

# *Research on the strategy of improving the effectiveness of sports training*

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**Abstract:** Physical training is the basic content of physical education, physical training is in order to achieve the expected physical education curriculum teaching objectives to carry out a series of skills training, standardized action guidance and sports thinking training activities. For modern colleges and universities, effective sports training is an important part of achieving the goal of "cultivating morality and talents", an important measure to cultivate students' comprehensive quality, and an inevitable choice for colleges and universities to follow the development needs of The Times and the needs of social talent training. Therefore, universities' physical education training should start with the needs of students' physical exercise, pay attention to the transformation of training methods and teaching concepts, continuously optimize the teaching methods of physical education, and gradually promote the reform and innovation of specialization of sports teaching in colleges and universities. Starting from the practical problems of sports training in colleges and universities, this paper focuses on the effectiveness of sports training from three aspects: data analysis of sports training, the improvement of teachers and training conditions.

## **1. College sports training**

### **1.1. The content of sports training is simple**

Sports training is an important measure to cultivate the comprehensive quality of college students, but the single training content and old traditional training methods will not only affect the training experience of students, but also greatly reduce the effectiveness of training. At present, many traditional sports training programs in colleges and universities are usually based on competitive sports, such as basketball, football, volleyball, track and field, etc., but other types of sports are rarely involved. The monotonous old training content does not take into account the learning interests and physical exercise needs of all students. In addition, many colleges and universities still use traditional sports training methods, such as repeated shooting practices, mechanized self-training and free-range confrontation games in basketball courses, and the teaching methods lack innovation. This single and boring training method makes students bored of physical education courses, and the training effect will be greatly reduced, which seriously hinders the improvement of students' comprehensive quality.

## 1.2. Sports training resources are limited

China's colleges and universities show obvious differences in the distribution of sports training resources, and most schools have obvious problems of insufficient training resources. For example, many colleges and universities' sports facilities, equipment, venues and other infrastructure cannot meet the good conditions for students to carry out sports training, and there is still a certain gap between the existing infrastructure and the actual needs of students' sports training. The specific performance is shown in Table 1:

Table 1: Performance of sports training resources

Problem	Expression	Specify
Sports facilities	Infrastructure is old and decaying	Such as the aging of basketball court ground materials, basketball equipment has not been repaired for a long time
Training equipment	The type of equipment is small and the quantity is insufficient	Many sports lack specific training equipment
Training ground	Limited space	The training venue is limited and the capacity is small

## 1.3. Weak physical education teachers

The improvement of the effect of sports training in colleges and universities is closely related to the strength of teachers, and the strong strength of teachers is an important factor for the improvement of the effect of sports training and teaching quality. In October 2020, The General Office of the State Council issued the Opinions on Strengthening and Improving School Physical Education in the New Era, which clearly pointed out that for ordinary colleges and universities that do not offer physical education related majors, the ratio of approved physical education teachers should not be higher than 300:1, but from the current situation of China's colleges and universities, the ratio of students to teachers in most primary schools has exceeded 500:1, and the shortage of teachers in secondary schools and private colleges and universities is more obvious. The lack of teachers will inevitably affect the effectiveness of sports training[1-2].

## 2. Suggestions to improve the effectiveness of college sports training

### 2.1. Strengthen data analysis to improve sports performance

In the digital age, to improve the effectiveness of college sports training, we should be good at using data analysis and other technologies to improve students' sports performance, including the following three aspects.

#### 2.1.1. Collect student sports data in multiple dimensions with the help of campus smart sports solutions

Scientific data analysis can improve students' sports performance. In the process of physical education teaching and student sports training, teachers should first pay attention to multi-dimensional collection of students' sports data, as shown in Figure 1:

