

# A Study of “Collaborative Teaching Research” to Promote the Development of the Physical Education Teachers’ Teaching Ability



Liqi Liang<sup>1,\*</sup>

<sup>1</sup>*School of Physical Education, Lingnan Normal University, China*

**Abstract:** Under the background of the “Double Reduction” policy and the orientation of core competencies, the systematic improvement of physical education teachers’ teaching abilities has become an important aspect of basic education reform. Collaborative teaching research, as a collaborative research mechanism characterized by cooperation, resource sharing, and mutual reflection, is gradually demonstrating its unique value in promoting the professional development of physical education teachers. This study, based on the perspective of narrative research, examines the development trajectory of physical education teachers from “experience isolation” to “collaborative construction of concepts,” from “individual efforts” to “collaborative research and progress,” and from “teaching implementers” to “teaching researchers.” It focuses on three dimensions: the “path of conceptual awakening,” the “path of collaborative practice,” and the “path of reflective improvement.” The aim is to provide practical pathways and theoretical support for the reform of physical education teaching.

**Keywords:** collaborative teaching research, Physical Education teachers, teaching abilities, development pathway

## 1. Introduction

China’s basic education is currently at a critical stage of deepening curriculum reform and comprehensively implementing core competencies. Physical education (PE) is also facing the challenge of transitioning from “skill transmission” to “competency cultivation.” However, PE teachers generally exhibit issues such as “strong reliance on experience, weak theoretical foundations, and low levels of collaboration” in teaching philosophy, classroom practice, and educational research. These issues restrict the continuous development of their teaching capabilities. Traditional educational research methods, which are primarily driven by administrative initiatives, fail to meet the professional characteristics of PE, which are characterized by strong practicality and diverse contexts. Collaborative teaching research, as a form

of an educational research organization that involves cross-school, cross-disciplinary, or regional cooperation, is oriented towards problem-solving, centred on practice, and based on collaborative research. It is emerging as an important platform for enhancing teachers’ professional competencies. Particularly in the field of PE teaching, collaborative teaching research breaks through the limitations of individual experience and creates an ecological environment that fosters the exchange of ideas, collision of practices, and reflective dialogue.

## 2. The Promotive Effects of Collaborative Teaching Research on the Development of PE Teachers’ Teaching Competencies

### 2.1 Promoting the renewal of teaching philosophy and the expansion of professional knowledge

Collaborative research, as a collaborative educational research mechanism that spans schools,

**Corresponding Author:** Liqi Liang

Lingnan Normal University, School of Physical Education, China

©The Author(s) 2025. Published by BONI FUTURE DIGITAL PUBLISHING CO.,LIMITED. This is an open access article under the CC BY License(<https://creativecommons.org/licenses/by/4.0/>).

regions, and teacher groups, provides PE teachers with an important platform for broadening their horizons and enhancing their professional competencies. First, it overcomes the limitations of traditional “closed-door teaching,” allowing teachers to move beyond the singular teaching experiences and philosophies within their own schools. Through various forms such as observing classes in other schools, participating in different teaching approaches for the same subject, and conducting case analyses, teachers are exposed to a wide range of teaching methods and educational concepts. This exposure promotes the renewal and reflection of their own teaching philosophies. For example, some teachers, through collaborative teaching research, have come to recognize that PE teaching is not only about skill transmission but should also focus on the holistic development of students’ physical and mental health. As a result, they proactively integrate health education, psychological adjustment, and teamwork into their classes, making their teaching more contemporary and comprehensive. Second, during the collaborative teaching research process, teachers often participate in specialized lectures, curriculum training, and expert guidance. They systematically learn about the PE curriculum standards and teaching requirements oriented towards core competencies, thereby deepening their understanding of the nature of the PE discipline and strengthening their awareness of the educational value of the subject. Through continuous theoretical learning and practical dialogue, teachers gradually form a more scientific and rational knowledge structure. They enhance their ability to integrate curriculum content and design teaching activities, enabling them to more accurately grasp teaching objectives, reasonably arrange teaching content and pace, and effectively transform theory into practice (Yi, 2025).

