



# A STUDY ON INTERDISCIPLINARY COOPERATIVE TEACHING OF PHYSICAL EDUCATION TEACHERS IN THE CONTEXT OF PHYSICAL EDUCATION AND HEALTH CURRICULUM INTEGRATION

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## ABSTRACT

*Integrating physical education and health curriculum has become a prevalent trend, aiming to promote students' overall well-being. This research investigates the interdisciplinary cooperative teaching practices of physical education teachers in this integrated curriculum context, exploring the application of health assessment tools and methods and the formulation of individualized exercise plans. Utilizing a mixed-methods approach, the study combines qualitative and quantitative data collection and analysis techniques involving physical education teachers, health professionals, and students from selected schools. The findings reveal the current status of curriculum integration, highlighting challenges and opportunities, and delve into the utilization of health assessment tools for physical fitness, physiological health, and psychological well-being evaluations. Case studies and best practices elucidate the process of developing individualized exercise plans based on these comprehensive health assessments. The research proposes strategies for effective interdisciplinary cooperative teaching, offers recommendations for the appropriate selection and application of health assessment tools and personalized exercise plans, and discusses limitations and future research directions. This study contributes to the growing knowledge of curriculum integration and interdisciplinary collaboration in physical and health education, informing educational policymakers, curriculum designers, and practitioners in promoting holistic student development.*

**KEYWORDS:** *Sports and Health Curricula, Integration, Physical Education Teachers, Interdisciplinary*

## 1. INTRODUCTION

### 1.1 Research Background

The Importance of Curriculum Integration and Interdisciplinary Collaborative Teaching

In today's society, students face increasingly complex challenges that require the comprehensive application of interdisciplinary knowledge and skills. The traditional discipline-separated teaching model can hardly meet students' comprehensive development needs. Therefore, curriculum integration and interdisciplinary collaborative teaching have emerged, aiming to break disciplinary boundaries and promote the coherence and integrity of learning.

Curriculum integration organically integrates content from different subjects, helping students establish connections between knowledge and form a systematic understanding. This integrated learning helps cultivate students' comprehensive thinking skills and flexibly apply what they have learned to real-world problem situations. Simultaneously, interdisciplinary collaborative teaching brings together teachers from different professional fields, who draw on each other's expertise and collaborate in discussing and designing meaningful and coherent learning experiences during the teaching process.

In the field of physical and health education in China, curriculum integration and interdisciplinary collaborative teaching are critical. Physical education not only concerns the development of physical fitness but also relates to students' overall health. Through integration with subjects such as biology, nutrition, and psychology, students can fully understand the multidimensional connotations of health and develop a health consciousness and a good lifestyle. Interdisciplinary collaboration can effectively integrate physical education, medicine, and psychology resources, providing comprehensive health support and guidance for students.

Furthermore, curriculum integration and interdisciplinary collaborative teaching are conducive to innovating teaching models and optimizing learning outcomes. Through cross-disciplinary cooperation, teachers can inspire each other's creativity and develop challenging and practical teaching activities, stimulating students' enthusiasm for learning. Students can comprehensively apply their learned knowledge in real-world situations, enhancing their initiative and application abilities in learning.

In summary, curriculum integration and interdisciplinary collaborative teaching are essential trends in contemporary educational reform, holding significant implications for cultivating students' comprehensive qualities and abilities to address complex problems.



In the field of physical education and health education, this teaching model will provide strong support for students' comprehensive development.

## **2. ANALYSIS OF THE CURRENT STATUS OF INTERDISCIPLINARY TEACHING INTEGRATION IN PHYSICAL EDUCATION AND HEALTH CURRICULUM**

Many regions in China have begun implementing curriculum integration reforms in physical education and health, but overall progress has been relatively slow, with many difficulties and challenges. On one hand, the traditional discipline-separated model is deeply rooted, and teachers' mindsets are difficult to change. For a long time, physical education teachers have focused on developing students' physical fitness, neglecting the importance of health education. At the same time, teachers of other subjects also have biases in their understanding of physical education curricula, equating them solely with exercise. These mindsets seriously hinder the process of interdisciplinary integration.

On the other hand, the existing curriculum arrangements and allocation of teaching resources are organized according to a discipline-based model, lacking integration and systematization. There are strict "barriers" between different subjects, and resources such as faculty, class hours, and venues can often not be efficiently integrated and shared. Moreover, professional development for teachers has not met the needs of integrated curricula, with a general lack of interdisciplinary understanding and collaborative awareness.

