Reform of PE Teaching Methods in the Context of Big Data

Junhua Lu[*]

Liaoning Institute of Science and Engineering Physical Education College, Jinzhou 121000, Liaoning China

*corresponding author 543748037@qq.com

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Abstract: With the continuous progress of information technology, big data technology has become increasingly important for the discipline construction, discipline reform, and discipline development of universities. Based on the current situation of physical education in China's colleges and universities, this article takes the reform of physical education teaching methods in the context of big data as the research content. First, it analyzes three problems in the current physical education education in China's universities. From the perspective of careful analysis of the application scope of big data technology in college physical education disciplines, again, from five different dimensions, the implementation strategy and path of big data technology in college physical education are discussed in detail. Through the discussion, it laid the foundation for the better application of big data technology in the future.

Introduction

With the rapid development of modern science and technology, more and more new technologies have been applied to the field of college education and teaching. New teaching equipment has improved teaching results, new data analysis methods have strengthened teachers' control over teaching quality, the development of new software systems has established a perfect interactive platform between teachers and students, and new teaching models have been given College education reform brings new momentum. Especially for the physical education disciplines of universities, based on the continuous improvement of information technology, consciously introduce the concept of big data, and use the effective tool of big data to promote the reform of in-depth teaching methods in the discipline.

1. Several Problems in Current Physical Education Teaching in Colleges and Universities

1.1 Traditional Teaching Methods Still Account for a Large Proportion.

For a long time, the teaching methods of physical education in China's colleges and universities have focused on skill teaching. Teachers play a leading role in education and teaching, and students are in the role of passive learning. Because there are obvious differences among individual students, it is easy to open obvious gaps in the understanding of technical actions, understanding of important knowledge points, and resolution of difficult topics[1]. Therefore, this teaching method is difficult to ensure stable teaching quality. Even though the sports discipline has made a positive adjustment, such as increasing the foundation and introduction of basic knowledge, in general, the overall teaching method still focuses on the management of students' daily education and teaching activities, and the scientific evaluation method is still Relatively lagging, the pace of reform is still relatively limited.

1.2 The Evaluation Method of Teaching Effectiveness is Relatively Simple.

The assessment methods and methods of physical education in China's colleges and universities are relatively simple. In addition to the classroom assessment of compulsory courses, there is also a combination of essay writing for elective courses or a mixed assessment method for general professional courses. Finally, students' scores are based on a percentage system, and weighted

arithmetic is used[2]. Although it is simple and straightforward, it can make the evaluation lagging, and human subjective evaluation will interfere with the results. From the perspective of work practice, students often question the evaluation results. Therefore, from the perspective of the current education and teaching reform, traditional teaching evaluation tools should be more diverse, and at the same time, they should be more scientific and rigorous.

1.3 Inadequate Emergency Response to Sports Safety.

Part of the teaching of physical education is related to outdoor training teaching. During the teaching process or training rehearsal process, the hidden danger of safety accidents will inevitably occur. Although physical education teachers will make the necessary safety protections at the scene, and at the same time, they will make corresponding emergency plans for some dangerous links, but this is mostly basic work based on work experience or industry norms, and cannot completely cover all dangers. Factors can not respond to all emergencies in a timely and effective manner[3]. On the one hand, if this disadvantage is not removed, it will inevitably affect the process of physical education teaching reform. On the other hand, hidden safety hazards directly affect the overall structure of physical education learning and teaching methods.

2. Analysis of the Application Scope of Big Data Technology in College Physical Education

2.1 Establish a Large Database Analysis System for Student Groups.

Using big data technology, physical education teachers can try to establish personal information files for all or part of the student group. Such information files can include the following aspects: First, the individual student's physical health index data. It can evaluate the basic conditions of students and make detailed records of the students' growth process. Second, the individual student's athletic ability index data. This indicator can monitor students' ability curve before and after exercise at the same time. At the same time, it can continuously explore the sports talents between different individuals to find more effective training paths. Third, the basic information of student family members. For some special circumstances students, you can try to focus on the care. By analyzing the physical conditions or family health of their immediate family members, the intensity and steps of their physical training are reasonably planned. Fourth, make detailed records of the student's growth stages while in school. Through a comprehensive evaluation of the changes in sports performance, classroom performance, and appeals, the students' overall cycle changes during school.

2.2 Perform Horizontal and Vertical Big Data Analysis on Audiences.

Due to the large number of people, in addition to the analysis of big data to support personal data, it is necessary to further analyze the group in a hierarchical, categorized, and phased manner[4]. Under the previous conditions, this was an unachievable goal. With the increasing level of information technology, the ability to collect, summarize, organize, analyze, and publish data has become stronger and stronger, making this idea change. For reality. The so-called hierarchical level refers to the targeted data collection of student groups of different ages, the investigation of sports preferences to find the commonality and personality of different levels of student groups, and the targeted revision and design of courses; The so-called categorization refers to the design of different groups of students with different personality characteristics. First, do a big data analysis of personality tests, and then do a classification and redistribution of personality types, so as to achieve subdivision of physical education; the so-called staged It refers to the flexible design made in consideration of the learning pressure of other disciplines in the design of teaching content. It can be designed in stages of the student's school learning cycle, and it can also be designed in stages of a school year or semester.

