



# Research on the Reform and Development Path of College Physical Education from the Perspective of Informatization

Li Jiang<sup>(✉)</sup>

Department of Physical Education, Guangzhou Xinhua University, Guangzhou 510520,  
Guangdong, China  
103510710@qq.com

**Abstract.** Education informatization is the basic way to realize the modernization of education, and physical education informatization is the most difficult of the school education informatization. How to realize the practical rather than theoretical physical education informatization education is a big problem that needs to be solved by many sports workers. This paper starts from the aspects of educational resources, educational objects, evaluation system etc., Explores the development path of informatization reform of physical education in colleges and universities, and accelerates the deep integration of information technology and physical education reform in colleges and universities in the new era.

**Keywords:** informatization · university physical education · teaching reform

## 1 Preface

The printing of the “14th Fifth Plan for National Informatization” provides the direction for higher education informatization development in our country. Without informatization, there would be no modernization, and without education informatization, there would be no modernization of education. Education modernization cannot be separated from education informatization, and the future education has shown the trend of informatization development. Distance education, online classroom, big data, APP and so on have been familiar to students in primary and secondary schools in the past three years. “Internet + Education” has pointed out the direction to accelerate the modernization of education and the wisdom of education. The informatization of college physical education is the basic requirement of the modernization of college education, the fundamental requirement of the comprehensive reform of college physical education curriculum in the new era, and also the key factor to meet the needs of college students personalized physical education development.

## **2 The Inevitability of Informatization Teaching in College Physical Education Curriculum**

With the rise and development of information technology, dialogue-based teaching represents an evolutionary direction of future education and human learning [1]. The need of the reform and development of physical education courses in colleges and universities and the characteristics of The Times of students make the reform of information physical education teaching inevitable. Student-centered information-based teaching emphasizes “situational” design, collaborative learning and identification of personalized development. Advanced information technology makes the retrieval of sports learning resources more convenient and flexible, and the efficiency and quality of resource acquisition are also greatly improved. “Digital Natives” represent a generation of college students who have grown up with the Internet, which Tapscot calls the “net generation” and Howe calls the “millennials”. The channels they receive information mainly come from the network media. Information-based teaching meets the diversified needs of students at different levels, in different regions, under different conditions and at different learning levels, and gives full play to the enthusiasm and initiative of students.

## **3 Difficulties Faced by Informatization Teaching of Physical Education Courses in Colleges and Universities**

### **3.1 Insufficient Informatization of Physical Education Teaching Places and Equipment**

Complete informationized physical education facilities are the basic guarantee for realizing informationized physical education activities. In order to realize the information-based physical education, schools need to be equipped with information-based venues, multimedia classrooms, network laboratories, digital libraries and related multimedia, network and other hardware equipment, but also need a variety of corresponding software support. At present, the information level of physical education in colleges and universities is not high, sports network teaching resources are not enough, and the construction of various sports media material libraries, network resource libraries and other aspects are lagging behind. To a certain extent, it will influence the process of college sports informatization.

### **3.2 Lack of Informatization of Physical Education Teaching Resources**

Teaching resources are the basis of the development of physical education informatization. Rich and scientific teaching resources can promote the development of physical education informatization. Sports information teaching resources are mainly designed according to the content of sports teaching, including a variety of electronic resources, information courses (MOOC, wisdom tree and other online courses), teaching software, digital library and so on. Digital library is one of the most selected online resources in students’ sports learning, and also the focus of many colleges and universities to improve the construction of information teaching. However, from the current situation

of the construction of information-based teaching resources in colleges and universities, the investment in digital library is seriously insufficient, and the development of teaching software and information-based teaching courses is not enough, which leads to the lack of sports information-based teaching resources, and then affects the development process of college sports teaching information-based.

### **3.3 The Level of Physical Education Teachers' Informatization Literacy is not High**

The key to the success or failure of PE teaching reform is teachers, and the level of PE teachers' information literacy determines the course of the reform to a certain extent. The essential idea of education is "people-oriented", which is specifically manifested as the "student-oriented" educational idea [2]. In the information age, students have increasingly strong awareness and ability of independent learning, and they hope to become intelligent athletes through physical education. The goal of physical education teaching in colleges and universities should not be limited to teaching students several technical movements, but to teach students the skills and methods of independent learning, appreciation, enjoyment and healthy life [3]. In the process of educational informatization, college teachers should have the teaching ideas and concepts of The Times, master modern teaching methods and teaching means, and skillfully use information tools to effectively collect, organize and apply teaching resources, and communicate with students through the Internet. This is a new challenge to the knowledge reserve, teaching habits and teaching methods of college PE teachers.

