Analysis of the Reform of Informatization Teaching of College Physical Education Courses Based on Big Data

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Abstract: In recent years, the reform of informational teaching in physical education courses in colleges and universities have achieved remarkable results, such as applying the Internet to teaching and using APP to improve students' interest in learning. However, there are still many problems. Therefore, it is necessary to solve some of these problems through big data to realize the efficiency of the reform of informational teaching in college physical education curriculum. Based on this, this paper analyzes the application of big data in the informatization teaching of college physical education curriculum based on the current shortage of college teachers' resources teaching resources and the outdated teaching methods of college physical education curriculum information teaching and puts forward the college sports based on big data. Course information teaching reform measures to promote the development of college physical education.

1. Research Background

1.1 Literature review

With the development of the times, science and technology are also developing rapidly, and computer-based Internet and big data technologies have also been greatly improved. In today's era, informatization represented by intelligent tools such as computer equipment is called a new kind of productivity, and it makes an outstanding contribution to the development of society. Informatization refers to the full use of some information development resources (including information technology, network technology, computer technology) to exchange and share advanced technology and real-time information to improve the level of physical education (Zhou, 2017). Under big data, information technology mainly refers to the design, development, installation, and implementation of information systems through computer science and communication technology. Also commonly referred to as Information and Communications Technology (ICT). After the 1990s, science and technology continued to develop and improve, and information technology and information industry continued to improve. The Internet has been continuously popularized around the world, and the global integration of informationization has become a major feature of social and economic development. After the advent of the new century, the development of global informatization has become more profound (Wang, 2018). Today, with the rapid development of computer information technology, the masses of people are applying computer information technology in all aspects of production and life, which has brought great changes and convenience to people's life and learning methods, but college physical education courses. There are still some shortcomings and problems when applying big data technologies and methods (Han, 2018). The arrival of the era of big data has promoted the development of various national undertakings, and it is the same for the education industry of colleges and universities. In the teaching management work, colleges and universities have strengthened the application of computer information technology, which is of great help to promote the development of education in Chinese universities. The introduction of computer information technology in college management and physical education has greatly promoted the development and reform of college physical education and teaching, matching with the information society, clarify the teaching objectives of college informationization (Bai, 2019). Under the background of big data, the

introduction of information technology in colleges and universities in physical education teaching mode has greatly improved the improvement of physical education teaching environment and the improvement of physical education classroom teaching. However, there are still many problems in the development of information-based physical education in colleges and universities. And the dilemma. Therefore, colleges and universities should take the advantages of the era of big data education to the extreme, so as to promote the application of information technology and methods in college physical education courses, further integrate excellent physical education resources, and train more outstanding talents for the country and society. (Fu, 2017).

1.2 Purpose of research

The rapid development of science and technology, big data is also born from this, the characteristics of big data technology have brought great changes to the physical education curriculum of colleges and universities (Zhong et al, 2018). The existing physical education teaching methods in colleges and universities are still traditional teaching methods. Teachers use the same teaching methods for all students and do not implement personalized teaching methods for students, ignoring the characteristics of students themselves. At this stage, although colleges and universities will also adopt targeted teaching methods, they are mainly based on students' sports performance and motor skills as the basis for staged teaching. Such a staged teaching method is aimed at a small number of students, and most students are not Consider it (Han, 2017). At present, most of the physical education teaching modes in colleges and universities use some theoretical teaching methods, and there are few practical teaching methods. The introduction of information technology in colleges and universities can change the existing teaching situation and optimize the teaching process of colleges and universities. The teaching effect has been significantly improved (Wang, 2019). This paper analyzes the problems and dilemmas of colleges and universities in the process of physical education and the current situation of the use of information technology in colleges and universities. The reference for big data technology can not only improve the physical education teaching model of colleges and universities but also improve the physical education teaching effect of colleges and universities.

2. Problems in the Informationization Teaching of Physical Education Curriculum in Traditional Colleges and Universities

2.1 Insufficient resources for teaching resource of college teachers

China has been called the "four ancient countries" in ancient times. It has been a country with a large population since ancient times. According to the latest statistics, China's total population has reached 1.39 billion. It can be seen that China's total population ranks first in the world. The number of college students in the school is also the highest in the world. The number of students is so large. There will be some shortcomings and problems in the construction of teachers and teaching equipment in colleges and universities. According to statistics, the number of college students in China's colleges and universities is about 40 million, the number of teachers is about 2 million, and the ratio of teachers and students in world-class universities is around 1:6 and 1:14, while the proportion of teachers and students in Chinese universities is reached. Amazing 1:20, according to this situation, it reflects that the number of teachers and the proportion of students in colleges and universities is seriously out of balance, and the resources of teachers in colleges and universities are seriously lacking. In the physical education of colleges and universities, the imbalance between teachers and students is particularly serious. The lack of resources for physical education teachers will increase the teaching tasks of existing physical education teachers and increase the workload of teachers. The time and energy of physical education teachers are limited. All courses are guaranteed to the best quality so that the courses that students learn can not be guaranteed, and the students' learning effects on physical education courses will be worse. In the long run, the degree of learning between students will be different, thus forming the resources of teachers. unbalanced. In addition to the lack of teachers, there is another problem, which is the investment of colleges and universities

in sports and equipment. In recent years, the state has also issued a number of policies and documents on the physical health of the people. The capital investment in the construction of sports facilities is also increasing, but these are insignificant compared with the huge population of the country. A large number of people are also very serious about the loss of stadiums and facilities, which affect the quality and teaching objectives of physical education in colleges and universities.