## 2.2 Enhancing teaching practical skills and reflective competence

Collaborative teaching research demonstrates significant efficacy in enhancing physical education teachers’ practical skills and reflective competence. Firstly, regarding the optimization of instructional

design and implementation, this mechanism facilitates a platform for mutual learning through organized collaborative lesson preparation, classroom observation, and post-class evaluation sessions. Within this framework, physical education teachers systematically deliberate on instructional objectives and key pedagogical challenges while engaging in in-depth exchanges regarding teaching strategies. These include technical considerations such as the precision of movement demonstrations, organizational methodologies for teaching sequences, and application techniques for differentiated instruction, thereby enabling professional growth through emulation and innovation through knowledge integration. For instance, teachers observing exemplary practices in large-class grouping strategies and student engagement enhancement from partner institutions have successfully adapted and optimized these approaches within their own instructional designs, yielding measurable improvements in classroom efficiency and pedagogical outcomes (Zhou & Liu, 2024).

Secondly, collaborative teaching research strengthens the mechanism for pedagogical reflection and improvement. Through structured feedback sessions and peer discussions, teachers critically identify weaknesses in their instructional practices, such as ambiguous goal-setting, monotonous assessment methods, and insufficient student participation, while simultaneously deepening their metacognitive awareness through self-narrative analysis. This dual reflective process (peer-mediated and self-directed) fosters continuous critical examination and adjustment of teaching behaviors, enhances problem-solving consciousness, and cultivates an integrated “teaching-learning-assessment” conceptual framework.

## 2.3 Strengthening collaborative awareness and pedagogical research capabilities

As an open and cooperative professional development model, collaborative teaching research effectively enhances physical education teachers’ collaborative awareness and research capabilities.

Primarily, this model emphasizes team-based collaboration, transcending traditional isolated lesson preparation practices through organized collective lesson activities, thematic seminars, and action research projects. For example, during collaborative processes such as collaborative instructional planning, activity design, development of differentiated learning tasks, and construction of student assessment rubrics, teachers not only share resources but also engage in intellectual cross-pollination. This interaction transcends individual experiential limitations, stimulates professional discourse, and reinforces team consciousness. Such diversified collaboration fosters a developmental culture of mutual growth within professional learning communities, enhancing organizational cohesion and professional identity.

Furthermore, collaborative teaching research provides an expansive platform for pedagogical inquiry, facilitating teachers' transition from "classroom practitioners" to "scholarly educators." Through systematic engagement in designing instructional improvement plans, developing classroom observation protocols, conducting action research, and analyzing educational data, teachers progressively acquire fundamental research competencies. By employing evidence-based approaches to systematically observe and document student learning behaviors and instructional interactions, practitioners develop data-driven decision-making capacities to scientifically evaluate teaching effectiveness and enhance the precision of pedagogical interventions (Dong, 2024).

### 3. Narrative Logic of Collaborative Teaching Research in Promoting Physical Education Teachers' Instructional Competency Development

#### 3.1 Problem-Oriented logic grounded in practical challenges

In the contemporary educational transformation, physical education (PE) teachers face multifaceted practical dilemmas in developing instructional competencies. Prominent issues include outdated pedagogical conceptions, a superficial understanding

of curriculum standards, ambiguous goal-setting, and the absence of systematic professional growth pathways (Zhu & Shuai, 2024). These challenges directly compromise teaching quality and educational efficacy. Collaborative teaching research emerges as a responsive mechanism, characterized by its distinctive problem-oriented logic. By organizing the collective study of national curriculum standards and in-depth discussions on PE disciplinary core literacy and its educational functions, this approach enables teachers to transcend cognitive constraints through theoretical guidance. Participants progressively expand their conceptual boundaries regarding PE pedagogy, thereby renewing comprehension of "what to teach," "why to teach," and "how to teach." Crucially, they develop a heightened awareness of PE's multidimensional value in fostering students' physical development, psychological adjustment, and character formation ultimately reconstructing goal-oriented instructional frameworks.

This cognitive transformation exemplifies a key process: advancing pedagogical conceptions through theoretical scaffolding while addressing authentic problems. Through team-based learning and peer collaboration, collaborative teaching research facilitates teachers' cognitive reconstruction via dialogic engagement, effectively addressing frontline professional development needs. Consequently, teachers enhance holistic curriculum comprehension while strengthening their capacity to establish explicit, scientifically grounded instructional objectives, laying robust conceptual foundations for sustained competency development. This trajectory manifests a coherent narrative logic progressing from practical dilemmas through theoretical mediation toward conceptual advancement.

