Practical Problems and Reform Strategies of Physical Education Models in Universities from the Perspective of Informatization

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Abstract: Although information technology has been widely applied in physical education (PE) in universities, the model of PE in universities still faces many challenges. Some teachers are not proficient enough in using information technology teaching methods, and the construction of information technology teaching resources is not yet perfect, which limits the further application of information technology in PE. The problems of single teaching mode, uneven distribution of teaching resources, insufficient application of information technology, and lack of comprehensive quality cultivation also urgently need to be solved. In order to promote the healthy development of PE in universities, it is necessary to deeply analyze the root causes of the problems and strengthen reform and innovation. Specifically, we should promote the diversified development of teaching modes, strengthen the construction of PE teaching staff, improve the allocation of PE resources, and promote the deep integration of informatization and PE. By implementing these reform strategies and suggestions, a solid foundation can be laid for cultivating sports talents with comprehensive qualities and information literacy, and the innovative development of university sports education models can be promoted.

1. Introduction

With the rapid development of modern information technology, informatization has become an important driving force for the transformation and upgrading of various industries, and PE in universities is no exception[1]. In the perspective of informatization, the reform and development of PE models in universities is particularly urgent. This not only relates to the improvement of information literacy of sports major students, but also comprehensively deepens the management of school PE work, the utilization of teaching resources, and the reform of teaching methods[2].

The development of information technology has brought unprecedented opportunities and challenges to PE in universities. The traditional PE teaching model is often limited to face-to-face classroom teaching, with relatively limited teaching resources and a single teaching method, making it difficult to meet the needs of the information age. The widespread application of modern information technology, such as big data, cloud computing, artificial intelligence, etc., provides a broader teaching platform and rich teaching resources for PE in universities, enabling the form and content of PE to continuously expand and innovate[3].

In the perspective of informatization, the reform of PE models in universities is imperative[4]. By introducing information technology teaching methods, such as multimedia teaching and online teaching, we can break the limitations of time and space, and achieve remote, personalized, and intelligent PE. This not only helps to enhance students' interest and enthusiasm in learning, but also effectively enhances teaching effectiveness. The application of information technology can also promote the modernization and refinement of school sports management, improve management efficiency and quality[5].

The reform of the PE model in universities is not achieved overnight. Many universities still face many problems and challenges in the informatization of PE. The information literacy of some PE teachers in universities needs to be improved, the integration and utilization of information technology teaching resources are not sufficient, and the construction and operation of information technology teaching platforms are not perfect enough. These problems have hindered the in-depth

development of informationization in PE in universities, and it is urgent to solve them through reform strategies. Universities should formulate practical and feasible reform strategies. Firstly, strengthen the training and improvement of information literacy for PE teachers, so that they can proficiently master and flexibly use modern information technology in teaching. Intensify the integration of information technology teaching resources, establish a rich and diverse library of PE resources, and provide more convenient teaching services for teachers and students. We should also improve the construction and operation of information technology teaching platforms to ensure their stability, security, and usability, and provide strong support for PE teaching[6].

The reform and development of PE models in universities from the perspective of informatization is a long-term and arduous task. By deepening reforms, enhancing information literacy, integrating teaching resources, and improving teaching platforms, we are expected to promote the comprehensive upgrading of PE models in universities, laying a solid foundation for cultivating sports professionals with information literacy and innovative abilities[7].

2. The current situation of PE models in universities from the perspective of informatization

2.1. Basic characteristics of current PE models in universities

Under the perspective of informatization, the current situation of PE models in universities is undergoing unprecedented changes. With the rapid development of information technology, PE in universities is no longer a traditional and single classroom teaching, but is developing towards informatization, diversification, and personalization[8].

The application of information technology has made the teaching modes of PE in universities increasingly diverse. The application of information technology teaching methods such as multimedia teaching and online teaching has made PE teaching no longer limited to traditional classroom environments, and students can learn anytime and anywhere. Through technologies such as virtual reality and augmented reality, students can practice in simulated sports environments and improve their learning outcomes.

The personalized characteristics of PE models in universities are increasingly prominent. In the context of informatization, every student can engage in personalized learning based on their interests, abilities, and needs. Teachers can develop personalized teaching plans and provide differentiated teaching services based on the actual situation of students. This personalized teaching model can better meet the needs of students, enhance their learning interest and enthusiasm.

Although the PE model in universities has made significant progress in the field of informatization, there are still some basic characteristics that need attention [9]. PE in universities still emphasizes practical teaching. PE teaching is not only about learning theoretical knowledge, but more importantly, mastering practical skills. Therefore, while informatization is being applied in PE in universities, it is still necessary to emphasize the importance of practical teaching to ensure that students can master skills in practical operations. College PE also focuses on cultivating students' comprehensive qualities. In addition to learning sports skills, PE in universities also focuses on cultivating students' comprehensive qualities such as teamwork and communication skills. The cultivation of these qualities is of great significance for the future career development and social adaptability of students.