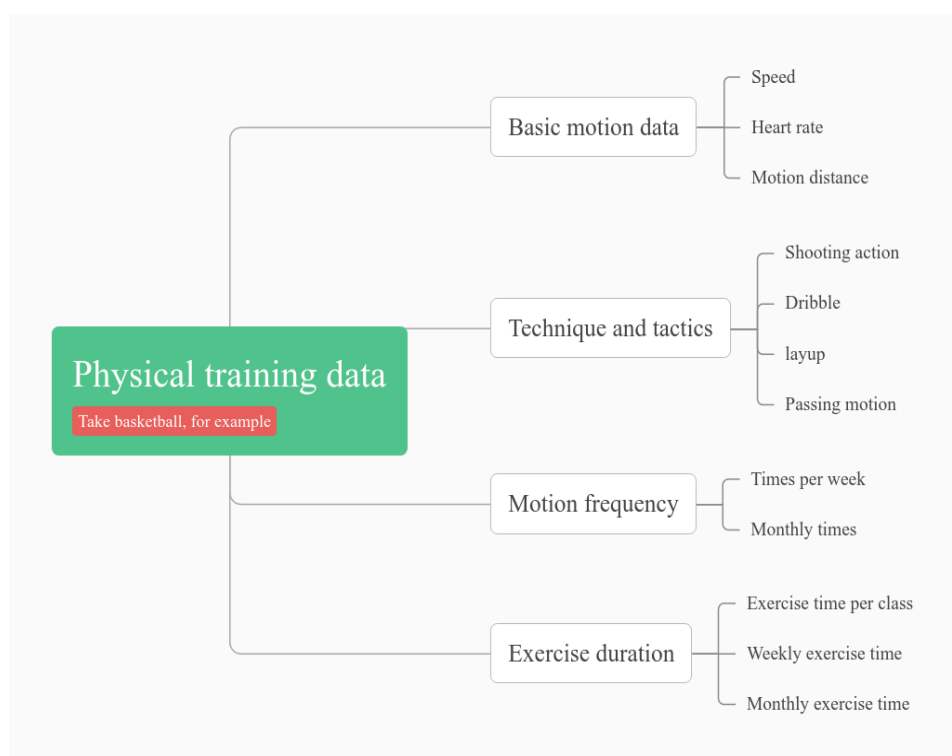


Figure 1: Physical training data

On the basis of the above figure, teachers also need to pay attention to the specific performance data of students in different sports training programs, such as comprehensive data on strength, endurance, speed and other aspects of students' track and field, football, basketball and other sports, so as to understand students' sports situation in an all-round way.

There are many methods for the collection of sports training data. For example, training data can be collected through smart wearable devices, sensors installed in school sports venues, video analysis and other methods to help teachers accurately and comprehensively understand the data of specific training projects and provide support for data analysis[3].

### 2.1.2. Scientific data analysis improves teaching effectiveness

Through data analysis, students can be personalized teaching, real-time monitoring and feedback of students' training effects, and avoid sports injuries.

#### (1) Carry out individualized teaching

Take explosive power training for students as an example. The purpose of explosive power training is to increase the muscle strength of students, and continuously adjusting the intensity of strength training is an important method to effectively increase muscle strength. Table 2 and Table 3 show two different muscle strength training methods:

Table 2: Muscle Strength Training Methods (A)

	1week	2week	3week	4week
Number of training groups and times	3x6	3x4	3x6	3x4
Training weight	50kg	60kg	55kg	65kg

Table 3: Muscle Strength Training Methods (B)

	1week	2week	3week	4week
Number of training groups and times	3x6	3x6	3x6	3x6
Training weight	50kg	55kg	57kg	59kg

In the actual training process, the training effect of Table 2 is better than that of Table 3. Table 2 is effective resistance training. Increasing the amount of exercise and intensity can not only increase the endurance and muscles, but also improve the explosive power of students. The training methods in Table 2 are more personalized, while the methods in Table 3 are more traditional.

Therefore, in the teaching of sports training, teachers should formulate personalized training plans based on students' specific characteristics, sports quality and sports training needs, especially regular observation of students' sports data. For example, according to the training method in Table 1, students' sports situation and personal data are observed weekly according to the number and times of students' sports groups, so as to timely understand students' sports performance. And provide students with personalized training plans for students[4].

#### (2) Whole-process monitoring and data feedback

In the process of physical education teaching, the data performance of students in sports training should be analyzed in real time throughout the whole process, such as combining the physical changes of students with smart wearable devices and the analysis of students' technical and tactical situation by video, so as to find problems in sports training in time, provide sports guidance to students from a professional perspective, so that students can find their own problems and adjust sports plans in time.

#### (3) Predict and prevent the occurrence of sports injuries

Through the phased tracking and data analysis of students' sports training, the risk of sports injuries that may be induced by technical tactics and physical training can be found in time, corrected and guided in time, so as to minimize the incidence of sports injuries and improve the safety of students' sports training.