#### 3.2 Collaborative-Sharing logic driven by practical improvement

In PE practice, prevalent issues among frontline teachers—monotonous teaching methods, unsystematic lesson design, misapplied instructional strategies, and deficient innovation—significantly constrain teaching quality enhancement. Such experience-dominant teaching models often impede

adaptation to reform-driven demands, limiting professional growth. Collaborative teaching research intervenes through collaborative-sharing logic, establishing tangible cooperative platforms via collective lesson preparation, teaching observations, peer evaluations, and thematic seminars. Within pedagogical dialogues and practical exchanges, teachers observe exemplary classroom implementations to examine organizational frameworks and methodological applications, while collaboratively diagnosing instructional limitations through group critique to optimize strategies with collective wisdom.

Through horizontal peer support and vertical exploration, teachers progressively master diversified, research-informed instructional design methodologies. These include formulating differentiated objectives based on learner diversity, designing biomechanically sound teaching sequences, flexibly selecting organizational formats, and implementing evidence-based classroom assessments. Concurrently, repeated practice elevates core competencies in movement demonstration, skill scaffolding, and safety management—collectively enhancing classroom efficiency, order, and engagement.

### **3.3 Research-Enhancement logic fueled by reflective practice**

Many PE teachers, constrained by demanding workloads and limited professional guidance, often neglect systematic reflection on teaching practices. Consequently, instruction remains trapped in experience-driven inertia—stagnating pedagogical quality while diminishing initiative and creativity for improvement (Wei, 2022). This reflection deficit constitutes a critical bottleneck in competency development. Collaborative teaching research addresses this through research-enhancement logic, strengthening problem awareness via engagement in teaching diagnostics, action research, and case studies. This process guides teachers to identify, analyze, and resolve practice-based problems, fostering deep dissection of classroom teaching while cultivating reflective capacity through

research-oriented examination of pedagogical behaviors.

Within professional learning communities, teachers learn to utilize educational data, student feedback, and instructional documentation for diagnostic purposes. Continuous strategy refinement occurs through peer dialogue, ultimately establishing reflective teaching competence characterized by evidence-informed adjustments and methodological innovation.

## **4. Narrative Pathways of Collaborative Teaching Research in Enhancing Physical Education Teachers' Instructional Competency**

### **4.1 Conceptual awakening: from “experiential isolation” to “co-constructed pedagogy”**

Within traditional PE contexts, teachers often operate in professionally isolated environments reliant on personal experience, lacking external stimuli for professional exchange or systematic training. This perpetuates outdated pedagogical approaches and methodological rigidity—a classic path dependence on empiricism that impedes comprehension of curriculum reform imperatives and the educative functions of PE. Collaborative teaching research disrupts this isolation through co-constructed pedagogy, facilitating cross-institutional activities that introduce theoretical frameworks via collective standard analysis and discussions on core competencies. This process catalyzes a paradigm shift from technical-executive thinking (Li, 2022), enabling teachers to reconceptualize PE as a holistic developmental process encompassing physical health, psychological resilience, and social adaptation rather than mere skill transmission.

Through collaborative case studies and reflective dialogues, teachers establish shared pedagogical principles centered on student development. This conceptual transformation repositions teachers from “skill instructors” to competency facilitators, prioritizing long-term educational objectives over short-term outcomes. Instructional designs consequently become more

structured and developmentally oriented, marking a fundamental transition from conceptual obsolescence to pedagogical renewal. This awakening pathway not only strengthens instructional competency foundations but also injects sustainable momentum into quality-oriented PE systems.

#### **4.2 Practical synergy: from “isolated practice” to “collaborative inquiry”**

Conventional PE teaching frequently manifests as an individualized practice where teachers autonomously handle lesson design, classroom management, and equipment utilization. While generating practical know-how, this approach engenders fragmented strategies, innovation deficits, and suboptimal resource use. Collaborative teaching research addresses this through collaborative inquiry, dismantling institutional barriers to create platforms for professional exchange. Cross-school lesson planning, parallel lesson study demonstrations, and peer observation protocols expose teachers to diverse classroom practices, broadening perspectives and stimulating critical reflection (Yin, 2021).

The “parallel lesson study” approach proves particularly transformative: a comparative analysis of varied teaching strategies reveals improvement opportunities, liberating teachers from experiential replication. Collective debriefings provide actionable feedback for refining instructional sequences, movement explanations, and differentiated scaffolding. Crucially, repeated interactions foster resource co-creation consciousness, enhancing collective efficacy. Through this synergy, teachers significantly advance movement pedagogy competence, classroom orchestration skills, and adaptive responsiveness, transitioning from solitary practitioners to active contributors within professional learning communities. This evolution cultivates a dynamic, innovative PE ecosystem where collaborative practice catalyzes qualitative leaps in instructional capability.