The current situation of PE models in universities from the perspective of informatization presents diverse and personalized characteristics, while also requiring attention to basic characteristics such as practical teaching and comprehensive quality cultivation. In the future development, universities should continue to deepen reforms, promote innovation and development of PE models, and make greater contributions to cultivating sports talents with information literacy and comprehensive qualities.

2.2. Application of Information Technology in PE in Universities

The current situation of PE models in universities from the perspective of informatization is undergoing unprecedented changes and improvements. With the rapid development and

popularization of information technology, PE in universities is no longer a traditional and single classroom teaching, but is developing towards informatization, diversification, and intelligence.

The application of information technology in PE in universities is becoming increasingly widespread. Multimedia and online teaching have become important components of PE teaching in universities. Teachers can present abstract sports theory knowledge to students in a vivid and interesting form through creating exquisite courseware and uploading teaching videos, thereby stimulating their learning interest and enthusiasm. Students can also engage in self-directed learning anytime and anywhere through online learning platforms, which improves the flexibility and efficiency of learning. Advanced technologies such as virtual reality and augmented reality have also been applied in PE in universities. These technologies can simulate real sports scenes, allowing students to engage in practical operations in virtual environments, improving the effectiveness and safety of practical teaching. College PE also utilizes technologies such as big data and cloud computing to integrate and optimize PE teaching resources. By collecting and analyzing student learning and exercise data, teachers can have a more accurate understanding of their learning and exercise status, providing strong support for developing personalized teaching plans. At the same time, schools can also use this data for teaching management and decision-making, improving the scientific and refined level of teaching management.

Although information technology has been widely applied in PE in universities, there are still some problems and challenges. Some teachers are not proficient enough in using information technology teaching methods, and the construction of information technology teaching resources is not perfect enough. Therefore, universities should further strengthen information technology education training and resource construction, and promote the deep integration and application of information technology in PE in universities.

3. Practical problems in the PE model of universities

The actual problem of the PE model in universities is a complex and urgent problem that needs to be solved. With the progress of the times and the updating of educational concepts, PE in universities is facing many challenges, some of which are particularly prominent.

The singularity of teaching mode is a common problem in current PE in universities. The traditional PE teaching model often focuses on imparting and training sports skills, while ignoring the individual differences and interest needs of students. This model lacks innovation and flexibility, and cannot meet the learning needs of different students, resulting in a decrease in their interest in learning and unsatisfactory teaching results.

Uneven distribution of teaching resources is also an urgent problem to be solved in PE in universities. There are obvious differences in the allocation of PE teaching resources in some universities, and some schools lack sufficient venues, equipment, and teaching staff to meet normal teaching needs. This not only affects the quality of teaching, but also limits the further development of PE in universities.

There are still certain shortcomings in the application of information technology in PE in universities. Although information technology has been widely used in PE in universities, in the actual application process, some teachers are not proficient enough in mastering information technology and cannot fully play its role in teaching. Some universities still have deficiencies in the construction of information technology teaching resources, lacking high-quality multimedia teaching materials and online teaching resources, which restricts the application effect of information technology teaching methods.

PE in universities still needs to be strengthened in cultivating students' comprehensive qualities. PE is not only about learning physical skills, but more importantly, it cultivates students' comprehensive qualities such as teamwork and communication skills. However, in the current PE model, the cultivation of these aspects is often overlooked, resulting in students lacking necessary social skills and comprehensive qualities, making it difficult to adapt to future social development needs.

College PE still faces some management issues. Some universities lack scientific and

standardized PE curriculum, teaching arrangements, and assessment and evaluation, resulting in chaotic teaching order and difficulty in ensuring teaching quality. The existence of these problems not only affects the learning effectiveness of students, but also affects the overall image of PE in universities.

The practical problems in the PE model of universities involve multiple aspects such as teaching mode, teaching resources, information application, comprehensive quality cultivation, and management. In order to solve these problems, universities need to deeply analyze the root causes, strengthen reform and innovation, improve teaching models and resource allocation, improve the level of information technology application, focus on cultivating students' comprehensive qualities, and strengthen teaching management to promote the healthy development of PE in universities. Table 1 clearly shows the practical problems that exist in the PE model of universities.

Table 1 Actual Problems in the PE Model of Universities

Practical problem	Describe	Influence	Solution
Single teaching mode	Emphasis on skill transfer, ignoring individual differences and interest needs	Decline in learning interest and poor teaching effectiveness	Promote the diversified development of teaching modes and introduce innovative teaching methods
Uneven distribution of teaching resources	Insufficient venue, equipment, and teaching staff	Limited teaching quality and hindered educational development	Increase resource investment, optimize resource allocation, and ensure teaching needs
Insufficient information technology application	Teachers lack proficiency in information technology and teaching resources	The application effect of information technology is limited	Strengthen information technology education and training, improve the construction of information technology teaching resources
Lack of comprehensive quality cultivation	Neglecting the cultivation of teamwork and communication skills	Students lack necessary social skills and comprehensive qualities	Emphasize the cultivation of comprehensive qualities and strengthen the relevant curriculum design
Management problem	Lack of scientificity in PE curriculum design, teaching arrangement, and assessment evaluation	Chaotic teaching order and difficulty in ensuring teaching quality	Strengthen teaching management, improve scientificity and standardization

4. Reform strategies and suggestions for the PE model in universities

With the updating of educational concepts and the deepening development of PE, the reform of PE models in universities has become an inevitable trend. In order to improve the quality of PE and cultivate well-rounded sports talents, we need to propose practical and feasible reform strategies and suggestions based on the current problems.

