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# Research on the Strategy of Integrating Core Strength Training into College Physical Education

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**Abstract:** With the continuous development of sports science, the status of core strength training in sports training has become increasingly prominent. This paper discusses the importance and strategies of integrating core strength training into college physical education. First of all, it emphasizes the positive role of core strength training in improving movement efficiency and performance, enhancing body stability and balance, and improving posture and posture. Then, it puts forward five strategies to optimize the core strength training into college physical education: updating the teaching concept of physical education, leading the new trend of core strength training; Enrich the training content and methods, broaden the new training path; Improve the facilities and equipment configuration, and consolidate the hard foundation of training; Strengthen the exchange and feedback between teachers and students to promote the soft landing of training; Establish a scientific evaluation system and clarify the orientation of training. These strategies aim to promote the improvement of physical education in colleges and universities and provide strong support for cultivating talents with all-round physical education quality.

**Keywords:** Core strength training; College physical education; Teaching idea

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## 1. Introduction

With the development of sports science and technology, core strength training is becoming more and more important. However, how to integrate core strength training into college physical education effectively to promote the improvement of students' overall physical quality is still an urgent issue to be solved at present. This article aims to explore the strategy of integrating core strength training into college physical education, hoping to play a certain role in related teaching practice.

## **2. The importance of integrating core strength training into college physical education**

### **2.1. Improve sports efficiency and performance**

The core muscle group is a vital link in the human dynamic chain and plays an irreplaceably important role in stabilizing the spine and transmitting strength. Targeted core strength training can significantly improve the stability and strength of students' core muscle group, and then more efficiently exert the muscle strength during exercise and improve the efficiency of movement. Strengthening core strength is particularly important for competitive sports. Taking track and field, swimming, and basketball as examples, athletes are required to complete a variety of movements quickly and accurately, and a lack of core strength is likely to cause movement deformation and poor power transmission, affecting sports performance <sup>[1]</sup>. Through core strength training, students can better control their body posture, reduce energy loss, enhance the stability and accuracy of the movements, so that they can perform better in the competition. In addition, core strength training is also conducive to promoting students' athletic endurance and recovery ability. Maintaining a stable core during high-intensity exercise reduces the burden on other muscles and delays fatigue. At the same time, strong core strength can also speed up the recovery process after the exercise, so that students can recover to the best level faster, so as to pave the way for the next training or competition.

### **2.2. Enhance the stability and balance of the body**

The stability and balance of the human body is the basis for the completion of various movements and motor skills, which are not only related to the quality of sports performance, but also directly affect the quality of personal daily life and health level. As the link between the upper and lower body, strengthening core muscle function plays a decisive role in enhancing overall body stability. Specifically, core strength training provides a solid support structure by strengthening the muscles in the abdominal, back, and pelvic areas. This supporting function plays a crucial role in maintaining body posture, preventing sports injuries, and enhancing movement control <sup>[2]</sup>. For example, in complex movements such as jumping, turning, or rapid transformation, a strong core can ensure the stability of the body, so as not to lose balance and cause falls or injuries. In addition, core strength training is also conducive to enhancing individual balance. The sense of balance plays an important role in people's sense of spatial position, which depends on the integration of visual, vestibular, and proprioceptive sensory information. Through core strength training, individuals can have a better perception and adjustment of body position and movement state, so that they can maintain a stable balance when subjected to external interference or challenges <sup>[3]</sup>.

### **2.3. Improve posture and posture to enhance personal image**

Core strength training plays a key role in improving posture and posture, which is not only related to individual physiological health, but also has a direct impact on their external image and temperament. In modern life, long-term sitting work, unhealthy living habits and other factors often cause people to produce round shoulders, hunchback and other unhealthy body problems, and these body problems will not only affect the appearance, but also bring a series of health problems such as scoliosis and cervical spondylosis. The strengthening of the core muscle group by core strength training is beneficial to the adjustment and perfection of posture. The strong core muscle group can play a stable support role for the spine and reduce the posture problems caused by uneven stress on the spine. At the same time, core strength

training can also strengthen the muscle pull on the bone and help correct the posture deviation caused by muscle imbalance. If you train your abs and back muscles purposefully, you can effectively improve problems such as round shoulders and hunchback, and give your body a straight and confident posture <sup>[4]</sup>. In addition, good posture, posture can also improve the overall image of the individual. Standing upright, gait strong, often gives people a positive, healthy feeling. Core strength training can improve personal confidence by creating good posture, but also can make one more elegant and calmer in social situations.

