

Original Research Article

Open Access

Research on Innovative Models of Youth Swimming Teaching under the Background of “Integration of Sports and Education”

Hong-Wei Wang*

Capital University of Physical Education and Sports, Beijing 100091, China

*Correspondence to: Hong-Wei Wang, Capital University of Physical Education and Sports, Beijing 100091, China, E-mail: wanghongwei1@cupes.edu.cn

Abstract: With the state deepening educational reform and advancing the strategies of a Healthy China and a strong sporting nation, the “integration of sports and education” has become a core concept and key pathway for the development of school physical education in the new era. The physical and mental health and comprehensive development of adolescents are of great significance. As a comprehensive sport, swimming plays an irreplaceable role in youth growth and development. However, current youth swimming teaching in China is constrained by problems such as single teaching objectives, outdated content, rigid methods, fragmented resources, and one-sided evaluation, making it difficult to meet the holistic educational requirements of sports–education integration. This paper conducts an in-depth analysis of the connotation of sports–education integration and its new requirements for youth swimming teaching, and systematically examines existing teaching dilemmas. From six dimensions—objective system, curriculum content, teaching methods, resource integration, evaluation mechanisms, and teacher development—this study constructs a systematic, diversified, and collaborative innovative model for youth swimming teaching. Centered on student development, the proposed model integrates knowledge acquisition, skill development, and value cultivation, providing theoretical support and practical pathways for improving teaching quality and promoting the comprehensive and healthy development of adolescents.

Keywords: Integration of sports and education; adolescents; swimming teaching; teaching model; innovation

Introduction

In the 21st century, the physical health of adolescents has attracted widespread concern. High rates of myopia and obesity, along with insufficient psychological and social adaptability, reflect an imbalance in students’ physical and mental development under an examination-oriented education system. In

response, the Party and the state have introduced a series of policies that clearly define the direction of “integration of sports and education,” emphasizing the incorporation of physical education into the entire educational process to fulfill its educational function. As the “king of sports,” swimming can comprehensively enhance adolescents’ physical



© The Author(s) 2026. **Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License (<https://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, sharing, adaptation, distribution and reproduction in any medium or format, for any purpose, even commercially, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made.

fitness and cultivate psychological qualities such as courage and perseverance. However, there remains a considerable gap between current youth swimming teaching practices in China and the requirements of sports–education integration. Teaching is often limited to technical imitation and examination-oriented goals, neglecting its broader educational value. Moreover, resources from schools, families, and society have not been effectively integrated, and evaluation systems remain overly singular, failing to address students' comprehensive competencies. Therefore, under the background of sports–education integration, how to innovate youth swimming teaching models to promote adolescents' all-round development has become an urgent issue to be addressed. Combining theoretical analysis with practical exploration, this study aims to construct a new teaching model, providing reference and guidance for both theoretical research and practical reform.

1. An Analysis of the Connotation of the “Integration of Sports and Education” Concept and Its New Requirements for Youth Swimming Teaching

The “integration of sports and education” is not a simple addition of physical education and general education; rather, it represents a deep integration of concepts, resources, and functions. Its core aim is to break down the long-standing separation between sports and education, return to the essence of education, and achieve collaborative talent cultivation. This concept emphasizes the unity of educational goals, requiring physical education to shoulder the fundamental task of moral education. Accordingly, the objectives of swimming teaching should go beyond technical skill acquisition and physical fitness improvement to include the cultivation of core competencies such as safety awareness. At the same time, the integration of sports and education advocates the comprehensive integration of educational resources, breaking down barriers among schools, families, and society to construct an open and collaborative sports education ecosystem. In this context, swimming teaching should actively explore new pathways for “family–school–community” coordinated education. Furthermore, it calls for scientific and engaging teaching processes, opposing traditional rigid training

models and encouraging the adoption of diversified teaching methods to stimulate students' interest, which places higher demands on teachers' curriculum design and pedagogical competence. In addition, this concept highlights the development of diversified evaluation systems, with an emphasis on formative and developmental assessment to comprehensively reflect students' learning progress and growth^[1]. In summary, the “integration of sports and education” points out a new direction for youth swimming teaching—namely, a shift toward comprehensive competence development, open and collaborative implementation, inquiry-based and heuristic learning, and process-oriented motivation.

