Design of Personalized Sports Training Scheme Based on Big Data

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Abstract: In the era of digital economy, relying on big data technology to optimize personalized sports training scheme design is conducive to optimizing sports training teaching methods, monitoring students' health status in real time, and enhancing the effect of sports training teaching. However, at present, sports training still faces problems such as the need to improve teachers' abilities, insufficient content of sports training, and the need to stimulate students' participation in training. Therefore, it is necessary to follow the trend of digital development, improve teachers' ability to use big data technology to carry out sports training, enrich sports training content and stimulate students' learning enthusiasm by relying on big data technology, to lay a solid foundation for the improvement of students' sports training effect.

Keywords: Big Data; Sports Training; Scheme Design; Individualization

1. Introduction

As an important link of promoting students' physical and mental health development, sports training plays a positive role in promoting students' all-round development. However, at present, there are still problems such as lack of professional ability of teachers, single content of physical education, and weak enthusiasm of students, which become obstacles to the personalized development of physical education training, and the above problems are not conducive to improving the quality of physical education training and teaching. With the rapid development of the digital economy, the widespread application of big data technology can inject new vitality into the personalized development of sports training and promote the steady improvement of the quality of sports training and teaching. Therefore, this article proposes relevant solutions to address the problems faced by personalized development of sports training, providing useful references for schools and teachers to conduct personalized teaching of sports training based on big data.

2. The Significance of Conducting Personalized Sports Training based on Big Data

Firstly, the application of big data technology is beneficial for optimizing sports training and teaching methods. By using big data technology to carry out personalized sports training, teachers can break through the limitations of traditional teaching, promote the optimization of existing sports teaching methods, and build a solid foundation for the high-quality development of sports training. On the one hand, by utilizing big data technology to build an online teaching platform. teachers can interact and communicate with students in real-time, and promptly answer students' questions and confusion. Meanwhile, students can also share their learning experiences and insights with each other through online learning platforms, thus creating a positive learning atmosphere. On the other hand, the implementation of big data technology can promote a steady improvement in teaching quality. Specifically, teachers can use big data technology to convert students' athletic advantages and athletic status during physical training into digital records. By analyzing the results of teaching records, teachers can accurately monitor and make reasonable adjustments to physical training content, providing strong support for optimizing and improving teaching methods. Secondly, the application of big data technology is beneficial for strengthening the prevention and rehabilitation of sports injuries among students. Specifically, teachers can comprehensively observe students' exercise heart rate and breathing, historical injury records and other relevant data through the big

data monitoring system, accurately identify the movements or parts that students are prone to injury, help students adjust their exercise status, and make reasonable arrangements for strengthening students' personalized physical training. That is to say, teachers can collect students' exercise data through big data monitoring systems, accurately determine whether there are abnormal activity states in students' body parts or muscle joints, and make sufficient preparations for protecting students' health and physical training. In addition, the application of big data technology can provide personalized rehabilitation guidance plans for analyzing injured students by their rehabilitation data, and adjust rehabilitation plans in a timely manner to ensure that students can recover their health and return to the sports field as soon as possible.

Finally, the application of big data technology is conducive to improving the teaching effect of sports training. By using big data technology, teachers can accurately evaluate students' physical fitness level, sports skills and actual training results, timely find students' weaknesses and bottlenecks in sports training, and then timely adjust teaching strategies to maximize the effect of sports training. On the one hand, teachers use big data technology and visualization tools to analyze data such as students' movement trajectories and speeds. This is conducive to achieving a more objective, efficient, and accurate evaluation of students' physical training results. standardizing students' training movements in a targeted manner, and improving the overall teaching effectiveness of physical training. On the other hand, teachers can rely on big data technology to form a comprehensive report for students' phased sports achievements, and provide timely feedback and guidance for students on this objective basis, constantly optimize students' physical training plans and arrangements, and lay the foundation for significantly improving the teaching effect of personalized sports training.