### **3. Optimize the strategy of integrating core strength training into college physical education**

#### **3.1. Update the concept of physical education and lead the new trend of core strength training**

Under the background of the continuous progress of sports science and the deepening of the reform of college physical education, the renewal of physical education teaching concept and the integration of core strength training have become an important means to promote the improvement of physical education quality and the development of students' overall physical education quality. Traditional physical education usually pays attention to skill imparting and physical training, ignoring the importance of core strength training <sup>[5]</sup>. Therefore, to lead the new fashion of core strength cultivation, we must first update the concept of physical education teaching, and take core strength cultivation as an important link in physical education teaching. Renewing the teaching concept of physical education means that we must abandon the traditional teaching concept, establish a student-oriented approach, pay attention to the individual differences, and all-around development of students. When teaching physical education, teachers must deeply understand the value of core strength training and ensure that it is effectively integrated into every teaching step <sup>[6]</sup>. Through the development of a scientific and reasonable core strength training program, and with the actual situation of students' interests and hobbies, to mobilize the enthusiasm of students in training, and enhance the training effect. At the same time, the continuous renewal of the physical education teaching concept also needs teachers' innovative consciousness and practical ability. In the teaching process, teachers should constantly explore new teaching methods and ways, such as the introduction of modern training equipment and scientific and technological means, so as to enhance the interest and effectiveness of training. In addition, teachers should strengthen the interaction and communication with students, pay attention to students' training feedback and experience, and timely adjust the training plan to ensure that the core strength training is scientific and effective <sup>[7,8]</sup>.

#### **3.2. Enrich the training content and methods, and broaden the new path of core strength training**

In the optimization strategy of integrating core strength training into physical education in colleges and universities, it is more important to enrich the training content and methods, which is also the key to expand new ways of core strength training and promote students to improve training interest and effectiveness. Traditional core strength training is usually limited to simple basic movements such as sit-ups and push-ups, although they play a certain role in the initial activation of the core muscle group, but it is difficult to adapt to the training requirements of students at different levels and different needs. In order to enrich the content and means of training, teachers should actively introduce diversified

training means. Such as suspension training, balance ball training, functional strength training and other modern training techniques can be used to train, which can effectively activate the core muscle group and enhance the coordination and stability of the student's body. At the same time, teachers can also design targeted core strength training plans according to students' professional characteristics and sports needs, such as jumping core strength training aimed at basketball players and turning core strength training aimed at swimmers. In addition, the richness of training content and methods also means that attention is paid to the fun and interactive training. Teachers can mobilize students' enthusiasm for training and promote students' enthusiasm and enthusiasm for participation by organizing group competitions and carrying out team cooperation. At the same time, teachers can also use modern scientific and technological means, such as virtual reality, smart wearable devices, etc., to provide students with more intuitive and vivid training feedback to help students better master training skills and improve training effects <sup>[9]</sup>.

### **3.3. Improve the configuration of facilities and equipment and consolidate the hard foundation of core strength training**

In the process of promoting core strength training into college physical education, improving the configuration of facilities and equipment is an essential link, which provides a solid material foundation for the efficient and safe development of core strength training. Core strength training has specific needs for facilities and equipment, such as stability, adjustability, safety, etc., which directly affect the training effect and student safety. To consolidate the hard foundation of core strength training, colleges and universities should increase the investment in sports facilities and equipment to ensure that the quantity and quality of training facilities meet the teaching needs. On the one hand, it is necessary to purchase high-quality core strength training equipment, such as balance balls, suspension belts, Swiss balls and core stability trainers, which can accurately train different areas of the core muscle to enhance the training effect. On the other hand, it is necessary to regularly check the maintenance of existing facilities and equipment and replace old and damaged equipment to ensure the safety and reliability of training facilities. In addition, improving the configuration of facilities and equipment should also pay attention to the diversity and adaptability of equipment <sup>[10]</sup>. Different students are different in terms of physical condition, training level, and interests, so it is necessary to provide a variety of training equipment to meet the needs of different levels of students.