2. Major Dilemmas in Current Youth Swimming Teaching Practice

2.1 Narrow Positioning of Teaching Objectives and Weakening of Educational Functions

At present, swimming teaching in many schools, and even in some extracurricular training institutions, still primarily focuses on the basic survival skill of “learning how to swim,” or serves utilitarian purposes such as preparing students for physical education components of entrance examinations. In curriculum outlines and lesson plans, objectives related to character development, emotional growth, and social competence are rarely specified in a clear and systematic manner. During the teaching process, instructors often concentrate mainly on whether students' movements are technically correct or whether their swimming speed meets prescribed standards, while paying insufficient attention to guiding and cultivating qualities such as courage in facing challenges, adherence to water safety rules, respect for peers, and a willingness to help others. This “skill-centered but person-neglecting” teaching model seriously obscures the rich educational value inherent in swimming instruction.

2.2 Outdated Teaching Content and Methods, with Low Student Engagement

In terms of teaching content, there is a widespread tendency to “emphasize competition over popularization, and technique over culture.” Course content is largely centered on the technical decomposition and integration of several standard swimming strokes (such as breaststroke and freestyle), resulting in monotonous and highly repetitive learning experiences. There is a notable lack of organic integration with elements such

as games, competitions, water safety and self-rescue skills, and aquatic or marine culture. With regard to teaching methods, the traditional four-step approach of “explanation–demonstration–practice–correction” is still predominantly adopted. In this teacher-centered model, instructors dominate the entire teaching process, while students passively imitate movements. The classroom atmosphere tends to be dull, with limited interaction and creativity. Such a didactic, spoon-feeding approach fails to stimulate adolescents’ curiosity and desire for exploration. Over time, it may lead to boredom and even resistance toward swimming activities.

2.3 Uneven Resource Allocation and the Absence of Collaborative Mechanisms

On the one hand, there are significant disparities in hardware conditions—such as swimming venues and facilities—among urban and rural areas, different regions, and different schools. Many schools, especially those in rural areas, lack even the basic conditions necessary to carry out swimming instruction. On the other hand, even in urban schools with adequate facilities, there is often a shortage of professionally trained swimming teachers. Physical education teachers are frequently expected to be “multi-skilled,” yet may not possess specialized expertise in swimming instruction. Moreover, effective communication and collaboration mechanisms among schools, families, and society are largely absent. Schools may have venues but lack professional coaches; social sports clubs may possess high-quality professional resources but face difficulties in integrating into the school system; parents may have strong demands but lack guidance on appropriate choices and coordination. This fragmentation of resources and the lack of collaborative mechanisms prevent high-quality resources from flowing and being shared effectively, resulting in an “island effect.”

2.4 A Single and Rigid Evaluation System with Limited Incentive Effects

Existing evaluation systems for swimming teaching are mostly dominated by summative assessment, characterized by single and highly quantitative criteria, such as “time taken for 50-meter breaststroke” or “ability to continuously swim 100 meters.” Although such evaluation methods are straightforward, they

have evident drawbacks. First, they fail to account for differences in students’ initial ability levels and rates of improvement, which can easily undermine the motivation of students with weaker foundations. Second, they completely overlook students’ non-technical performances, including learning attitudes, cooperation skills, safety awareness, and innovative attempts. Third, the evaluation subject is singular, typically relying solely on teachers’ judgments, while student self-assessment, peer assessment, and parental feedback are largely absent^[2]. Such one-sided evaluation systems are unable to comprehensively and accurately reflect students’ overall developmental status, nor can they provide effective motivational and guiding functions.

3. Innovative Pathways for Youth Swimming Teaching Models from the Perspective of Sports–Education Integration

3.1 Reconstructing a “Three-Dimensional Integrated” Teaching Objective System

To break free from the constraints of a single skill-oriented objective, a comprehensive teaching objective system encompassing three dimensions—knowledge and skills, process and methods, and emotional attitudes and values—should be established.