Nevertheless, some regions and schools have made positive progress in integrating physical education and health curricula, accumulating valuable experiences. For instance, educationally developed regions such as Beijing and Shanghai proposed the concept of "health education" relatively early and attempted to establish organic connections between physical education and other subjects. Some schools have integrated physical education curricula with subjects such as biology, psychology, and sociology, forming comprehensive courses such as "life skills" or "healthy living." In the teaching process, teachers of different specialties, such as physical education, medicine, and nutrition, collaborate and jointly participate in curriculum design and implementation. At the same time, these regions have also undertaken systematic reforms in areas such as teacher training, curriculum resources, and management mechanisms, creating necessary conditions for curriculum integration. Through practical exploration, they have preliminarily constructed a "life-holistic-comprehensive" health education curriculum system and achieved positive results.

However, some regions have encountered difficulties in practice. For example, in some regions, integration remains superficial in the curriculum without genuinely achieving deep integration. Content from different subjects is juxtaposed, lacking intrinsic logical connections. Although the curriculum names have been integrated in some regions, actual teaching still follows the traditional "subject-separated" model. Moreover, some regions have exhibited a rather hasty approach, rushing to integrate to meet the requirements of higher authorities, resulting in a lack of operability and effectiveness in the integration process. Overall, although the integration of physical education and health curricula has been comprehensively launched, its depth and breadth still need to be strengthened, and its systematicity, professionalism, and operability need to be further improved, leaving considerable room for reform and development potential.

## **3. IMPLEMENTATION MODELS OF INTERDISCIPLINARY COLLABORATIVE TEACHING**

### **3.1 Application Analysis of Health Assessment Tools and Methods**

#### **3.1.1 Questionnaire Survey and Lifestyle Assessment**

Comprehensive individual health information can be collected, including lifestyle, health behaviors, medical history, family medical history, etc., to understand one's health status and risk factors. Meanwhile, measuring biomedical indicators such as height, weight, waist circumference, body fat rate, blood pressure, and heart rate can also provide objective evidence of an individual's health status. Additionally, requiring the evaluated individual to record daily information related to health, such as diet, exercise, sleep, and medication use, helps assess the impact of their behavioral patterns on health.

#### **3.1.2 Assessment of Mental Health**

Psychological assessment tools such as depression screening questionnaires and anxiety symptom scales can be used to evaluate an individual's mental health level. By comprehensively assessing physiological and psychological data and other risk factor information, the possibility of an individual developing a particular disease or health problem can be predicted and assessed. Furthermore, physical fitness tests such as muscle strength, flexibility, and aerobic endurance can reflect an individual's physical function and fitness level, providing a reference for exercise prescriptions.

#### **3.1.3 Health Risk Assessment**

Based on the assessment findings, exercise prescriptions should aim to improve the individual's health condition and eliminate or reduce their health risks by scientifically designing exercise types, intensity, duration, etc., while considering the individual's interests, hobbies, and living environment to ensure the operability and sustainability of the exercise plan. This will help the individual develop good exercise habits and achieve a healthy physique.



### **3.2 Individualized Exercise Plan Formulation Process and Case Analysis**

#### **3.2.1 Setting Goals and Formulating Intervention Strategies**

The first step in formulating an individualized exercise plan is to clearly define the individual's specific health goals based on the health assessment results and design intervention strategies around these goals. For example, weight loss may be the primary goal for an overweight individual. Therefore, the intervention strategy should focus on promoting energy expenditure and increasing aerobic exercise; at the same time, it should also emphasize dietary control to reduce caloric intake. Furthermore, for special populations such as diabetes or heart disease patients, the goal may be more focused on controlling the condition and improving quality of life. Intervention priorities and strategy plans need to be formulated for different health conditions. Goal setting should not be overly idealistic but should consider the individual's actual conditions and tolerance to ensure the achievability of the goals.

#### **3.1.2 Applying Appropriate Health Management Methods and Intervention Measures**

After determining the goals and strategic framework, the next step is to select and apply appropriate health management methods and specific intervention measures. These include exercise prescriptions, dietary guidance, behavioral interventions, and more. Exercise prescriptions should be tailored to the individual's physical fitness status, health goals, and preferences, customizing elements like exercise types, intensity, duration, and frequency. Dietary guidance should consider the individual's cultural background, living habits, etc., to develop a feasible dietary plan. Simultaneously, behavioral interventions are also crucial, helping the individual establish correct health knowledge and awareness, develop good lifestyle habits, and use behavioral incentives to enhance the individual's motivation and adherence to healthy behaviors. Other specialized health management measures may be required for specific special populations, such as medication guidance, psychological counseling, etc.