#### **4.3 Reflective advancement: from “curriculum implementer” to “practitioner-researcher”**

Traditional PE practice often reduces teachers to curriculum implementers who mechanically deliver

pre-designed content without systematic reflection or evaluation. While ensuring task completion, this “script-following” approach neglects learning outcomes, student responsiveness, and improvement mechanisms, stagnating professional growth (Feng et al., 2021). Collaborative teaching research instigates transformative change through structured reflective praxis: post-lesson analysis sessions, teaching case studies, and action research projects shift teacher focus from execution to pedagogical essence.

Through iterative engagement, teachers develop intentional observation skills to detect classroom nuances and student feedback patterns, identifying instructional gaps. This cultivates a problem-improvement-verification research cycle wherein teachers experiment with strategy adjustments, document pedagogical data, and validate refinements. Beyond providing methodological scaffolding, collaborative teaching research fosters a culture of inquiry that elevates problem awareness and research literacy. Ultimately, PE teachers transcend mechanistic instruction to become practitioner-researchers equipped with diagnostic acuity, action research competence, and sustainable reflective capacity—completing the metamorphosis from experience-based intuition to evidence-informed systematization. This pathway not only drives continuous quality enhancement but signifies a critical milestone in professional maturation.

### **Conclusion**

In summary, the growth of PE teachers’ teaching abilities is a dynamic process shaped by collective interaction, reflective practice, and collaborative expertise. Collaborative teaching research, with diverse participation and teamwork, reshapes their teaching concepts and boosts their skills in curriculum design, classroom delivery, and reflection. Progressing from “experiential isolation” to “collective concept building”, from “working in isolation” to “collaborative research and advancement”, and from “passive implementation” to “active research”, PE teachers clarify their

professional identity and see a clearer path for professional development within collaborative teaching research. Moving forward, it is essential to enhance the organizational mechanisms for collaborative teaching research, strengthen integrated support systems, and establish a regular and standardized research-oriented culture. This will empower PE teachers to transition from “instructors” to “research-oriented teachers”, bolstering high-quality PE education in the new era.

### Conflict of interest

The author declares that he has no conflicts of interest in this work.

### Acknowledgment

This research was funded by:

Narrative Research on the Development of Physical Education Teachers' Teaching Ability Promoted by “Integrated Teaching Research” in the 2024 Guangdong Province Youth Campus Football and High-Quality School Sports Development Project (24SXZPT44).

### References

- Dong, C. Y. (2024). A narrative study on the professional growth of outstanding secondary school physical education teachers. Doctoral dissertation, Henan University.
- Feng, C. G., Yu, Y., & Wu, P. (2021). Research on the professional development of rural physical education teachers under the perspective of professional learning communities. *Liaoning Sports Science and Technology*, 43(01), 92-97.
- Li, Y. (2022). Focusing on the professional development of physical education teachers from a collaborative teaching and research perspective of “group, school, area, and district”: Taking the “three - ability” basic skills competition for physical education teachers in Tongshan District, Jiangsu Province as an example. *Sports Teaching*, 42(01), 43-44.
- Wei, Z. L. (2022). Implementation strategies for regional sports collaborative teaching and research under the new curriculum standards. *Sports Teacher and Friend*, 45(06), 7-9.
- Yi, J. (2025). Research on the construction and implementation of regional sports collaborative teaching and research. *Sports Teaching*, 45(01), 58-61.
- Yin, X. J. (2021). Three-dimensional collaborative efforts to innovate research and training development ideas. *Heihe Education*, 2021(03), 4-5.
- Zhou, X., & Liu, C. T. (2024). Innovating the “sending teaching to rural areas” teaching and research model to enhance the quality of rural physical education teachers. *Chinese School Physical Education*, 43(11), 82.
- Zhu, F., & Shuai, C. R. (2024). Exploring strategies to promote the professional growth of physical education teachers from an integrated perspective of “learning, practice, competition, and evaluation”. *Sports Teaching*, 44(04), 44-46.

**How to Cite:** Liang, L. (2025). A Study of “Collaborative Teaching Research” to Promote the Development of the Physical Education Teachers' Teaching Ability. *Contemporary Education and Teaching Research*, 06(6), 228-233. <https://doi.org/10.61360/BonCETR252018380604>