### **3.4. Strengthen teacher-student communication and feedback to promote a soft landing of core strength training**

In the process of integrating core strength training into physical education practice in colleges and universities, it is very important to strengthen the communication and feedback mechanism between teachers and students, which is conducive to fine regulation and personalized guidance of the training process, and ensure that core strength training can be "soft landing," that is, smooth and effective integration into the daily training system of students. Communication and feedback between teachers and students is not only a process of information transmission, but also a crucial part of emotional interaction and trust building, which directly affects the enthusiasm of students to receive training, participate in training, and keep improving. To promote the soft landing of core strength training, teachers should take the initiative to build an open and inclusive communication platform and encourage students to express their confusion, feelings, and suggestions in training. Through regular individual guidance, group discussion, or online

communication, teachers can timely understand the training situation of students, including the progress of students, challenges and potential psychological obstacles, to make targeted adjustments to the training plan and give more personalized guidance. At the same time, teachers should pay attention to positive incentives, affirming every progress of students, enhancing their self-confidence and training motivation. In addition, strengthening teacher-student communication and feedback also means that teachers should constantly improve their professional quality and communication skills. Teachers need to keep up with the pace of the development of sports science, research the latest theory and practical methods of core strength training, and ensure that the guidance is scientific and cutting-edge. At the same time, teachers should master effective communication skills, learn to listen to, understand and respect the unique needs of each student, to establish a good relationship between teachers and students based on mutual respect and trust, to lay a solid emotional foundation for the effective development of training <sup>[11]</sup>.

### **3.5. Establish a scientific evaluation system and clarify the orientation of core strength training**

The evaluation system is not only an objective reflection of the students' training results in the training process, but also an important basis for guiding the follow-up training plan. A set of scientific and reasonable evaluation systems should be able to comprehensively evaluate students' core strength level, training progress, and problems in training, and then give accurate feedback to teachers to adjust training strategies and optimize training effects. To construct a scientific evaluation system, the most important task is to clarify the evaluation content and standards. The evaluation should involve many aspects of core strength, including but not limited to muscle endurance, explosive power, stability, and coordination etc., to ensure the comprehensiveness and accuracy of the evaluation. At the same time, individual differences of students should be taken into account in the formulation of evaluation standards, and challenges should be shown on the premise of ensuring feasibility, to stimulate the training potential of students and avoid problems such as over-training or inadequate training. In addition, the evaluation system should pay attention to the combination of process evaluation and result evaluation. Process evaluation focuses on evaluating students' attitude, effort level, and skill mastery to help teachers find and correct the problems in training and adjust the training rhythm. The result evaluation mainly focuses on the quantitative indicators in the training results, such as the test results of core strength and the improvement of sports performance, to provide an intuitive basis for the evaluation of training effects.

## **4. Conclusion**

In short, integrating core strength training into college physical education is a systematic project. It is necessary to update the teaching concept, enrich the training content and means, improve the configuration of facilities and equipment, strengthen the communication and feedback between teachers and students, establish a scientific evaluation system, and work together. Through the implementation of the above strategies, it can not only enhance the core strength level of students but also promote their all-around development, to provide strong support for the cultivation of all-around sports quality talents. In the future, with the continuous progress of sports science in China and the deepening reform of physical education in colleges and universities, core strength training will play a more prominent role in promoting physical education in colleges and universities, and the relevant teaching strategies will be constantly

improved and optimized.

## Disclosure statement

The author declares no conflict of interest.

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