

Reforming Movement Education Preparation for Pre-service Preschool Teachers in Vocational Colleges' Preschool Education Programs: Policies, Practices, and Challenges

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Abstract

Movement education in early childhood is foundational to motor competence, physical literacy, and lifelong health. In China, national strategies like "Healthy China 2030" and the "Outline for Building a Strong Sports Country" mandate high-quality physical activity in preschools. However, gaps persist in preparing pre-service preschool teachers, particularly in vocational colleges that train the majority of early childhood educators. This study systematically reviews 123 studies (2005 - June 2025) to analyze how post-2022 policy reforms shaped movement education training in vocational colleges. Key findings reveal persistent issues: Curriculum misalignment with child development, limited training in inclusive and play-based pedagogies, inadequate facilities and faculty preparation, and weak kindergarten partnerships. It concludes by proposing an integrated, competency-based module aligned with physical literacy and national policies to enhance teacher self-efficacy and practices.

Keywords: vocational colleges, pre-service preschool teacher education, movement education preparation, curriculum reform, early childhood physical education

1. Introduction

Early childhood is critical for motor skill development, with movement competence underpinning lifelong health, cognitive growth, and social-emotional well-being[1]. Movement education, a play-centered approach integrating games, dance, and gymnastics, fosters age-appropriate motor skills and sustained physical activity[2]. Preschool teachers need specialized knowledge of child motor development and skills to design developmentally appropriate, inclusive, and safe movement experiences[3].

China's policy framework for early childhood physical education has evolved[4]. The 2016 Kindergarten Work Regulations mandated at least 2 hours of daily outdoor activities (1 hour structured physical activity). Subsequent strategies—"Healthy China 2030" (2016) and "Outline for Building a Strong Sports Country" (2021)—elevated it to a national priority. The Kindergarten Care and Education Quality Assessment Guidelines in 2022 explicitly included "motor skill development" as a core indicator, requiring systematic age-specific activity design and teacher competence in play-based physical activities, triggering curriculum reforms in vocational colleges[5][6].

Despite policy momentum, a gap exists between mandates and practice. While 85% of kindergartens list "motor development" as a core objective, only 32% have qualified teachers[6]. Vocational colleges, training over 60% of China's preschool teachers[7][8], with 70% serving rural areas[9], face systemic issues:

- 68% of physical education (PE) courses prioritize traditional sports over child motor development (Cui, 2011);
- Only 12% of micro-teaching uses play-based strategies[10];
- Supervised kindergarten practicum averages 8 hours/semester, far below the 40-hour international standard[11].

Moreover, recent reforms, such as "post-course-certificate integration" (aligning curricula with occupational needs) and expanded vocational master's programs (2023), spurred innovations like game-based teaching and school-

kindergarten internships[12][13]. International "Physical Literacy" frameworks are explored but not systemically integrated[14].

Besides, consequences include 67% of graduates reporting low confidence in designing age-appropriate activities and 82% lacking motor development assessment skills[15]. This undermines policy implementation: 61% of rural kindergartens fail to meet daily physical activity mandates[16], and inadequate movement education links to 15% higher delayed motor skills in preschoolers[6].

Therefore, this study addresses gaps by reviewing literature (2005–June 2025) to: (1) identify structural challenges; (2) assess recent reform impacts; (3) propose strategies aligning training with policies and child needs.

2. Methods

This systematic review followed PRISMA 2020 guidelines, using Chinese (CNKI, VIP, Wanfang) and international (Web of Science, ProQuest) databases. The search timeframe was January 2005 to June 2025, using the following terms:

- Chinese search terms (translated): ("preschool teacher" OR "pre-service teacher") AND ("movement education" OR "physical education") AND ("higher vocational college" OR "vocational education")
- English: ("pre-service preschool teacher" OR "preschool education major") AND "movement education".

2.1 Literature Selection

- Initial retrieval: 328 records.
- Duplicate removal: 41 excluded, leaving 287.
- Title/abstract screening: 141 excluded (in-service training, non-vocational contexts, irrelevance), leaving 146.
- Full-text assessment: 23 excluded (insufficient focus on vocational colleges, lack of empirical data), resulting in 123 studies. Figure 1 shows the PRISMA flow diagram of literature selection in this study.