3. The Existing Problems of Personalized Sports Training

First of all, under the background that China's education modernization has entered the era of education informationization 2.0, teachers are the main participants and practitioners in promoting informationization teaching, and their big data technology application ability and information literacy are the key to promote the digital transformation of campus sports training. However, it is worth noting that some physical education teachers not only have not vet established a personalized teaching awareness for sports training, but also have problems such as weak information awareness and insufficient ability to apply big data technology. Due to the lack of systematic training, many physical education teachers have a relatively insufficient understanding of new technologies and new environments, lack the ability to analyze and extract data resources, and still use traditional teaching methods to guide students in physical training. This is not conducive to giving full play to the empowering effect of big data technology in carrying out personalized sports training, and it difficult to effectively improve the is effectiveness of personalized sports training.

Secondly, in the process of conducting sports training, some teachers are still satisfied with traditional teaching methods and unwilling to actively try innovative methods brought by big data technology and other new digital devices. As a result, sports training items are relatively simple, which limits the development of personalized sports training and makes it difficult to meet students' personalized and diversified training needs.

Finally, some schools have unreasonable arrangements in terms of training intensity and density for sports training programs, which easily leads to psychological resistance of students, leads to the decline of students' training enthusiasm, and hinders the promotion of personalized sports training. In addition, some teachers tend to pay too much attention to whether the students' training results reach the standard or achieve a record breakthrough when implementing personalized training teaching, and lack encouragement and support for students with poor training results. It is easy to cause students to feel depressed, make students lose confidence in sports training, and affect the personalized development of sports training.

4. The Optimization Path of Personalized Sports Training Scheme Design based on Big Data

4.1 Improve Teachers' Information Literacy

and Ability to Apply Big Data Technology

In the era of digital economy, teachers are the main force in promoting the digital transformation of physical education and efficiently carrying out personalized sports training. Therefore, schools should strengthen systematic training for physical education teachers, adopt measures such as continuously optimizing training content and innovating training methods, in order to improve the big data technology application skills and information literacy of physical education teachers, and help them better carry out online teaching and organize remote teaching. In this process, schools should actively hire teachers or experts with rich practical experience to participate in the training of physical education teachers' information literacy, and create a training expert team that can adapt to the needs of digital reform in physical education and guide teachers' professional development, in order to comprehensively improve the application level of big data technology for physical education teachers. In addition, teachers should actively learn new technologies through channels such as teaching observation, business discussions, conference exchanges, and sports teaching information platforms, establish a lifelong learning awareness, and actively use big data technology to carry out personalized sports training and teaching activities.

4.2 Continuously Enriching Personalized Sports Training Content through Information Technology

It is necessary for teachers to actively apply big data technology to further enrich personalized sports training and teaching content, in order to meet the diverse needs of students for sports training, improve the quality of sports training and teaching, and promote steady development the of personalized sports training. On the one hand, schools and teachers should explore, organize, and classify online physical education teaching resources, use big data technology to build an online physical education teaching resource database, provide more abundant teaching resources and diversified teaching tools, and facilitate teachers' teaching and students' learning. On the other hand, teachers need to use virtual technology and smart wearable devices to simulate sports scenes, break through the limitations of real venues and equipment, improve the immersive experience of students participating in personalized sports training, and promote the development of personalized sports training teaching.

4.3 Utilize Big Data Technology to Stimulate Students' Enthusiasm for Training

The construction of multimedia facilities is an important guarantee and foundation for improving the teaching quality of personalized sports training and promoting the healthy development of students' physical and mental health, which can not only enrich the teaching means, but also stimulate students' interest in learning. Therefore, local governments should adjust and optimize the structure of education investment, encourage more social forces to participate in sports education investment, increase investment in the construction of multimedia facilities for sports teaching, and stimulate students' initiative to participate in personalized sports training. At the same time, physical education teachers should monitor students' stage training status through wearable smart devices, analyze students' average physical fitness values at corresponding age groups, adjust students' physical training projects, training time, and training intensity appropriately, develop a sports training schedule that is suitable for students' training characteristics, enhance students' confidence in sports training, stimulate their training enthusiasm, and promote the development of personalized sports training.

References

- Dong Yaqi, Zhong Jianwei, Ding Fei. Research on the Development Path of China's Sports Industryin the Era of Big Data [J]. Sports Culture Guide, 2018, (12): 76-81.
- [2] Dong Shibiao. Research on data mining technology applied to juvenile healthy sports behavior [J]. Modern Electronics Technique, 2017, 40 (09): 112-114+120.