Application of Information Technology in College Physical Education

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Abstract. With the continuous development of science and technology, modern information technology has also made remarkable progress. Social civilization has completed the transformation to an information society. Information technology has been widely used in all walks of life. While bringing convenience to people’s lives, It has also changed people's lifestyles and living conditions. Sports industry as an important part of society, the use of information-based teaching methods in college physical education is an inevitable trend. Based on this, this article conducts research on the application of information technology in college physical education. This paper conducts research through a combination of literature review method and experimental comparison method. By consulting relevant domestic and foreign materials, it summarizes the information technology in college physical education. The application methods and strategies mainly include: use of information technology to stimulate sports enthusiasm accounts for about 21.3%, use of information technology to develop thinking ability accounts for about 15.6%, use of information technology to break through the difficulty of action accounts for about 8.6%, improve the teaching level of professional teachers and Professional literacy accounted for 16.3%, innovative teaching models, production of micro-class videos accounted for approximately 22.1%, construction of online platforms, implementation of online interactions accounted for approximately 7.6%, and establishment of information-based teaching evaluation system accounted for approximately 8.5%. The feasibility of the application of information technology in college physical education. So as to provide a reference for the reform of college physical education in China.

Keywords: Information Technology, College Physical Education, Physical Education, Teaching Reform

1. Introduction
With the improvement of productivity and the development of science and technology, the information age has become an important feature of the 21st century. Advanced information technology can not only drive economic growth and promote the adjustment and reform of industrial structure, but also enhance overall national strength and international competitiveness.

In this paper, by studying the application of information technology in physical education to physical education in colleges and universities, the informatization of physical education in colleges and universities is integrated with each other, so that while innovating teaching methods, it can better help students master sports skills and sports methods and promote students. Improvement of comprehensive literacy.

This article first analyzes the current situation of physical education in colleges and universities, understands the current deficiencies of physical education in colleges and universities, then elaborate on the advantages and disadvantages of information technology in the application of physical education in colleges and universities, and summarizes the significance of physical education in colleges and universities By reviewing relevant materials, the method and strategy of the application of information technology in college physical education are summarized. Finally, the feasibility of the application method of information technology in college physical education proposed in this paper is verified by experimental comparison.

2. Proposed Method

2.1. Current Situation of College Physical Education

(1) Low teaching level

At present, the application of information technology is more and more extensive, but the application of information technology in education is not high, especially in physical education. The reason is that the promotion of China's basic information education mode is small, and teachers' information awareness is insufficient. Therefore, informatization has not fully penetrated into education[1].

(2) Lack of teaching resources

In traditional teaching, the main purpose is to impart knowledge to students through textbooks. Without the carrier of textbooks, the teaching process will be forced to stop. The teaching is too limited and is not conducive to the creative play of teachers. Moreover, the knowledge in the textbooks is generally highly professional. It is difficult to learn alone without the guidance of teachers, and it is very difficult for students to learn. Nowadays, there are many students and few teachers. Generally, 20 to 50 students are assigned to one teacher[2].

(3) Limitations of informatization

In order to implement information education in the new era, information technology education is widely used in many single universities and comprehensive universities. Among them, most courses have already established the foundation of information education. Because it is a self-built information teaching system in universities, its role is slightly monotonous, and the role of information education
cannot be fully exerted. Some sports instructors are not highly informatized and will only use simple teaching functions. In the case of limited information technology, physical education teachers, because of their effective level, do not make good use of the information-based education system, resulting in a decline in education\textsuperscript{[3]}.

(4) Inaccurate assessment methods

The assessment of student performance in traditional education mainly consists of final grades. The final grades of students can be said to represent the comprehensive performance of students in this semester. The results of one test to reflect the overall scores are one-sided and inaccurate. The student's performance is affected by a combination of many factors. The student's mood, mental state, physical condition, etc. will affect the student's performance. The student's performance will be affected to a certain extent on any aspect. The poor performance of students in this semester is very inaccurate, which will greatly hurt the confidence of students, students lose the motivation to continue to study the course, which is not conducive to the smooth progress of teaching\textsuperscript{[4]}.

(5) The teaching process is boring

In traditional physical education classes, many physical education teachers will formulate very detailed teaching plans, stipulate the teaching content of each class, without wasting precious time in the physical education class, educate students according to the requirements of the school and the country, and exercise the body of the students. Strengthen the willpower of students. However, many students report that they do not like to take physical education classes. Physical education classes are too painful and tiring, and they are not interested. The tasks assigned by physical education teachers are too heavy and difficult to complete. There is very little free time in class\textsuperscript{[5]}.