### **3.4 The Informationized Physical Education Assessment System is not Perfect**

The scientific and perfect curriculum assessment system is the standard to test the effect of information-based teaching. Through the assessment system, the advantages and weaknesses of information-based teaching in sports can be better understood and the effect of sports teaching can be guaranteed. At present, the assessment system of sports informatization teaching in colleges and universities is not perfect. On the one hand, in colleges and universities, sports is a secondary subject compared with other subjects and is in a marginal position. It does not belong to the comprehensive evaluation subject of students, so colleges and universities do not pay enough attention to the construction of sports informatization assessment system. On the other hand, when carrying out sports information-based teaching, colleges and universities do not update the assessment system in time, the lack of diversity of evaluation methods, does not meet the requirements of sports information-based teaching.

## **4 The Path of Realizing College Physical Education Informatization**

### **4.1 Strengthen the Construction of Sports Information-Based Teaching Resource Base**

Rich and scientific information teaching resources are the basic guarantee for the smooth development of college physical education information teaching. The ideal environment and abundant resources under information technology can provide students with all-round, personalized and continuous learning services. Colleges and universities should realize the breakthrough of teaching resources by means of information technology, and build an information, digital and intelligent PE teaching resource system. The core of physical education informatization is the sharing of digital resources. Teachers and students can obtain the basic knowledge and other requirements of physical education with the help of the Internet, information media, multimedia teaching CD and other resources. Network platform, big data and virtual reality reconstruct the new ecology of college physical education, break through the time and space barriers between presence and absence, online and offline, virtual and real, and create a new field of infinite extension. The path of fine education based on big data lies in the information carrier [4]. Materials collected by PE teachers, courseware designed and other teaching resources such as teaching videos, pictures and text are put into the database, so as to meet different teaching needs. At the same time, increase the investment in the development of PE teaching software and enrich the information teaching resource bank.

### **4.2 Strengthen the Construction of Sports Informatization Teaching Places and Facilities**

Informationized teaching places and facilities are the basis for realizing the informationized development of physical education in colleges and universities. B. Trilling & P. Hood pointed out that in the age of information technology, what really plays an important role in teaching is “practice mode and results, rather than tools”. Physical education teachers can make good use of multimedia or information technology to improve teaching efficiency when they study or exercise in the information gymnasium or multimedia sports stadium. In addition, the informationized sports teaching platform in colleges and universities can provide students with shared sports resources. Students can consult and watch massive sports knowledge, technical skills and other information at any time according to their interests and needs. At the same time, multimedia technology makes teaching information dynamic and visualized, makes complex technical actions intuitive, and makes tedious technical teaching process situational and interesting. It satisfies the diversified, personalized and precise teaching needs of current public physical education courses in colleges and universities [5].

### **4.3 Improve the Level of Sports Teachers' Information Literacy**

The level of sports teacher's information literacy is to determine the key of the success of the informatization teaching. Physical education teachers as the mastermind of college PE teaching activities, participants and executives, undertaking the task of training the

new age of high-quality talents, is shouldering the era mission of cultivating intelligent campaigner. Sports teacher's information literacy level affects the teaching mode and method, the teaching effect plays a considerable role. Should strengthen the information literacy training of physical education teachers in colleges and universities, the "Internet + education", "information + sports" depth fusion, thus to improve the physical education teaching ability, promote the deep development of the information technology teaching.

#### **4.4 Improve the Assessment and Evaluation System of Sports Informatization Teaching**

The examination and evaluation system is the standard and measure for physical education teachers in colleges and universities to comprehensively test students' mastery of physical skills and students' physical quality level in physical education teaching, and can provide reference and basis for the later teaching arrangement. At present, the development time of information-based physical education in colleges and universities is relatively short, and the traditional evaluation system is still dominant, which hinders the information-based process to a certain extent. Reform and innovation should be carried out to establish the evaluation mechanism of information-based teaching reform, promote the evaluation system based on big data, carry out large-scale, long-period and diversified teaching observation, and establish the digital archives of students. The data of competition results, daily assessment results, physical fitness test, after-school physical exercise, after-school independent learning and so on are collected and input into the database, so as to comprehensively and scientifically evaluate students' physical learning effect and physical fitness level, and comprehensively analyze the teaching achievements and teaching quality of sports informatization.

## **5 Conclusion**

The integration of information technology and physical education adapts to the new situation and changes of education reform. The informationized physical education teaching breaks the barriers of traditional physical education, and teachers and students learn and communicate in the common space. The situational learning environment highlights the principal position of students and enhances the interesting and personalized characteristics of their learning. All colleges and universities should increase investment, enrich the physical education resource base, build information resources sharing and communication platform, strengthen the training of physical education teachers' information literacy, improve the evaluation system of physical education information, and promote the development of information education which integrates information technology, intelligent technology and physical education.

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