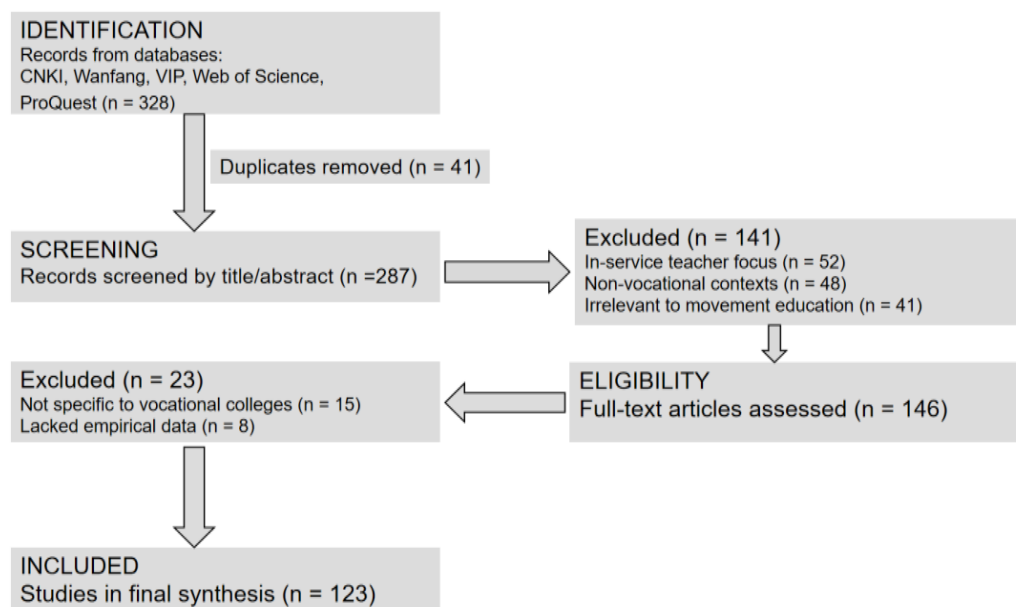


Figure 1. Flow diagram of the systematic review process

2.2 Quality Assessment

Studies were evaluated using a 10-item scale (research design, sample representativeness, conclusion validity). Two researchers independently assessed, with a Kappa coefficient of 0.83 (good reliability). Discrepancies were resolved with a third researcher.

2.3 Data Extraction

A standardized form captured study context, objectives, methodology, findings, and recommendations. Thematic analysis[17]identified core challenges and reform strategies.

3. Findings

3.1 Curriculum Misalignment with Policy and Developmental Needs

Vocational college physical education (PE) curricula remain dominated by traditional sports (e.g., basketball, gymnastics), which account for 68% of total courses[18]. Post-2022 reforms have prompted minor adjustments, with 32% of these colleges adding "preschool movement games" as electives, yet core issues persist. Notably, there are theoretical gaps: only 19% of curricula incorporate content on child motor development stages or milestones, conflicting with the emphasis on "child-centered practices" in the Education Powerhouse Construction Plan (2024 - 2035)[19][10]. Additionally, a disconnect between policy and practice is evident, as 76% of lesson plans replicate primary school structures (e.g., rigid drills, relays) and resist play-based innovation[10][18]. Moreover, limitations among instructors persist: 63% of PE instructors lack training in early childhood movement, relying instead on their athletic backgrounds, which exacerbates such irrelevance[10].

3.2 Pedagogical Limitations in Developmentally Appropriate Practices

While 89% of programs now include micro-teaching/practicum (up from 65% in 2020), these components rarely align with preschool needs. Specifically, 82% of micro-teaching sessions employ teacher-centered models (e.g., demonstrations to passive students), contradicting guidelines advocating "child-led environments." Additionally, competency training is inadequate, with only 14% covering inclusive activity design (mandated by the 2023 Guidelines)[19]. Moreover, the impact of reforms remains limited: "game-based lesson competitions" stay isolated (with merely 11% integration), particularly in rural regions[20].

3.3 Institutional and Administrative Barriers

Post-2022 policy initiatives have yet to address structural constraints effectively. Notably, resource inadequacies remain prevalent: 67% of institutions lack access to age-appropriate facilities (e.g., soft play areas), and 58% experience inadequate funding for PE equipment, both of which conflict with the equity objectives articulated in the Education Powerhouse Construction Plan. Moreover, logistical limitations are apparent: student-teacher ratios of 25:1, which exceed the recommended 15:1, constrain the delivery of formative feedback[21]. Furthermore, teacher self-efficacy remains deficient: 67% of 2023 graduates reported low confidence in policy-mandated activities, and 82% demonstrated an inability to assess motor milestones[22][23][24].

