

# Research on Comprehensive Reform of School Physical Education——From the Perspective of Big Data and College Physical Education Innovation

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**Abstract:** Big data is called bulk data and cannot be collected, saved, and analyzed using traditional data. The field of learning and analysis has always appeared in new reports. In recent years, the flood of big data has received much attention. The purpose of this study is to examine the context of learning analysis, which is the branch of big data that applies to physical education courses and their possibilities, and finds ways to improve them.

## 1. Introduction

Science and technology are the primary productive forces, and the process of human social development is accompanied by the reform and innovation of science and technology. With the development of Internet technology, the era of big data has gradually evolved, and the application of the era of big data in contemporary sports has gradually emerged. Especially for teachers and students, traditional sports are also facing new opportunities and challenges. Based on the data method, this paper analyzes the current situation of college sports development from the perspective of big data, and discusses the value of big data open, interactive and large-scale network.

## 2. The era of big data

In the era of big data booms, we are experiencing unprecedented changes in the field of business data analytics that have generated growing interest in advanced big data tools and technologies. Some people refer to these new developments as data superstitions, while others refer to data flooding as more accurate descriptions. The extreme enthusiasm for big data analytics is reasonable because the digital data in the universe doubles every two years and the scale of useful business-related data continues to grow exponentially. In fact, about 90% of the digital data available today is generated in the past two years. Data diffusion, algorithmic advancements, and the convergence of more powerful computing and storage facilities open up new possibilities for data to transform into business insights, decisions, and actions. Based on these trends, organizations are racing to keep up with changes and take advantage of the benefits of embedding useful information in large amounts of data. In this regard, the adoption rate of popular big data analytics tools is rising in every major industry.

## 3. The application status of big data and data mining in college physical education

In the past 10 years, China has been the world's highest Internet access rate holder, witnessing the digitalization of many areas with the explosive growth of digital data, and it is expected that the number of data around the world will be expanded to 35zb by 2020. Exceeding the capabilities of existing data technologies. The use of these digital data creates various values, especially the creation of new numbers. The use of "big data" information and value is becoming an important factor in the competitiveness of countries and companies. Big data is a bulk data tool that cannot be collected, saved, and analyzed using traditional data analysis. In this context, various attempts to use big data in education are under way around the world. For example, many schools in the United States are developing data-based decisions that include individual student education data to improve

their academic achievement. Analysis of student data The academic achievements of a public school in Atlanta, USA, indicate that mathematics is such the most important subject, the greatest impact on graduation rate or academic achievement, and those who perform well on this topic are also on the subject of creative writing. well-done. This kind of learning analysis is also beginning to be researched in the field of big data, showing areas of interest for future careers, as well as educational programs for specific students, and providing personalized learning in view of the fact that it provides personalized learning methods and information. .The purpose of this research is to examine the learning environment, a branch of big data, apply to physical education courses and their possibilities, and find out how to improve them.

#### **4. The value and help of big data in college physical education**

Recent technological advances have revolutionized the way we collect, store and manage information. The digitization of our world has also greatly increased the amount of data we collect. Everything we do, including teaching sports professionals, creates a digital trace that is likely to be analyzed. Big data technology can be used to extract, manage, analyze, and interpret massive data sets and turn them into meaningful assumptions that can inform the practice. At present, the sports professional education is experiencing the interesting new possibility of “big data and analysis”. Big data is very important for educators and learners because it has the potential to revolutionize physical education policy, research and practice.

#### **5. Reflections on the combination of big data and college sports education innovation**

##### **5.1. Optimize student physical statistics and customize personal physical exercise programs**

The world is beginning to enter the era of big data, including sports, and we need to "innovate" our basic lives, work and ideas at the same time. At present, more and more industries and fields are beginning to look for opportunities in the era of explosive data growth. It is necessary to consider the fundamental changes in sports science research so that sports science can take on new vitality and occupy a place in the era of big data. In the era of big data, big data not only represents innovation, but also represents the revolution of people's thinking. In sports science, random sampling based on "small data", accuracy, causality, etc. has always been a very common idea. Basically, most searches and research answer a question, why it is the opposite of "big data thinking". “Now, the most important thing is that people can largely deviate from the pursuit of causality and focus on the discovery and application of relationships. Colleges and universities provide information systems related to learning. One-way learning information is initially added to the chart for log information analysis and other user data. The log data that appears in the platform is used to learn software. The software is a very technical data format. Usually, the log data is used to perform analysis work of software-related data, but not the information provided to the end user after processing, such as teachers and Learners use visual formats such as tables, graphics, and more. Learning analytics instruments have the ability to visualize log data to make it easier for individual users or groups to understand them. Therefore, it is necessary to implement the real-time status of the learner. The learner can decide on the adaptive technique. With a large number of data samples, we are able to optimize the physical performance statistics of each student to customize the rationality for their personal physical exercise program and maximize the pursuit of physical education.

##### **5.2. Change the way teachers think and cultivate innovative sports education talents**

We need to improve the lack of sports big data talent, the human factor is the key to the success of sports big data strategy. From a technical point of view, managers should be able to understand big data technologies and explain the conclusions of big data analysis. In administrative terms, practitioners must develop workable solutions to problems and use sports big data to ensure that they do not exist when solving problems. New question. These requirements require the learner to acquire the big data skills of sports science from a complex system perspective and to think

systematically, and to observe the relationship between big data and the sports industry. The scarcity of these talents will limit the development of sports big data, so it is imperative to cultivate talents who are good at using big data. The prediction technology of big data is likely to be realized through the development of big data. This is the case with learning analysis. By analyzing the data, it is possible to predict the level of a specific learning process such as predicting a student's academic achievement, and predict the learning method through learning style analysis. For example, a teacher can remind learners to analyze dangerous situations through predictions and can guide students through the average or excellent level of approach. Now, the surest way to determine whether to pass an overall assessment is to determine how to take the exam when you start learning. However, this approach has limitations that reflect state information and learning. Therefore, it can be predicted that more efficient analysis methods are determined based on real-time learning states and levels. The purpose of the technology is to provide the most appropriate level and attention to the subject information, to provide the necessary skills and information, to understand specific topics, and to provide the following steps as a consideration of the learning process. These adaptive learning analyses will provide student-led learning that will be enhanced. Results study. Physical education teachers need to understand big data technology, be able to explain the conclusions of big data analysis, develop a workable solution for students' problems, and ensure that problems are solved using sports big data.

## 6. Conclusion

Big data is a powerful subject area that stems from the disciplines that routinely collect and analyze large amounts of data, such as genomics, astronomy, and meteorology, and can be applied to other disciplines, including health and education. Big data is described as a hypothetical generation machine and the most important technology trend of our time, using computers to transcend human limitations. It is widely believed that the more structured and unstructured data an organization can access and analyze, the more complex its decision-making process becomes. This superior insight is thought to lead to better performance, reduced risk and increased efficiency. The university fully recognizes the opportunities and changes brought about by educational innovation in the era of big data, accepts big data thinking with a positive attitude, formulates long-term plans for the application of big data education, introduces implementation rules and systems, and suggests that it can adapt to educational innovation in the era of big data.

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