(1) Knowledge and skills dimension: This dimension should include not only the mastery of basic swimming techniques and knowledge of water self-rescue and mutual rescue, but also an understanding of the history and culture of swimming, competition rules, and its health benefits.

(2) Process and methods dimension: Emphasis should be placed on cultivating students’ abilities to identify, analyze, and solve problems through inquiry-based, cooperative, and game-based learning approaches. At the same time, students’ capacities for autonomous learning and teamwork should be strengthened.

(3) Emotional attitudes and values dimension: This dimension focuses on fostering students’ safety awareness and rule consciousness, perseverance and resilience, courage to face challenges, respect for others, care for peers, a strong sense of teamwork, and a lasting interest in aquatic sports.

These three dimensions are interrelated and mutually reinforcing, forming an organic whole that jointly serves the comprehensive development of students.

3.2 Optimizing “Modular + Project-Based” Curriculum Content

To move beyond linear and single-track content structures, a curriculum design framework combining “basic modules + extended modules + featured projects” should be adopted.

(1) Basic modules: Targeted at all students, these modules ensure that every learner acquires essential survival skills, including basic water movement, floating, treading water, and fundamental self-rescue techniques.

(2) Extended modules: These modules are differentiated according to students’ interests and ability levels, and may include advanced training in various swimming strokes, water-based games, introductory artistic swimming, and safety knowledge for open-water environments.

(3) Featured projects: Project-Based Learning (PBL) should be introduced, centering on authentic and meaningful themes to promote deep learning^[3]. For example, a “Junior Lifeguard” project can be designed in which students not only learn lifesaving skills, but also analyze drowning cases, create water safety awareness posters, and participate in simulated rescue drills. Through such activities, knowledge acquisition, skill development, and social responsibility are effectively integrated.

This curriculum design approach ensures a solid foundational base while accommodating individualized needs, thereby enhancing the practicality and enjoyment of learning.

3.3 Innovating “Contextualized + Intelligent” Teaching Approaches

Advocate a transformation of teaching methods that places students at the center.

(1) Contextualized teaching: Embed technical skill learning in vivid and engaging contexts. For example, design breaststroke kick instruction as a “Frog Crossing the River” game, or integrate endurance training into a “Treasure Hunt Adventure” storyline. By creating real or simulated situations, students can naturally acquire skills through problem-solving while experiencing a sense of achievement and enjoyment.

(2) Intelligent assistance: Actively leverage modern information technologies to empower teaching. Wearable devices (e.g., smart wristbands) can be used

to monitor students’ heart rates, stroke counts, and other data in real time, enabling teachers to accurately grasp learning conditions and provide personalized guidance. VR/AR technologies can support virtual simulation teaching, allowing students to safely experience complex aquatic scenarios—such as rapid currents or undertows—to enhance emergency response capabilities. In addition, teaching apps can be employed for online previewing, movement replay, assignment submission, and interactive communication, thereby extending learning across time and space.

3.4 Building a “Family–School–Community” Integrated Resource Coordination and Collaboration Mechanism

Break down resource barriers to form a joint educational force.

(1) Government leadership and coordinated planning: Education and sports authorities should jointly introduce policies that encourage and support long-term partnerships between schools and high-quality social swimming clubs or public swimming facilities. Through service procurement, co-developed curricula, and shared teaching staff, professional social resources can be effectively introduced into schools.

(2) School facilitation and proactive engagement: Schools should play the role of organizer and coordinator by actively connecting with social resources and building platforms for cooperation. At the same time, schools should strengthen communication with parents through parent meetings and open days to disseminate the importance of swimming education, guide parents toward correct educational concepts, and encourage their support for children’s participation.

(3) Social participation and professional empowerment: Social clubs and professional institutions should uphold a public-service orientation by developing inclusive programs suitable for adolescents, dispatching excellent coaches to schools, or providing professional training for school teachers. The three parties should jointly formulate teaching plans, safety assurance protocols, and evaluation standards to ensure the standardization and effectiveness of collaborative education.