We should promote the diversified development of teaching modes. The traditional PE teaching model often focuses on imparting skills, while ignoring individual differences and interest needs of students. We need to introduce more diverse teaching methods and tools, such as case teaching, group discussions, project-based learning, etc., to stimulate students' interest and enthusiasm in learning. We should also pay attention to the combination of practical teaching and theoretical teaching, so that students can master skills in practice and improve their comprehensive quality.

Strengthening the construction of PE teaching staff is crucial. Excellent PE teachers are an important force in promoting the reform of PE models. Universities should increase the training of PE teachers to improve their professional competence and teaching ability. Teachers should also be

encouraged to participate in scientific research activities and promote the innovative development of PE theory and practice.

Improving the allocation of PE resources is also an important part of reform. Universities should increase investment in infrastructure such as sports venues and equipment to ensure that students have sufficient space for sports activities. We should also optimize the curriculum and increase the variety and quantity of elective courses to meet the diverse needs of students.

Promoting the deep integration of informatization and PE is also an important direction for reform. Universities should make full use of modern information technology, such as multimedia teaching, online teaching, etc., to enhance the informatization level of PE teaching. By developing high-quality teaching resources and building an online learning platform, we aim to provide students with a more diverse and personalized learning experience.

The reform strategies and suggestions for the PE model in universities involve multiple aspects such as teaching mode, faculty, resource allocation, and information technology application. By implementing these strategies and suggestions, we can promote the innovative development of PE in universities and lay a solid foundation for cultivating sports talents with comprehensive qualities and information literacy. Table 2 clearly shows the strategies and suggestions for the reform of PE models in universities.

Table 2 Strategies and suggestions for the reform of PE models in universities

In terms of reform	Describe	Importance	Implementation strategies and suggestions
Diversified teaching modes	Introducing diversified teaching methods such as case teaching and group discussions, emphasizing the combination of practical teaching and theoretical teaching	Enhancing student interest and meeting individual differences	Promote innovative teaching models and strengthen practical teaching processes
Construction of Sports Teacher Team	Improve the professional competence and teaching ability of PE teachers, and encourage their participation in scientific research activities	Promote PE reform and improve teaching quality	Increase teacher training efforts and promote teacher research activities
Allocation of PE Resources	Increase investment in infrastructure such as sports venues and equipment, and optimize course offerings	Ensure that students have sufficient physical activity space and diverse learning needs	Increase investment in sports facilities, enrich course content and format
Integration of informatization and PE	Utilizing modern information technology such as multimedia teaching and online teaching to enhance the level of information technology in PE teaching	Provide a more diverse and personalized learning experience	Strengthen the construction of information technology teaching resources and build an online learning platform

5. Conclusions

Against the backdrop of the widespread application of information technology in PE in universities, we cannot deny the positive changes and achievements it has brought. However, as mentioned earlier, the reform of the PE model in universities still faces many problems and challenges. Some teachers are not proficient enough in using information technology teaching methods, and the construction of information technology teaching resources is not perfect enough. These problems limit the greater role of information technology in PE in universities. Universities should actively take measures to further strengthen information technology education, training, and

resource construction. By organizing specialized training and sharing sessions, teachers can enhance their mastery of information technology teaching methods, enabling them to better utilize information technology for teaching innovation. At the same time, universities should also increase investment in information technology teaching resources, build high-quality multimedia teaching materials and online teaching resources, and provide more abundant and convenient learning resources for teachers and students. The reform of the PE model in universities still needs to be approached from multiple aspects. We need to promote the diversified development of teaching modes, pay attention to the combination of practical teaching and theoretical teaching, in order to stimulate students' learning interest and enthusiasm. Strengthening the construction of PE teaching staff, improving the professional competence and teaching ability of teachers, is also the key to reform. Improving the allocation of PE resources and ensuring that students have sufficient space and resources for sports activities is also an important part of the reform. Promoting the deep integration of informatization and PE is the future development trend. Universities should make full use of modern information technology to build online learning platforms, develop high-quality teaching resources, and provide students with more personalized and diversified learning experiences. The reform of the PE model in universities is a systematic project that requires us to start from multiple aspects, strengthen reform and innovation, and improve the quality of education. By implementing effective reform strategies and suggestions, we can promote the healthy development of PE in universities and lay a solid foundation for cultivating sports talents with comprehensive qualities and information literacy.

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