3.4 Fragmented Collaborative Training Models

College-kindergarten collaborative partnerships remain underdeveloped. Specifically, supervised practicum placements average 12 hours per semester (an increase from 8 hours pre-2022), yet 79% prioritize observational activities over active teaching engagement[11]. Adoption of such partnerships is uneven: 28% of programs in eastern regions have piloted collaborative internship models, compared to only 5% in rural areas - patterns that mirror broader regional inequities. Additionally, communication gaps persist: 64% of kindergarten educators reported that interns overemphasize sports skill acquisition at the expense of play-based approaches[11].

3.5 Emerging Trends in Physical Literacy Localization

Initiatives to integrate "Physical Literacy" into vocational college curricula have yielded limited progress. Notably, curriculum pilot programs in coastal regions have seen 17% incorporate modules centered on "movement competence + confidence + motivation," though these are offered exclusively as electives. Furthermore, the research-practice gap remains pronounced: 41% of 2023-2024 vocational master's theses in the field focus on Physical Literacy, yet only 9% have been translated into curricular reforms[14]. In summary, post-2022 reforms have enhanced curriculum diversification and pilot collaborative initiatives but have perpetuated systemic gaps - including curriculum misalignment, rigid pedagogy, and resource deficits - with rural regions lagging behind, a pattern aligning with the Education Powerhouse Construction Plan's emphasis on addressing structural barriers.

4. Discussion

This study identifies a multifaceted discrepancy between national policies and pre-service teacher preparation in movement education, with post-2022 reforms alleviating this gap only partially.

First, curriculum misalignment - evidenced by a 68% emphasis on traditional sports - reflects a disjuncture between vocational training objectives and preschool educational needs, persisting despite mandates for "child-centered practices" (Education Powerhouse Construction Plan, 2024 - 2035)[19]. Instructor competency gaps, wherein 63% lack specialized training in early childhood movement, perpetuate outmoded pedagogical paradigms. While international frameworks on Physical Literacy[25] provide actionable models for integration, their adoption in China remains peripheral, limited to 17% of coastal programs and confined to elective modules.

Second, pedagogical rigidities - including 82% reliance on teacher-centered micro-teaching approaches and only 14% integration of inclusive practice training - fail to operationalize policy imperatives. This disconnect manifests in low graduate confidence (67%) and widespread inability to assess motor milestones (82%), undermining implementation in rural contexts, where 61% of kindergartens struggle to meet mandates[16].

Third, institutional constraints - such as 67% of institutions lacking age-appropriate facilities and only 5% of rural programs engaging in collaborative partnerships with kindergartens - exacerbate systemic inequities. Given that vocational colleges supply 70% of rural teachers (Zhao & Hu, 2008), these constraints widen urban-rural disparities in child motor development, with rural children exhibiting 15% higher rates of developmental delays[6].

Internationally, high-quality pre-service preparation necessitates curricula anchored in motor development theory, play-based pedagogical training, and sustained preschool-based field experiences[23][24][25]. In China, reform initiatives such as post-course certification programs remain fragmented (11% adoption) due to inadequate incentive structures, while master's programs have not scaled Physical Literacy research into practice[14].

This study advances understanding by systematically analyzing the impacts of post-2022 reforms and highlighting rural-urban disparities, particularly critical given that vocational graduates serve as frontline agents of policy implementation in marginalized regions.

5. Conclusion and Recommendations

In conclusion, this systematic review of 123 studies spanning 2005-2025 identifies persistent inadequacies in vocational colleges' preparation for movement education, including curriculum misalignment with preschool needs, underemphasis on play-based and inclusive pedagogies, resource inequities, and underdeveloped college-kindergarten collaborative partnerships - outcomes that result in over two-thirds of graduates exhibiting low confidence in practice. Recent reform efforts, such as expanded master's programs and curriculum diversification, remain insufficient, stemming from the absence of a competency-based, theory-informed curriculum framework.

Recommendations include developing competency-based modular curricula that seamlessly integrate child motor development theory, play-based pedagogy, and physical literacy principles with observable instructional behaviors to ensure alignment with preschool educational objectives; enhancing faculty capacity through sustained certification programs in child-centered pedagogical approaches, with prioritization of ongoing professional development to address gaps in early childhood movement expertise; scaling field-based practicum opportunities via structured, long-term college-kindergarten partnerships, intentionally designed to balance observational learning and active teaching engagement; institutionalizing accountability mechanisms through performance-aligned evaluation frameworks that link program outcomes to policy mandates for child-centered practice; advancing educational equity via targeted resource allocation to rural institutions, remedying disparities in age-appropriate facilities and PE equipment to mitigate urban-rural gaps; and facilitating research-to-practice translation through policy-aligned initiatives and inter-institutional collaborative dialogue, ensuring findings from physical literacy research (e.g., master's theses) are systematically integrated into curricular reforms.

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