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Challenges and Strategies for Teachers in Implementing Inclusive Physical Education: A Systematic Review

Andi Baso Husain*¹, A. Anwar Ishar²

^{1,2} Physical Education Study Program, Faculty of Teacher Training and Education, Megarezky University, Makassar, Indonesia

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Abstract

Purpose: Inclusive Physical Education (PE) aims to ensure equitable participation for all students, including those with disabilities. However, school implementation is often hindered by structural, pedagogical, and social barriers. This systematic review synthesizes empirical studies published between 2010 and 2025 to identify challenges and strategies in implementing inclusive PE. Methods: Literature searches were conducted through Scopus, Web of Science, PubMed, and Google Scholar using PRISMA guidelines. Inclusion criteria encompassed empirical studies on challenges and strategies for inclusive PE implementation in school settings. Study identification, selection, and data extraction were performed by two independent reviewers. Seventy-two eligible studies were analyzed through thematic synthesis to identify patterns and common themes. Results: Analysis identified four main challenge domains: (1) limited teacher competence and training, (2) non-adaptive facilities, (3) rigid curricula, and (4) social stigma toward students with special needs. Effective strategies reported include continuous professional development for teachers, collaborative teaching, task differentiation, and implementation of Universal Design for Learning (UDL). Findings also highlight the importance of management support and parental involvement in strengthening school inclusion. Conclusion: Effective implementation of inclusive PE requires multi-stakeholder collaboration and context-based policy reforms to strengthen teachers' capacities and promote sustainable school inclusion.

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*Corresponding email : andibasohusain@gmail.com

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INTRODUCTION

Inclusive education is a fundamental educational paradigm that affirms every student's right to learn in regular learning environments, regardless of their abilities or disabilities. This principle is grounded in the United Nations Convention on the Rights of Persons with Disabilities and has prompted countries worldwide to commit to including children with disabilities in formal school systems (Rosmi & Jauhari, 2022). Within this inclusive educational framework, physical education and sports (PJOK) play a particularly crucial role. Physical activity (PA) offers unique opportunities for all students to develop comprehensively across physical, social, and emotional dimensions (Kuntjoro et al., 2022) (Tarantino & Neville, 2023). However, translating the inclusive education philosophy into effective PE practice remains a significant challenge in many school contexts.

The implementation of inclusive PE is often constrained by multiple interconnected barriers. Recent evidence indicates that inclusive approaches in PE are frequently structured around the level of participation that students with special needs can achieve, which is significantly influenced by the type of activities offered, the availability of support systems, and the quality of training opportunities provided to educators (preliminary research findings). Critically, teachers' attitudes and dispositions continue to emerge as a major obstacle in achieving inclusive PE goals (Tarantino et al., 2025). Understanding the specific challenges that PE teachers encounter when implementing inclusive practices, as well as identifying the

practical approaches they employ, is therefore essential for advancing the field. A synthesis of relevant local and international literature reveals that PE teachers frequently encounter multiple systemic obstacles. These obstacles include inadequate and inflexible curricula, insufficient sports facilities and equipment, limited access to specialized training in inclusive pedagogy, and insufficient institutional support (Fellisiana Putri & Indarto, 2024; Muñoz-Hinrichsen et al., 2024). The creation of genuinely adaptive and inclusive classroom environments is further complicated by constraints on physical space and resources, which directly impact teachers' ability to differentiate instruction and accommodate diverse learning needs.

Contemporary research identifies evidence-based strategies that can address these challenges. Effective approaches include collaborative partnerships between teachers and school administrators, continuous professional development initiatives tailored to inclusive pedagogy, curriculum adaptation that maintains learning standards while increasing accessibility, and the provision of adequate facilities and equipment (Winata et al., 2025). Despite these identified solutions, significant gaps remain in understanding how PE teachers navigate the complex terrain of inclusive practice in their specific contexts.

This systematic review aims to synthesize empirical research published between 2010 and 2025 to identify the multifaceted challenges that PE teachers face when implementing inclusive practices and to comprehensively examine the evidence-based solutions proposed by recent

scholarship. By integrating findings across diverse educational contexts and geographical settings, this review will provide a robust evidence base for developing context-sensitive policy recommendations and evidence-informed practice guidelines that can strengthen the implementation of inclusive PE in schools.