2.2 Old sports teaching methods

The teaching methods of college physical education still use traditional teaching methods, mainly the teachers teach, and the students listen to a traditional teaching model. The theoretical content is more than a few, and the practical training courses are relatively few. This traditional physical education teaching method requires students to have higher physical quality and comprehension ability. Students will be influenced by the external environment such as the difficulty level taught by the teacher and their physical quality, resulting in a greater understanding of each student. The difference, the overall effect of physical education will also be affected. In the context of the new era, in order to better cultivate high-quality sports talents, the physical education content of colleges and universities should also conform to the trend of the times, and increase the teaching knowledge of basic knowledge in the content of physical education, but for the current college sports The problems and deficiencies in the teaching have been improved, but the specific implementation is still carried out by the teachers, which is not much different from the traditional physical education teaching mode. In the classroom teaching process, teachers are more likely to adopt the "cramming" teaching method to instill knowledge directly into the students. Such teaching methods have a single form of expression in the classroom, and the content lacks interest. It is difficult for students to generate enthusiasm for learning. It has an adverse impact on physical education in colleges and universities.

3. The Application of Big Data in the Information Teaching of College Physical Education Courses

3.1 Application of big data in college physical education

With the development of society, the demand for high-quality sports talents is increasing. The traditional physical education teaching model of colleges and universities has not matched the colleges and universities in today's fast-growing society. It is also unfavorable for colleges and universities to train sports talents. From the perspective of physical education teaching in colleges and universities, the physical knowledge content of traditional classroom teaching can not meet the diversified learning needs and sports needs of contemporary college students. Under the big data, the data of teachers and students can be accurately collected through classroom teaching data. Analyze the needs of college students' sports knowledge and skills, and improve the physical education teaching methods in colleges and universities. Through the application of big data, the application of sports venues and facilities in colleges and universities can be monitored. Based on the data analyzed, more reasonable resource allocation can be made to sports venues and sports facilities. Therefore, under the big data, colleges and universities use the characteristics of big data to analyze the physical education teaching in colleges and universities, which can truly reflect the students' physical learning needs and the teaching situation of teachers, which provides an important reference for the development of physical education in colleges and universities.

3.2 Big data applied in college sports training

In the daily sports plan of colleges and universities, big data can be used to carry out teaching work better. In daily physical education, many sports training programs need to rely on the experience of physical education teachers to judge the standard level of movement, while big data has the function of predicting and tracking technology. In sports training, the application of sports training can make science more scientific. reasonable. You can also choose excellent sports talents through big data technology. According to the selection requirements of professional sports teams,

colleges and universities combine these requirements with the big data information of college physical fitness test and select excellent sports talents suitable for professional sports teams. In the current context, colleges and universities can also use professional physical monitoring equipment, such as wearable smartwatches and smart bracelets, to monitor the athlete's physical condition in real-time, such as heartbeat, trajectory, sports consumption, and other professional sports data. This helps students build more professional training programs. The school's physical education teachers can also make scientific and reasonable analysis of the students' daily training data, physiological and psychological indexes and other data so that the student's training plan is more perfect.

3.3 Application of Big Data in College Group Work

Because the number of sports facilities and sports venues in colleges and universities is relatively small, colleges and universities should apply big data technology to the management of sports venues. According to the activities of most students, the sports city can be configured reasonably. With the development of science and technology, the application of advanced intelligent equipment and wearable monitoring equipment in colleges and universities has gradually increased, and it has become a new way to monitor student sports. Big data technology can bring a lot of convenience to physical education teaching in colleges and universities. By analyzing the physical health data of tens of thousands of students in the school, it is analyzed that the physical quality and health of college students are different, and based on the results. Adjust the teaching content and sports training activities in the physical education curriculum. Cultivate the self-motivation of students to exercise, establish the habit of students to exercise, and become a better sports talent.

4. Reform Strategy of Informatization Teaching of College Physical Education Courses Based on Big Data

4.1 Colleges and universities enhance the awareness of big data application

With the development of society, the information age is also coming, and the old characteristics of the traditional physical education teaching mode of colleges and universities are reflected. The prejudice and lack of understanding of big data in colleges and universities have a great hindrance to the reform of physical education teaching mode in colleges and universities. Colleges and universities must adapt to the development of the times and actively integrate big data into the work of physical education. The introduction of big data technology in colleges and universities deeply analyzes the existing teaching data, which has a profound impact on physical education teachers, students, and colleges and universities. Under the background of the rapid development of big data, the teaching videos of learning sports programs can be found on the Internet platform. This has inspired college physical education teaching methods to a certain extent. Teachers can use big data to collect the most advanced teaching content and knowledge. The method of learning sports knowledge has also been enriched.

4.2 Optimize resource allocation and improve big data resource development capabilities

In the era of big data, information data is the foundation of big data and the most important basic resource. Under the guidance of the overall big data development concept, colleges and universities actively construct a data processing platform that belongs to their own school physical education teaching, analyze the collected college students' data, and maximize the value of college students' relevant data. The development of society and the development of colleges and universities are closely related. Colleges and universities should establish a dual system, collect internal and external data and process them, and share resource data. Therefore, strengthening the data connection between universities and establishing a related information sharing platform can further optimize the allocation of sports resources in colleges and universities and greatly improve the utilization efficiency of big data.

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