(6) Outdated teaching methods

The teaching content of physical education curriculum is the teaching of various sports knowledge, mainly the teaching of action essentials and skills. It is the task of physical education teachers to let students master the correct movement methods and standardized movements. The general steps of many traditional physical education teaching are that the teacher first demonstrates and then allows the students to imitate the teacher's movements. This teaching method not only has low teaching efficiency, but also students' absorption is not good, and the mastery of movements is not in place. A physical education teacher teaches a large number of students at the same time, it is certainly impossible to take care of every classmate\textsuperscript{[6]}.

2.2. Comparative Analysis of the Advantages and Disadvantages of Information Technology in Physical Education in Higher Vocational Colleges

(1) Advantages.

1) Broaden the knowledge level of students and improve their enthusiasm for independent learning

Comprehensive analysis of a certain knowledge point or a specific item from a full range of perspectives through modern technological means such as images and animations can enrich students' extracurricular knowledge, including the knowledge associated with classroom teaching, but not
involved in classroom teaching. Students' own knowledge of interest. In the teaching design, the main elements should be highlighted, the design colors should be coordinated and unified, and more network elements should be added to keep pace with the times in order to increase the enthusiasm of the students.

2) Real-time management of physical education through the collection of information data

The era of informatized data emphasizes the speed, accuracy and comprehensiveness of data. In the traditional physical education classroom teaching, for students who did not attend the class in time and absenteeism without reason, the physical education teacher can only contact the class teacher after the class to reflect the situation or the final sports performance, and the real-time mobile phone attendance will be transmitted in real time in the informationized physical education. The student attendance rate is on the information resource platform, and the manager such as the class teacher or the student management director can quickly and timely grasp the attendance of each student in each class, which is convenient for strengthening the management of physical education.

3) Informatized teaching can effectively improve the quality of physical education

Informatized teaching can run through physical education: teachers arrange tasks before class, students can easily and quickly obtain relevant content through the information resource platform, and preview the teaching content; teachers in the class use text, pictures, animation, video, audio, etc. Integrate to form information resources with clear objectives, detailed and rigorous content, novel forms, and scientific evaluation to show students the content of classroom teaching; after-school students can learn sports resources for sports competitions and associations on the information resource platform to make sports courses The teaching has been greatly expanded, which has an important role in promoting lifelong sports habits.

(2) Existing problems

1) Schools do not pay enough attention to informatized physical education

Schools often invest more energy in key disciplines and departments, and physical education courses are public courses, which cannot be compared with the school ’s key departments and disciplines. The state stipulates that sports funds are allocated according to the average ratio of students, but often schools do not invest in sports courses strictly in accordance with the prescribed ratio when allocated, and lack of financial support directly affects the hardware construction and software development required for sports informatization.

2) Informal physical education takes the formal route

In the actual operation process, due to the weak knowledge reserve of many teachers, the lack of formal system information operation training, resulting in insufficient ability to process and use information processing, lack of due information technology teaching ability reserve, just simply copy and paste book knowledge In the PPT, a set of informatized teaching is formed simply and without rules.
2.3. The Significance of Experiential Teaching Method in Higher Vocational Physical Education Under Information

(1) Provides possibilities for the diversification of physical education curriculum

Teachers can rely on information technology to actively explore new teaching methods. For example, during lesson preparation, teachers can search for teaching resources on the Internet and play them in theoretical lessons to enhance students' understanding of knowledge; when explaining and sharing textbook theories, teachers use information technology to enhance students' interest in learning; in teaching practice, using multimedia and other auxiliary means to play videos related to classroom knowledge for students. All these can help teachers impart knowledge to students in vivid form, stimulate students' interest in learning, help teaching, improve teaching quality and effectiveness of physical education.

(2) Help teaching and improve the quality of physical education

The organic combination and reasonable application of information technology and physical education can not only provide teachers with a variety of teaching methods, transform traditional teaching methods, enrich teaching resources, but also broaden students' thinking and liberate students' thinking from books. Come out, make teachers change their thinking, take the initiative to students, take students as the main body, according to students' actual needs and development directions, closely follow the teaching requirements, carry out more targeted physical education activities, strengthen students' understanding of knowledge, and improve practice level to achieve the effectiveness of physical education classroom teaching.

3. Experiments

(1) Literature review method

This article summarizes the relevant information of this paper by referring to the relevant domestic and foreign materials and the current status of physical education in our country, analyzes the current advantages and problems of physical education informatization in colleges and universities in China, and summaries the significance and significance of informatization of physical education in colleges and universities. The direction of future development.

(2) Experimental comparison method

This paper compares the information-based physical education teaching experiments between two classes in a university. The two classes are almost the same in terms of the number of people and the ratio of men to women. They have no statistical significance. Set as an experimental group, another class uses traditional teaching methods for physical education, set as a control group, the experimental period is one semester, the assessment method is sports testing, including: track and field, artistic gymnastics, two-level leapfrog, triangle obstacle running and For shot put, the average grade of the class is used as the experimental analysis data.

