This reframing urges a more integrated, equity-conscious approach to educational policy implementation. While many schools formally adopt the national curriculum, effective delivery is frequently constrained by inadequate infrastructure, limited teaching resources, and institutional priorities that favor academic subjects over PE (Effendy & Priambodo, 2023; Kliziene et al., 2021). Although teachers often demonstrate sufficient competence, their efforts are undermined by high student-to-teacher ratios, restricted instructional time, and insufficient sports equipment. These barriers align with findings from previous studies, which emphasize

that a well-designed curriculum cannot achieve its objectives without adequate contextual support (Aprilia & Rusli, 2025; Halil et al., 2024; Syamsudin et al., 2021).

The transition from the 2013 Curriculum to the Merdeka Curriculum introduces additional challenges and opportunities. This study offers a novel contribution by examining how the persistent policy–practice gap evolves across two different curricular frameworks. Unlike the 2013 Curriculum, which emphasized standardized outcomes and structured instruction, the Merdeka Curriculum introduces a more flexible, student-centered, and character-oriented approach. This shift reflects a significant transformation in national education policy, reframing Physical Education not merely as skill acquisition but as a medium for holistic competency development aligned with the Pancasila Student Profile. However, this paradigm also demands higher teacher autonomy, curriculum literacy, and institutional readiness factors that often remain uneven across regions. The new framework promotes flexible, character-driven learning and supports physical activity integration within curricular and extracurricular spaces. It aligns with national ideals such as the Pancasila Student Profile and offers potential for holistic student development (Ma'mun et al., 2025). However, the success of this paradigm shift depends on the availability of resources, teacher preparedness, and active community participation. Schools with limited capacities often demonstrate symbolic compliance rather than substantive implementation (Pratycia et al., 2023; Rinaldi et al., 2024), highlighting disparities in readiness across regions.

Assessment Limitations and Systemic Barriers

While the Merdeka Curriculum aspires to foster authentic and competency-based learning, current evaluation practices have not yet adapted to this pedagogical shift. Despite national policies and guidelines, evaluation practices in PE remain limited and outdated. Most assessments continue to employ generic tools that fail to capture the multidimensional aspects of PE, including cognitive, affective, and psychomotor domains (Harold W. Kohl et al., 2013). Without meaningful assessment systems, PE's potential as a medium for comprehensive student development is diminished. There is an urgent need for reform in evaluation approaches, including a combination of top-down policy adjustments and bottom-up innovation at the school level.

Systemic issues also hinder PE implementation. Funding shortages, limited inter-agency collaboration, and inadequate professional development for teachers contribute to uneven quality across schools. Infrastructure deficits are particularly striking, with over 60% of under-resourced schools lacking standard sports facilities and relying on makeshift alternatives (Bailey et al., 2023; S et al., 2025). Furthermore, weak curriculum planning and minimal cross-sector collaboration reduce the sustainability of active lifestyle promotion within school environments (Zubaidah et al., 2017).

Headmasters at the school have a crucial role in shaping the quality of PE. When vision, time allocation, and resources are aligned, PE implementation is typically more effective (Aditama, 2024; Zakiah et al., 2020). Strong management practices, including flexible scheduling, teacher empowerment, and support for extracurricular activities, correlate with better student outcomes. However, national-level policies must be adaptable to local conditions, especially in light of regional disparities that affect access to resources and institutional support (Aritonang et al., 2024; Ilham et al., 2019).

This review underscores that curriculum reform alone is insufficient to close the long-standing gap between policy and practice in Physical Education. The novelty of this study lies in its contextual analysis of how the shift from the 2013 Curriculum to the Merdeka Curriculum transforms but does not eliminate implementation barriers. The findings suggest that effective PE delivery under the Merdeka framework requires not only curriculum flexibility but also systemic support through improved teacher training, localized policy adaptation, and sustainable infrastructure investment. Strengthening assessment systems that align with competency based education is equally essential to realize the holistic vision of the Pancasila Student Profile. Therefore, national policymakers should prioritize bridging the disconnect between reform design and school-level realities, ensuring that PE serves as a meaningful instrument for students' physical, cognitive, and character development.

CONCLUSION

This systematic review concludes that the implementation of physical education (PE) policies in Indonesian senior high schools can be considered moderately successful. Teacher competence and commitment are generally rated positively, even under conditions of limited infrastructure and high student–teacher ratios. However, these strengths are often undermined

by insufficient facilities, unequal resource distribution, and inconsistencies in the adoption of curriculum reforms such as the Merdeka Curriculum. These factors contribute to regional disparities and prevent PE from achieving its full potential as envisioned in national education policies. Strengthening PE implementation demands a paradigm shift from reactive infrastructure fixes to proactive systemic reforms. This review contributes not only an empirical aggregation of barriers but also proposes a policy-learning lens for future reform. Bridging the policy practice divide requires embedding monitoring, accountability, and local adaptation mechanisms within the national PE policy architecture. These insights are vital for policymakers aiming to embed physical education as a central, not peripheral, element of national education agendas. Collaboration among key stakeholders education policymakers, and local governments is crucial to bridging the gap between policy and practice, ensuring that physical education fulfills its role in shaping healthy, active, and resilient future generations.

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