### 2.1.3. Data comprehensive analysis platform

Through the comprehensive analysis platform of sports training data, on the one hand, teachers can know the situation of students' sports training at any time, and on the other hand, they can evaluate students' sports performance in a more comprehensive way, which is convenient for teachers to continuously optimize physical education teaching methods. Of course, students can also use the data comprehensive analysis platform to understand their own sports, under the guidance of teachers targeted adjustment of physical training methods.

The data comprehensive analysis platform can generate periodic sports training reports for students to help teachers and students more intuitively understand the phased learning situation, physical fitness changes, training effects, etc.

### 2.2. Improve the basic conditions of sports training

Sports training infrastructure is an essential element to improve the effectiveness of training, so colleges and universities should gradually increase the construction of sports infrastructure to provide students with more perfect and safer sports training conditions.

First, increase the investment in sports equipment and infrastructure. In combination with the situation of physical education courses in colleges and universities, a number of advanced training

equipment and basic equipment are purchased on the basis of the existing. Especially for the two colleges and private colleges, the traditional sports training equipment and basic equipment can only meet the single sports training project, and the training effect is low, can not meet the actual needs of modern sports teaching. In view of this situation, it is necessary to combine the development of the sports market and actively introduce more cash equipment, such as digital intelligent sports fitness equipment, multi-functional sports equipment, intelligent sports extended training equipment, etc., strengthen the application of digital and intelligent equipment in sports training, and use these advanced equipment and equipment to help students understand the training effect more scientifically. Stimulate students' enthusiasm to participate in physical exercise[5].

Secondly, in view of the problems of aging training ground materials and long-term disrepair of equipment, it is necessary to speed up the expansion of sports venues to meet the needs of more students to participate in sports training. For example, the further development of open space resources in colleges and universities, the re-planning of intramural sports venues, the expansion of outdoor sports venues, especially the long-term disrepair of basketball courts, football fields and training equipment, should be updated in a timely manner. Provide students with more places to participate in sports training.

Finally, to regularly maintain the sports infrastructure, it is necessary to ensure the safe and normal operation of all kinds of training equipment and infrastructure, set up a special maintenance department, and require maintenance personnel to regularly carry out safety checks and maintenance of all kinds of sports equipment, equipment and infrastructure, at the same time, physical education teachers should regularly conduct safety education and guidance of students to improve their awareness of safety training for sports training.

### 2.3. Strengthen the construction of PE teachers

First of all, in view of the problem that the ratio of students to teachers in most colleges and universities has exceeded 500:1, we should actively introduce more high-level PE teachers with strong professional quality, especially pay attention to the growth of young teachers, inject fresh blood into PE teaching in colleges and universities, and improve the quality of sports training through the improvement of the overall quality of teachers.

Secondly, pay attention to the improvement of the teaching ability of existing PE teachers, colleges and universities should pay attention to optimize the teaching and training mechanism of PE courses and improve the overall quality of teachers. The teaching and training mechanism of PE course should be optimized according to the demands of PE teaching in different stages. Further expand the content of teachers 'training, combine the professional level of the teacher team and the requirements of college physical education teaching, focus on strengthening the training of sports teachers' professional literacy, competitive level, professional ethics and other fields, and guide teachers to teach innovation through the improvement of basic quality; In addition, it is necessary to regularly organize teachers to exchange and study physical education, strengthen the communication between universities and colleges, and pay attention to establishing strategic cooperative relations with social institutions, on the one hand, to provide more opportunities for teachers to participate in learning and exchange, on the other hand, it is also necessary to build a more intelligent physical education platform with the help of more external forces. This can not only help teachers improve their self-quality, but also innovate the teaching methods of physical education.

### 3. Conclusion

To sum up, there are many ways to improve the effectiveness of sports training. In the new era, the improvement of the effectiveness of college sports training should start from the actual problems. On

the one hand, it is necessary to pay attention to the application of digital and intelligent technology. Gradually improve the effectiveness of sports training; On the other hand, it is necessary to provide safe and reliable training venues and infrastructure for students to participate in sports training, and constantly strengthen the construction of PE teachers, starting from various fields of hardware and software, to effectively improve the effect of sports training, and lay a foundation for the improvement of students' comprehensive quality and physical and mental health development.

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