The Derivation and Path Exploration of the Dilemma of School Smart Physical Education

Jingshan Zhang*

Department of Sports Humanities and Sociology, Sichuan Sports College, Chengdu 610043, China
*Corresponding author e-mail:zhangjingshan2007@126.com

Abstract: *With the introduction of the national "double reduction" policy, the status of physical education in the school education and teaching system is increasing day by day. This article uses research methods of literature and logical analysis to find that: the current school physical education curriculum teaching concepts are outdated, leading to a decline in the quality of physical education curriculum; teaching methods are backward and difficult to adapt to the development trend of school education in the new era; physical education goals are fuzzy, it is difficult to meet the needs of students in the new era for physical education. These problems have greatly restricted the quality and level of school physical education in the new era. The study believes that the Internet, cloud computing, artificial intelligence and big data and other modern science and technology are booming, and smart sports can be integrated into it, and extensive exploration of school physical education practice can be carried out: promote the network of school physical education environment and create a smart sports teaching carrier; The informationization of the sports teaching and research platform realizes the standardized development of sports curriculum teaching; the use of big data technology advantages and the application of App to assist sports teaching. All levels and types of schools in the country should improve the quality of school physical education with the idea of smart sports development.*

Keywords: *smart sports, physical education, physical education*

1. Introduction

With the rapid development of modern science and technology such as the Internet of Things, cloud computing, big data, and artificial intelligence, the progress of the integration of sports and modern science and technology has begun to highlight and gradually enter various fields of sports, such as competitive sports, mass sports, school sports, and sports industry [1]. The new concept of smart sports has become a hot topic in the current sports field. At the same time, smart sports has become the core driving force in many fields of sports. Under the background of the continuous implementation of the National Fitness and Healthy China strategy, the integration of sports and modern technology in the new era is the trend of the situation. Among them, the field of physical education will inevitably face the transformation from traditional education to smart education, and breakthroughs in traditional physical education are also necessary to face a series of difficulties [2]. Therefore, how to apply technologies such as the Internet of Things, cloud computing, big data, and artificial intelligence to physical education, improve the quality of physical education, and promote the reform of physical education is an important subject worth considering and challenging. Based on the current difficulties faced by school physical education, this research proposes practical measures and reform ideas for school physical education in the new era based on the development trend of smart physical education, aiming to improve the quality and level of physical education in schools.

2. Derivation of the dilemma of school smart physical education

2.1 Outdated teaching concepts lead to a decline in the quality of physical education courses

Teaching concept directly affects the selection and application of teaching content and methods, and then affects the final teaching quality. In recent years, the reform of school physical education has been developing in full swing, but there are still some school physical education reforms that are still "slogans" or are only keen on formal reforms, and the autonomy of students' physical learning has not really improved. The main reason for the problem is that many physical education teachers have not

fundamentally changed their teaching concepts. In addition, for a long time, many physical education teachers lack the theoretical guidance and practice of teaching reform, especially some older physical education teachers are unwilling to accept new teaching concepts, but just stay and be satisfied with their own accumulated teaching experience for many years. In addition, the school management does not pay enough attention to physical education, the concept of teaching reform is not deep, the reform behavior is formalized, and the reform investment is low. The above-mentioned various reasons have caused many problems and difficulties in the reform of school physical education, which have affected the improvement of the quality of school physical education. In the process of physical education reform, many physical education teachers do not know why and how to do well in school physical education. Limited to curriculum teaching and various teaching and research pressures, many physical education teachers don't have much time to explore teaching reform issues, but in response to the school's teaching reform requirements, they have to act in a formal way and make some seemingly reformed teaching activities.