METHODS

Participants

Since this is a systematic literature review, there are no new participants. The term “participants” refers to studies and research reports on physical education teachers who implemented inclusive education from 2010 to 2025 (Ferianto et al., 2022; Haegele et al., 2021). The focus is on physical education teachers (junior high and elementary schools), as well as relevant stakeholders (students with special needs and administrators). (Bertills & Björk, 2024; Suryobroto, 2021).

Sampling Procedures

To cover publications from January 2010 to December 2025, a literature search was conducted using high-quality databases (Scopus, Web of Science, PubMed, and Google Scholar). Inclusive physical education, “inclusive physical education,” “inclusive physical education teachers,” “inclusive physical education teachers,” “inclusive physical education teachers,” “adaptive physical education,” etc. Articles, theses, and proceedings written in English or Indonesian must be included.

In the inclusion criteria, articles that are irrelevant or only discuss general education without focusing on inclusive

PJOK teachers are excluded. This should include research findings on teachers' perceptions, problems, and inclusive teaching strategies in PJOK subjects. The PRISMA guidelines were used in the literature selection process, which included removing duplicates, screening abstracts, and thoroughly assessing texts before obtaining a complete collection of literature.

Materials and Apparatus

Scientific papers are the main “material” in a literature review. There are no experimental instruments; instead, study data is compiled using spreadsheets and reference management software.

Procedures

First, the articles were imported into a bibliographic database. The titles and abstracts were adjusted. Next, the selected studies are evaluated qualitatively for their methodological quality. A thematic analysis framework is used to systematically extract relevant data, including conclusions about problems and solutions. Figure 1 shows a flowchart of the PRISMA selection process (identification, screening, exclusion, inclusion) to illustrate the number of studies considered.

Data Analysis

Thematic Qualitative Analysis Was Conducted On Selected Study Data. The Analysis Was Carried Out By Identifying Recurring Patterns (Themes) In The Challenges And Strategies Reported (JOWSEY ET AL., 2021). The study results were organized into main categories using thematic analysis. To facilitate comparison between studies, the results were presented descriptively in summary tables and narrative text.

(SUMARNO ET AL., 2024)(CAMPBELL ET AL., 2020).

RESULT

Most qualitative and quantitative studies were analyzed as a result of these findings. The results show that some of the main problems for inclusive PJOK teachers are as follows: (a) lack of specific training on inclusion or adaptation; (b) limited facilities and infrastructure, such as inaccessible sports facilities; (c) inflexible curriculum, which makes differentiation difficult to implement; (d) stigma or negative perceptions of students with disabilities within the school community; and (e) difficulties in managing heterogeneous classes, concluding that “the main challenges in inclusive PE include a lack of teacher competence, a lack of inclusive sports facilities, and an inflexible curriculum.”

This also emphasizes that limited space, inadequate equipment, and lack of training are all issues that hinder the participation of students with special needs. Conversely, the approach used to improve teacher capabilities includes continuous professional training, collaboration between teachers and educational staff, mastery of differentiation and adaptation techniques, and curriculum and resource adjustments. "Continuous training, provision of supportive facilities, modification of activities, cooperative learning, and collaboration between school parties.

(Qonita et al., 2024)" is an idea that is also expected to take note of the needs “*specialized training, comprehensive curriculum development, improved*

accessibility of facilities, and individualized teaching methods” (Bores-García et al., 2021).

Tabel 1. *Summary of challenges and strategies based on the literature* (Winata et al., 2025)

No	Items	Description
1	Lack of teacher training in inclusivity	Continuing professional development for teachers
2	Limited facilities and infrastructure	Provision of accessible sports facilities
3	The PJOK curriculum is not flexible	Adaptive curriculum development (differentiation)
4	Negative attitudes/stigma towards students with special needs	Character education and inclusive campaigns
5	Managing heterogeneous classes is difficult	cooperative learning models and differentiated methods

In general, many studies show that teacher competence is very important: teachers need to have specific inclusive knowledge and skills so that they can create learning that meets the needs of various students. (Utami, 2025a)(Kresnapati et al., 2025). In addition, institutional support (policy

support, management schools) are also crucial for realizing effective inclusion (Husain et al., 2024).