4. Discussion
4.1. Methods and Strategies of Application of Information Technology in College Physical Education

This paper summarizes the methods and strategies of the application of information technology in college physical education by referring to relevant domestic and foreign materials, extracting the information related to this article, and summarizing them. The specific information is shown in Table 1.

**Table 1. The Methods and Strategies of the Application of Information Technology in the Physical Education of Colleges and Universities**

| Serial number | Method                                           | Proportion |
|---------------|--------------------------------------------------|------------|
| 1             | Using information technology to stimulate sports enthusiasm | 21.3%      |
| 2             | Using information technology to develop thinking ability | 15.6%      |
| 3             | Using information technology to break through movement difficulties | 8.6%       |
| 4             | Improve the teaching level and professional quality of professional teachers | 16.3%      |
| 5             | Innovating teaching mode and making micro class video | 22.1%      |
| 6             | Build network platform and realize online interaction | 7.6%       |
| 7             | Establish an information-based teaching evaluation system | 8.5%       |

It can be seen from Table 1 that, by referring to relevant domestic and foreign materials, the methods and strategies of the application of information technology in college physical education mainly include: the use of information technology to stimulate sports enthusiasm accounts for about 21.3%, and the use of information technology to develop thinking ability accounts for about 15.6%. Using information technology to break through action difficulties accounted for about 8.6%, improving the teaching level of professional teachers and professional literacy accounted for 16.3%, innovative teaching models, making micro-class videos accounted for about 22.1%, building a network platform to achieve online interaction accounted for about 7.6% And the establishment of information-based teaching evaluation system accounted for about 8.5%.

(1) Use information technology to stimulate sports enthusiasm

In the teaching process, teachers can use information technology pictures, text, sound and other presentation forms, combined with the teaching content to create a certain teaching situation. In this way, the course content can become more intuitive and vivid, thereby increasing the attractiveness of the teaching content to students. Only in this way can we create good prerequisites for the smooth progress of classroom teaching.
(2) Use information technology to develop thinking skills

In the teaching process, teachers can use multimedia to make the key points, difficulties, and mistakes of some action essentials into courseware for students to analyze, so as to cultivate students' ability to find and solve problems. Undoubtedly has a very positive effect.

(3) Use information technology to break through the difficulties

In physical education, students' physical foundation and physical comprehension are different, and this kind of action demonstration method cannot be applied to all students. To this end, teachers can use information technology to give some more targeted explanations, in order to promote students' mastery of motor skills.

(4) Improve the teaching level and professional quality of professional teachers

Colleges and universities should conduct special training for higher education physical education teachers to form a training team, and these teachers will effectively train other teachers to save training funds and improve training efficiency. Teachers should be proficient in information technology and high-quality sports professional knowledge, improve their own information quality, and promote the development of modern sports information basic education.

(5) Innovative teaching mode, making micro-class video

Combining informatization methods with traditional teaching advantages and enriching teaching methods can better improve the effect of physical education. In terms of micro-classes, it has been widely used in the field of education and achieved remarkable results. Therefore, physical education teachers can incorporate micro-class video into physical education.

(6) Build a network platform to achieve online interaction

Physical education teachers use information technology to establish interactive platforms, and regularly push interesting sports news, materials and sports development trends to students on the platform. Students can read sports materials independently according to their own interests and preferences, and deepen their mastery and understanding of sports disciplines. At the same time, students can also communicate around sports news and express their opinions.

(7) Establish an information-based teaching evaluation system

When conducting physical training for students, physical education teachers should pay attention to the scientificity and rationality of teaching evaluation, and help students to gain confidence and master better sports skills through encouraging language and information. In this process, teachers can record the students' performance in sports practice as a video and show it to students in the sports class. Guide students to observe their performance in sports, analyze and think about their own deficiencies in sports, so that in future sports, we can target weak links and carry out targeted training.

4.2. Experimental Analysis

This article compares the information sports teaching experiment of two classes in a university. The
experiment period is one semester. The assessment method is sports test, including: track and field, rhythmic gymnastics, two-level leapfrogging, triangle obstacle running and shot put. The statistical results are shown in Figure 1.

![Figure 1. Experimental Statistics](image)

It can be seen from Figure 1 that the experimental group has increased 25.3% in track and field test results, 32.9% in artistic gymnastics, 20.0% in the second-level leapfrog test, and 3 levels in the hurdle test. It has increased by 29.2%, and it has increased by 18.4% in the shot test. Classes using information technology in physical education are better than the control group from the overall data, which shows that the application of information technology discussed in this article in college physical education Feasibility of methods and strategies.

5. Conclusion

The rapid development of information technology has driven the reform of working modes in various industries and significantly improved people's work efficiency and accuracy. This paper explores the application of information technology in college physical education and uses modern information technology for physical education To change the traditional teaching ideas of physical education teachers, introduce new teaching methods, improve the quality of physical education teaching, and improve the physical fitness of students.

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