#### **3.1.3 Formulating a Personalized Health Plan**

After setting goals and selecting intervention measures, the final step is integrating all the components into a personalized and systematic health plan. This plan should specify the details of exercise, diet, lifestyle adjustments, and other aspects, tailored to the individual's actual situation and consistent with their health goals. Moreover, the formulation of the plan should also consider the individual's preferences, conditions, and living environment, striving for operability and sustainability of the measures to ensure the plan's successful implementation. Furthermore, the plan should retain some flexibility, leaving room for adjustments so that it can be adjusted and optimized promptly based on the implementation results. Once the individualized health plan is formulated, its implementation, effect monitoring, and follow-up are also indispensable and essential steps, requiring professional guidance and support to help individuals achieve their health goals.

## **4. RESULTS AND CONCLUSIONS**

4.1 The interdisciplinary teaching model integrating physical education and medicine has profoundly impacted students' learning. Traditional physical education courses primarily focused on developing students' athletic skills and physical fitness, neglecting the importance of health education. Through integration with disciplines such as medicine, biology, and nutrition, students can learn about exercise knowledge and systematically understand the physiological mechanisms of the human body, the importance of healthy behaviors, and establish comprehensive health awareness.

In interdisciplinary courses, students can access diverse learning resources and real-world situations, facilitating the internalization and transfer of knowledge. For example, when discussing sports injuries, medical teachers can lecture on human anatomy and exercise biomechanics knowledge; physical education teachers can demonstrate rehabilitation exercises; and nutritionists can introduce dietary principles for post-injury recovery. By integrating multiple disciplinary perspectives, students can better understand the causes, symptoms, prevention, and treatment of sports injuries.

Furthermore, interdisciplinary teaching emphasizes the integrated application of knowledge, cultivating students' ability to think comprehensively and solve practical problems. In interdisciplinary projects, students need to integrate knowledge from multiple disciplines to explore a theme or solve a real-world problem jointly; in the process, they exercise critical thinking and develop communication and collaboration skills. These valuable abilities benefit students' future learning and development.

4.2 The interdisciplinary teaching model integrating physical education and medicine has also positively impacted students' professional development. Taking students majoring in physical education or medicine as examples, interdisciplinary teaching broadens their horizons, enhances their understanding of related disciplines, and lays a solid foundation for their future learning and careers.

Students majoring in physical education not only need athletic skills but should also possess knowledge and abilities in health management. Students can learn about human anatomy, exercise physiology, and sports medicine through integration with medicine and master scientific rehabilitation theories and methods. This prepares them for future careers as athletic coaches, rehabilitation instructors, and more. Simultaneously, medical students can also learn about the importance of exercise for health through the



physical education discipline, enabling them to have a more comprehensive health perspective in future clinical diagnosis and treatment, providing holistic guidance for patients.

Beyond the impact on professional knowledge, integrating physical education and medicine can also promote enhancing students' professional competencies. In cross-disciplinary collaboration, students must continually consider integrating knowledge from different fields, requiring them to adopt an open learning attitude and possess cross-disciplinary communication and collaboration abilities. Such experiences will significantly enhance students' professional identity, sense of responsibility, and teamwork abilities, laying an essential foundation for their future career development.

4.3 The interdisciplinary teaching model integrating physical education and medicine has also impacted teachers' professional development. On the one hand, interdisciplinary teaching requires teachers to have a solid grasp of their discipline and a particular understanding of related disciplines, prompting teachers to learn from other fields and broaden their horizons actively. On the other hand, in teaching practice, teachers need to actively communicate and collaborate with colleagues from other disciplines, jointly designing teaching content and activities; this process strengthens mutual learning and exchange among teachers, improving teaching abilities and professional levels.

Moreover, interdisciplinary teaching also compels teachers to update their teaching philosophies and methods. Unlike traditional single-subject teaching, interdisciplinary teaching emphasizes situational creation, project-based learning, and other diversified teaching models, requiring teachers to actively transform their role from a one-way transmitter of knowledge to a learning guide and collaborative partner. Teachers must continuously learn and innovate in these new teaching models, optimizing classroom structures and strategies to adapt to the new teaching requirements.

The interdisciplinary teaching model integrating physical education and medicine has created a new environment and opportunities for teachers' professional growth. It is conducive to comprehensively enhancing their teaching design, cross-disciplinary communication, and classroom organization abilities. This two-way professional development effect will simultaneously improve teachers' teaching levels and students' learning quality, forming a virtuous cycle.

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