DISCUSSION

The findings of this systematic review reveal that teacher preparedness emerges as a critical linchpin in inclusive PE implementation, consistent with broader frameworks of teacher effectiveness and inclusive education theory documented that PE teachers globally report feeling unprepared to address diverse student needs, the paradox identified is particularly instructive: teachers' attitudes toward inclusion remain largely positive, yet this positive disposition does not automatically translate into effective inclusive practice. This disconnect suggests that attitude alone is insufficient; what is required is a fundamental shift in teacher competence, self-efficacy, and institutional support structures.

Teacher Competence as the Central Challenge

The primacy of teacher training emerges consistently across diverse geographical and educational contexts. In the Indonesian context specifically, (Kresnapati et al., 2025; Utami, 2025) demonstrate that teachers express explicit need for continuous professional development and systemic support. This finding aligns with the competence-based model articulated by (Haegele et al., 2021) which posits that facility limitations and curriculum inflexibility do not exist in isolation but rather interact with and are exacerbated by inadequate teacher preparation. The implication is clear: addressing systemic barriers (infrastructure, curriculum) without

concurrent investment in teacher development represents a fundamental misalignment of educational interventions.

Structural Barriers as Enablers or Blockers of Inclusive Practice

The infrastructure challenges documented in this review—specifically limited facilities and rigid curricula—function not merely as obstacles but as structural constraints that either enable or prevent the translation of inclusive pedagogical knowledge into practice. The framework proposed (Laborte & Mejarito, 2025) articulates this relationship explicitly: adaptation of activities and environments, coupled with evidence-based professional development, creates the conditions for effective inclusion. Crucially, these interventions are complementary rather than sequential; the reviewed literature suggests that professional development alone, without corresponding curriculum flexibility and facility adaptation, produces limited sustainable change.

The Attitudinal Dimension: Deeper Than Surface Positivity

The finding that teachers hold positive attitudes toward inclusion while simultaneously viewing students with disabilities as "problems" requiring management rather than learners requiring accommodation represents a critical distinction. This paradox, identified (Strnadova et al., 2023), reflects a well-documented phenomenon in educational change research: positive attitudes toward inclusive ideals do not guarantee inclusive practice when those attitudes are not coupled with concrete strategies, resources, and accountability structures. The presence of social stigma and insufficient community support, documented in this review, represents not merely a cultural challenge but a systemic failure to institutionalize inclusive values.

Evidence-Based Strategies: Beyond Recommendations to Implementation Science

The strategies identified in this systematic review—continuous professional development, curriculum adaptation, collaborative teaching, and Universal Design for Learning—align with international consensus on best practices in inclusive PE. However, the reviewed literature reveals a significant implementation gap. (Bores-García et al., 2021; Qonita et al., 2024). provide evidence that when these strategies are implemented with fidelity and systemic support, measurable improvements in student participation and learning outcomes occur. The absence of such improvements in many school contexts suggests not a failure of the strategies themselves but rather partial or inconsistent implementation, often due to competing demands on teachers' time and attention, insufficient administrative oversight, and lack of long-term institutional commitment.

Contextual Specificity and Generalizability

A critical insight from this review is that while core challenges (teacher competence, facilities, curriculum flexibility, stigma) appear consistent across contexts, their relative importance and manifestation vary significantly. (Husain et al., 2024) demonstrate context-specific adaptations necessary in Indonesian settings; similarly, (Schulke et al., 2024) (Muñoz-Hinrichsen et al., 2024) document how socioeconomic factors, regional policies, and community attitudes shape the inclusive PE landscape. This contextual variation has important implications for policy and practice: universal prescriptions are likely to be less effective than context-sensitive, participatory approaches to school-based inclusive PE implementation.

CONCLUSION

This comprehensive review shows that PE teachers face many problems in implementing inclusion. These are mainly related to teacher training, facilities and infrastructure, social attitudes, and curriculum. To overcome these problems, researchers suggest an approach that includes various stages, including continuous professional development for teachers, redesigning facilities to be inclusive, and flexible curriculum design with various learning approaches. To create an inclusive learning environment, stakeholders (teachers, schools, government, and community) must work together. Inclusive physical education can benefit all students, improve the health and character of students with special needs, and support diversity in schools with adequate policy and resource support.

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