2.2 The backward teaching methods cannot adapt to the development trend of education in the new era

Teaching method is an important part of the teaching system, and it is also an important factor that determines teaching efficiency and teaching quality. School physical education includes a wide range of content systems, coupled with the personalized and diversified physical learning needs of college students in the new era, it is necessary for physical education teachers to adopt diversified teaching methods in teaching [3]. However, there are still many shortcomings in the research and application of teaching methods by many school physical education teachers, which makes teachers long-term use of single-form and solid-mode teaching methods in physical education. The single teaching method is easy to cause students' aesthetic fatigue, gradually reduces their enthusiasm for sports learning, and cannot meet the actual learning needs of students. In addition, the teaching methods adopted by many physical education teachers emphasize instilling teaching methods, and the teaching process ignores the main body status of students, and lacks the systematic training of students' self-learning ability, thinking ability, practical ability and innovation ability. Although Internet of Things, cloud computing, artificial intelligence and big data technologies are used in school teaching, their application scope in physical education is very limited and the application degree is not deep [4]. Most of these technologies are a form of physical education. Some teachers of physical education curriculum believe that the teaching content is simple and traditional teaching is more conducive to students' experiential learning, and they are unwilling to accept the application of new technologies in physical education.

2.3 The vague physical education teaching goal is difficult to meet the needs of students for school physical education in the new era

There are three main problems of physical education teaching goals: First, physical education teachers often mistakenly equate the teaching goals with the students' learning goals when formulating teaching goals. Of course, there are many similarities between the teaching goals of physical education teachers and the learning goals of students, but there is a difference between the two. If the physical education teacher equates the teaching goal with the student's learning goal, it will artificially weaken the guidance, motivation and evaluation functions of the teaching goal and make the teaching goal rigid. There are many social functions in school physical education, among which the most basic and important function is fitness. But this does not mean that school physical education also only has this function. The teaching research of many scholars at home and abroad shows that physical education can not only promote the development of people's physical health, but also promote the development of people's mental health and social health [5]. However, many physical education teachers are restrained by traditional physical education concepts and regard the promotion of students' physical health as the sole goal of teaching, but they ignore the mental health and social health development functions of physical education. At present, the society's requirements for students are increasing, which not only requires them to have a healthy physique and rich professional knowledge, but also requires them to have good psychological, political and moral qualities. If the physical education teacher only pays attention to the physical and healthy development of the students while ignoring the mental health and social health of the students in teaching, it is bound to be unable to cultivate qualified talents who can meet the needs of the socialist economic development with Chinese characteristics in the new era. The third is that the teaching objectives are not clear. In teaching practice, the teaching goals set by many physical education teachers are very vague and unclear, and they only use the form of knowing, mastering and understanding, so it is difficult to judge the extent of the students' physical learning.

3. Exploring the path of school smart physical education

3.1 Promote the networking of the physical education environment and create a smart sports teaching carrier

The integration of smart sports into school sports teaching requires the realization of the network, information and intelligence of the sports environment. Specifically, the school campus network should cover teaching buildings, stadiums, libraries, laboratories, and dormitories on campus. The group coverage of the school campus network is the basic guarantee for smart sports, ensuring that physical education teachers can easily carry out online teaching in and out of the classroom, while students can easily communicate with teachers, watch physical education videos, and submit homework. At present, the introduction or independent development of sports network teaching platforms and online quality courses are the main measures for school sports to realize the networked education environment. At present, the vigorous development of cloud computing technology provides brand-new opportunities and challenges for school education resource sharing. The cloud teaching platform can integrate multiple services such as sports digital teaching materials, online courses, digital resources, and online teaching evaluation. At the same time, it can support services such as micro-classes, standard demonstration experimental courses, and comprehensive training systems for all teachers and students participating in the teaching provide comprehensive, cross-temporal restrictions and personalized school physical education services[6]. The smart sports classroom is a typical form of integration. The smart sports classroom is a modern teaching space supported by emerging technologies such as the Internet of Things, cloud computing and big data.