3.5 Establishing a Comprehensive Evaluation System of “Process-Oriented + Development-Oriented + Multi-Subject” Assessment

Construct a dynamic evaluation system that

comprehensively reflects students' progress and growth.

(1) Process-oriented evaluation: Focus on students' performance throughout the learning process, including learning attitudes, participation, effort, and cooperation. Records can be kept through learning portfolios, classroom observation notes, and growth journals.

(2) Development-oriented evaluation: Emphasize longitudinal comparison and individual progress. Evaluation criteria should be flexible, with differentiated "zones of proximal development" goals set for students with different starting points, enabling every student to recognize their own growth^[4].

(3) Multi-subject evaluation: Evaluation subjects should include not only teachers but also student self-assessment, peer assessment within groups, and parental evaluation. A 360-degree evaluative perspective helps obtain more comprehensive and objective feedback. Ultimately, evaluation outcomes should primarily be presented in descriptive and motivational language, supplemented by necessary quantitative indicators, with the aim of diagnosing problems and promoting development rather than merely assigning grades or rankings.

3.6 Strengthening the Development of a "Dual-Qualified" Teaching Workforce

Teachers are the key to the effective implementation of the model. Efforts should be made to cultivate a "dual-qualified" teaching workforce that is proficient in both educational principles and swimming expertise.

(1) Pre-service training: Physical education programs in normal universities should enhance both the depth and breadth of swimming specialization courses, while adding relevant content such as sports psychology, curriculum design, and safety and first-aid training.

(2) In-service professional development: A normalized mechanism for teachers' professional development should be established. Regular on-campus and off-campus teaching research activities, workshops, and advanced training programs should be organized, with guidance provided by university experts, national team coaches, and outstanding club coaches, in order to continuously improve frontline teachers' professional competence and instructional innovation capacity.

(3) Incentive mechanisms: Teacher evaluation and incentive systems should be refined. Teachers who

demonstrate outstanding performance in swimming teaching reform should be recognized and rewarded, with preferential consideration given in professional title evaluation and career advancement, thereby stimulating their intrinsic motivation to engage in teaching reform.

Conclusion

The integration of sports and education is a national strategy and a mission of the times entrusted to educators. As a key component of school physical education, youth swimming instruction should actively adapt to ongoing reforms and achieve comprehensive upgrades in both concept and practice. The innovative teaching model proposed in this study is guided by holistic competence development and centered on students. Supported by six pillars—objectives, content, methods, resources, evaluation, and teaching staff—it addresses the challenges of high-quality development in swimming education. The successful implementation of this model requires coordinated efforts among policy support, school-level exploration, social participation, and the renewal of parental perspectives. Only through joint collaboration can swimming become a "golden course" that strengthens the body and nurtures the mind, enabling young people to enjoy sports, gain growth, and build a solid foundation for lifelong development. In the future, youth swimming education will transcend mere skill instruction and become an important pathway for cultivating a new generation under the framework of sports–education integration.

References

- [1] Zhou Wen, Liu Hongjian. Dilemmas and Pathways of Cultivating Reserve Swimming Talents in Sports Schools under the Background of Sports–Education Integration [J]. *Sports Science and Technology*, 2025, 46(02): 127–130.
- [2] Yu Yang, Wang Dan, Fan Yunping. Construction of a University Aquatic Exercise Curriculum System Based on Regular Swimming Classes under the Background of Sports–Education Integration [J]. *Innovation Research of Ice and Snow Sports*, 2022, (24): 72–75.
- [3] Yu Jiabin, Zhao Zeyu. Research on Countermeasures for the Integrated Development of Swimming and School Education under the Background of

“Sports–Education Integration” [C]// Physical Training Branch of the Chinese Society of Sports Science; National School Sports Alliance (Swimming). Proceedings of the Fourth International Aquatic Sports Forum: Advancing a New Journey—Promoting High-Quality

Development of Youth and School Sports. Jilin Institute of Physical Education, 2022: 315–317.

[4] Su Shiyao. Reform of University Swimming Teaching from the Perspective of Sports–Education Integration [J]. Boxing and Fighting, 2023, (08): 37–39.