2.3 Tracking Analysis of Big Data for Teachers.

In addition to focusing on student groups, big data analysis can also be applied to the teaching teacher group. By using the method of big data, track the changes of the teacher in each stage of the

teaching process, and record the advantages and disadvantages of each teacher[5]. On the one hand, it can help the school to be more scientific and rational when making course arrangements. On the other hand, it can also Help teachers make self-correction in time and find their weak links for improvement. From the previous understanding, it is rare to apply big data technology to the teacher group itself. What we need to do in the future is to break through the traditional thinking, expand the application scope and dimensions of big data technology, and take a two-pronged approach to comprehensively improve the big data Technical value.

3. The Implementation Strategy and Path of Big Data Technology in College Physical Education

3.1 Predicting Big Data in Teaching Course Arrangements.

Make use of big data technology to make overall arrangements for teaching arrangements. First, in the course design and development of elective courses, we must fully understand the preferences of students, and comprehensively consider the school's ability to provide this course to assist decision-making; second, in the compulsory course schedule and teaching progress, we must strengthen the The scientific coordination ability of data technology, reasonably evading unreasonable teaching steps, and constantly optimizing the controllability of the teaching variables; again, in the structure design of non-core general courses, the special effects of big data technology must be combined to become a "fill-in duck" The transformation of education methods to "self-help" learning. For example: Basketball and aerobics courses often offered in colleges and universities can be more scientifically adjusted in the focus and direction of the course after big data analysis.

3.2 Do Big Data Coordination in Coordinating Teaching Resources.

At present, China's colleges and universities have limited physical education teaching resources. Whether it is teaching venues, equipment and facilities, teaching props, or technical research and development, software personnel, etc., can not meet the demand in a short time. Therefore, the coordination and distribution of teaching resources must be scientific and reasonable. The teaching plans that were previously made based on work experience or temporary adjustments will have some shortcomings. Today, the same teaching tools are not used through big data analysis and division of labor. Repeated purchases do not require full purchases of items that can be rented, and those that can integrate internal resources can maximize efficiency. Of course, if we open our horizons, the coordination of such teaching resources is not limited to schools, but also between colleges and universities, colleges and enterprises, colleges and organizations, colleges and individuals. Strive for balance.

3.3 Do Big Data Analysis in the Design of Teaching Links.

The design of the teaching link is a very delicate job, which can reflect the teaching style and teaching ideas of the teachers, as well as the teaching skills and teaching arrangements of the teaching teachers. If the design of the teaching links can better fit the student group The fundamental requirements of teaching must be very good; however, if the design of the teaching link is only based on the teacher 's own understanding and blind reference, then the teaching effect will be difficult to meet or exceed expectations. It can be seen that the teaching design must have a scientific design basis, and the big data analysis tool can help PE teachers achieve their goals well. The general breakdown is as follows: First, through the big data analysis of the student group survey situation, the "proportion" adjustment can be made to the teaching form to help teachers optimize the energy allocation of the teaching modules; second, through the Second survey, using big data method to re-decompose, to help physical education teachers make judgments on the use of teaching props in specific modules; third, to conduct detailed re-refinement of details using big data methods through three surveys of the content Physical education teachers do a better job of presenting content.

3.4 Do Big Data Assistance in the Optimization of Teaching Process.

With the increasing attention to teaching efficiency, the topic of teaching process optimization is getting more and more attention in the industry. The so-called optimization of teaching process refers to the streamlining or sequence adjustment at different stages of the teaching while completing all teaching tasks based on the unshakable overall teaching plan. Big data technology can provide necessary assistance for teaching process optimization, which is reflected in: first, big data technology can timely evaluate the activity value of students at various stages, so as to evaluate the average and total activity level of the overall teaching; second, big Data technology can achieve the function of time statistics in each process segment. Through statistics, nodes that can identify the time loss can be optimized and improved. Third, big data technology can find the original process in time by comparing and analyzing sample data. Differences from the new process to facilitate subsequent improvements.

3.5 Do Big Data Tracking Guided by Teaching Objects.

Some of the subjects of physical education are students in sports majors and students in other majors. Therefore, the differences between them are quite obvious. Take the non-sports student group as an example: In order to guide the students 'ideological awareness, a questionnaire survey can be conducted through the big data platform. After analysis, the students' thoughts can be corrected in time. Demonstrate big data cases to assist students in planning their daily behaviors; in order to strengthen students' autonomous learning habits, interactive links can be made through the big data platform to connect local peripherals, latest developments, forum exchanges and other information to form a "timed card "Habits, gradually help students develop endogenous motivation in accordance with the requirements of physical education teachers. There are many similar ways and methods, and physical education teachers can make further progress according to the actual situation.

Conclusion

At this stage, the reform of China's college physical education teaching methods has achieved obvious results in many aspects. Whether it is the satisfaction of the student group or the praise of the community, it has confirmed the effectiveness of the reform. But at the same time, we are also soberly aware of the big data gap in physical education reform. This gap is not only a gap in technology research and development, but also a gap in overall management. The item-by-item dismantling of physical education teaching methods can help us to implement the big data technology better. In the future, the reform of college physical education teaching methods in our country will inevitably enter the deep-water area. The topics around the development, use, optimization, and transformation of big data technology will continue to deepen. It is expected that the technological revolution will bring more positive changes to physical education.

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