Smart sports classrooms have the following advantages: One is the advantage of content presentation ability. The smart sports classroom has a very powerful ability to present teaching information. It can not only clearly present the content of sports textbooks to teachers and students in the form of audio, video and graphics, but also the presentation method is very consistent with the cognitive characteristics of college students, which helps to enhance students' cognition and understanding of physical education teaching materials [7]. According to the characteristics of sports events, the content presentation of the smart sports classroom is mainly the presentation of visual content, such as presentation of technical movements that are difficult for students to learn and practice, and the use of skills and tactics of outstanding athletes in competitions. The second is the advantages of environmental management services. The space layout, teaching equipment, physical environment, electrical safety and network in the smart sports classroom are all manageable. The third is the advantage of resource acquisition capability. With the help of smart sports classrooms, physical education teachers can quickly prepare lessons in the cloud, view lesson plans and information, assign homework after class, and carry out teaching evaluations. Students can view their own sports test and examination results and their own exercise plan through mobile phones, tablet computers and other terminal devices, and watch instructional videos to complete their learning tasks. The fourth is the advantage of a timely interactive platform. In the smart sports classroom, human-computer interaction can be easily realized between teachers, students and smart devices, teacher-student interaction can be easily realized between teachers and students, and student-student interaction can be easily realized between students. Smart sports classrooms can enhance the efficient integration of the teacher-student church and the society. The smart sports classroom can solve three problems: one is to provide a platform for teaching activities such as school sports flipped classroom teaching method, blended teaching method and inquiry teaching method; the second is to record micro-classes, video lessons and excellent courses for physical education teachers. Curriculum provides a platform; the third is to collect physical education classroom teaching information in real time to enhance the convenience, accuracy and scientific nature of the teaching evaluation of physical education teachers.

3.2 Promote the informatization of sports teaching and research platforms and realize the standardized development of sports curriculum teaching

School education and teaching in the new era have been deeply branded with informatization. In this context, school physical education teaching research must also closely follow the trend of information development. The informatization of school physical education and research is characterized by openness, immediacy and sharing. Information technology guides students to actively explore sports knowledge and allows all students to enjoy the convenience of high-quality physical education resources. It emphasizes online and offline education to achieve school smart sports. Realizing the informatization of physical education and research is a necessary guarantee for teachers

to organize and carry out informatized physical education and research activities. In the information age, physical education teachers should make full use of the school's online teaching and research platform to actively participate in "on-site observation" and "online training" activities. For example, the teacher demonstrated on-site lesson examples with the theme of "cultivation of teamwork ability of basketball players". Students learn online with mobile terminal devices such as mobile phones and tablets, actively participate in classroom activities and conduct classroom presentations. During the teaching period, physical education teachers can not only conduct informational interaction with school students in the classroom, but also participate in the co-construction and sharing of teaching resources on the "cultivation of teamwork ability of basketball players" outside of class. Physical education teachers freely participate in the sports network teaching and research group, and carry out online lesson preparation, competitions, lesson evaluation and teaching research activities, so that the informationization of sports teaching and research is not only open and convenient, but also targeted and diversified.

Physical education teachers can create smart physical education curriculum teaching in the following three ways: One is to establish a physical education classroom monitoring system. The physical education classroom monitoring system is a set of integrated campus monitoring and modern physical education management system. The system adopts advanced network information support technology, which can monitor the teaching situation of physical education teachers and the classroom learning situation of college students in real time, and store the monitoring video in Campus Resource Center. The physical education classroom monitoring system can realize the functions of physical education on-site observation, examination room implementation monitoring and teaching evaluation, and can further improve the quality and level of school physical education. The second is to optimize the management of physical education classroom teaching. In the pre-class stage, physical education teachers can accurately analyze the students' learning conditions based on the analysis of college students' learning history data and pre-class preview; in the classroom stage, physical education teachers can fully understand students' real-time status through real-time evaluation and interactive communication in the classroom state, adjust teaching strategies in time; in the after-school stage, teachers can post extracurricular sports homework in the teacher and student WeChat group and QQ group. Students can upload their homework to WeChat or QQ groups in the form of text, pictures or videos. The third is to realize the refined analysis and management of students' physical education curriculum performance. Physical education teachers can use the student performance management system to conduct a comprehensive and meticulous analysis and management of the learning level and quality of the subject, and provide support for the next step of teaching and research work. The fourth is to reconstruct the physical education evaluation system. Physical education teachers' evaluation of students' learning should shift from traditional structural evaluation to process evaluation and targeted evaluation. At the same time, they should focus on the organic combination of evaluation, cloud computing and big data technology to form a brand-new physical education evaluation system. The fifth is to encourage students to choose courses and study independently. Physical education teachers should encourage students to choose their own courses through the online course selection system; through school websites, post bars, forums, WeChat groups and QQ groups, etc., they can learn about sports independently. The sixth is to innovate student self-learning management. Physical education teachers should actively explore new ways of managing students' personal network space and class learning communities.

3.3 Give full play to the advantages of big data technology and apply App to assist physical education

The development of cloud computing, big data technology and artificial intelligence has brought new opportunities for school physical education. Physical education teachers can realize the visualization of teaching data through the following ways: One is to guide teaching practice with intelligent data of student sports activities. Physical education teachers can use big data technology to construct "student sports activity big data" for students' sports classroom learning, extracurricular sports training and sports competitions. Then, the physical education teacher conducts a problem-oriented data difference analysis of the various physical activities of the students, and develops targeted and personalized teaching guidance for the specific problems of the students. Physical education teachers should promote the in-depth integration of students' physical intelligence and physical education. The second is the visualization of student physical health data. Schools can also open their own WeChat official account and set up a WeChat port on the physical health of students in it. After paying attention to the school's WeChat official account, parents of students can directly use the WeChat port to grasp the physical health of their children in real time. This is of great significance to parents who have not been able to see their children for a long time. On the one hand,

this can alleviate the anxiety caused by parents who are unable to obtain the physical health of their children for a long time. On the other hand, it can encourage parents to participate in school physical education, instantly discover details that teachers have not paid attention to, and strengthen the quality of school physical education. The third is to improve students' data literacy. Contemporary students generally have problems such as weak data awareness and low data skills. These problems greatly reduce the application value of intelligent data technology in school physical education. In view of this, physical education teachers should incorporate data literacy education into the physical education system, and incorporate data literacy education content into physical education curriculum teaching and practice.

Due to the limitation of school physical education teaching hours, the development space for students to participate in physical education is mainly outside the class. However, the enthusiasm of contemporary students for physical exercise is not high, and most of their time is spent out shopping, traveling, and staying in the dormitory to surf the Internet. There are many reasons for this phenomenon, including the single type of extracurricular activities in school physical education, lack of extracurricular sports guidance and other teaching management problems, as well as personal reasons such as students can't find a partner to exercise together, and their own exercise is too boring. The adoption of the school sports App can just solve these problems. Take the Sports World Campus App as an example [8]. The App is dedicated to providing portable sports services for school students across the country. It can design specific sports routes for students according to the campus situation of each campus in our country. Students can see the real-time data of their exercise through the App during exercise, and understand their exercise consumption. The App enables students to have real-time interactive communication on sports issues, and will not make them feel lonely. In addition, the participating experiential app will also push campus sports information from time to time, which greatly expands students' sports vision. In addition, the App also provides students with a large amount of sports music, so that they can always exercise with full enthusiasm. The APP function of Sports World Campus basically meets the physical and mental development needs of students' extracurricular physical exercises, and can significantly cultivate their autonomy and enthusiasm for extracurricular physical exercises, thereby greatly improving the quality of school physical education.

4. Conclusion

In short, in the period of technological innovation where big data, cloud computing, artificial intelligence and Internet of Things technologies are booming, school physical education should use smart sports reform and development ideas to improve the quality of physical education classrooms. This is both an objective requirement for school physical education reform in the new era. It will also be an important trend in the development of school physical education in the future.

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