Analysis on the Teaching Reform of College Physical Education Informationization Based on Computer Technology

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Abstract. At present, the domestic applied undergraduate colleges and universities are still in a relatively closed state in the aspect of physical education teaching informatization. From the current situation of the application of physical education informatization in colleges and universities in our country, there are the following problems: physical education teaching is basically at the end of the information teaching reform because of its lack of understanding and insufficient attention, and the information physical education teaching means can not shake the position of the traditional physical education mode. The help of funds, manpower and material resources to information physical education teaching is not in place, the subjective consciousness of teachers is insufficient, and it does not play a positive role in the application of informatization in physical education teaching. In the process of physical education teaching in colleges and universities, the content is outdated and the teaching process innovation is insufficient, resulting in many information teaching means and resources do not serve the physical education teaching in colleges and universities well. In order to make better use of information technology in teaching work, this article discusses the application and development of computer technology in college physical education.

Keywords: Colleges and Universities, Physical Education Teaching, Information Technology, Application

1. The connotation and application of the information of sports teaching

1.1. The connotation of physical education informatization
The informationization of physical education teaching refers to the fact that in physical education teaching, teachers can realize the digital experience of characters, images and senses in the learning process with the help of information teaching facilities and techniques, and change the teaching link from simple memory of action to knowledge understanding memory, realize the good interaction between the two sides of teaching, improve the teaching quality and efficiency, and enhance the student' physical quality.

1.2. The present situation of the application of the information of physical education

1.2.1. Information of physical education
In the internet age, the production of the animation short film has been repeated many times, and the use of the animation form to make the courseware is also the inevitable requirement of the university teachers to
keep up with the times with the development of the times. The physical education teacher can use the network self-media to spread the sports knowledge, and combine the animation video with the physical education teaching to complement each other. To strengthen the cooperation among the university teachers, in the course of the content, the professional art teacher can be asked to draw the professional action and the attention note in the physical education in the form of a cartoon, and the important technical action can be explained by writing or enlarging a specific angle, So that the students can deepen the understanding in the practice activity. In the course of teacher preparation, the clip process the teaching video, the students in class can play the study, the content experience in the form of animation can more deepen the memory. The appearance and application of the Internet sports caricature can make the students better learn the technical action, improve the interest of the sports, and enhance the application effect of the sports information in the teaching. With the continuous updating of the application software of physical education and the combination of the information technology and the traditional sports teaching, the university sports information education will make great progress. For example, using the sports class App software, the teacher recorded the professional exercise warm-up protection action, the course practice video, and the setting of the healthy exercise time and the calorie consumption. For example, through the sports teaching video, open the open experience class, can make the students know each particular sport well, choose course according to the conditions of their own.

1.2.2. Informatization of big data Analysis on physical Health Monitoring
Students’ physical quality is the basis of physical education teaching. College teachers should pay more attention to this kind of problems in the teaching work in order to ensure that students can achieve the ideal effect in the teaching process and get twice the result with half the effort. The development of informatization promotes the collection and analysis of big data in physical health monitoring of students in physical education. First of all, vital capacity, blood pressure, heartbeat, height, weight and other indicators as important basic data, the data of students’ physical fitness are compiled and analyzed, and programmed to intelligent devices such as bracelets or ankles that students can easily carry. Secondly, under the network environment, students in the process of physical exercise, timely analysis of the exercise load data, according to the intelligent information equipment to display the information of students’ physical condition, on the basis of which to adjust the intensity of exercise and sports items, to ensure the smooth progress of teaching and students’ physical safety.

1.2.3. Information of sports competition training
According to the contents of teaching and training, teachers can make some simulated demonstrations of sports movements, standardized essentials, matters needing attention and so on. They can vividly display the boring teaching contents, and students can better understand the main points of knowledge and make the mastery of knowledge persistent. For example, the sports training software can simulate the whole trajectory of basketball throwing according to the relevant physical and mathematical theorem, so that students can understand the relationship between shooting angle, initial speed, shot height, air resistance and other factors in the process of throwing basketball. Through the understanding memory of the technical action, the students can adjust the shooting action according to these factors and master the basketball throwing skill thoroughly in the sports practice.

2. The restriction and countermeasure of the information development of physical education

2.1. The restrictive factors of the development of physical education teaching informatization
A total of 1000 questionnaires were issued, and 973 questionnaires were valid, with an effective rate of 97.3%. There are many restrictive factors in the development of PE teaching informatization, as shown in figure 1.
2.1.1. Imperfection of infrastructure
In many colleges and universities, there is still the idea of emphasizing text instead of body, lack of understanding of the status of physical education teaching, insufficient investment in the construction of stadiums and gymnasiums, equipment renewal and related information infrastructure. The traditional stadiums or sports venues are not fully equipped with multimedia facilities and do not have the basic conditions for the application of information technology in physical education teaching. In addition, for students, the burden of multimedia learning using 4G traffic is large, and the school wireless network coverage does not meet the outdoor physical education teaching. This is mainly because the sports related information construction investment is large, the policy support strength orientation is not clear.

2.1.2. Teachers’ ability to apply information technology needs to be improved
As the main body of teaching informatization, the cognition and operation proficiency of information technology directly affect the teaching quality. In the process of physical education teaching, the information means are excluded in the teaching team, and the subjective consciousness of physical education teachers in colleges and universities is not enough in the reform of information physical education teaching, so they still prefer to adopt the traditional teaching method, or think that the blind use of information teaching means will affect the teaching effect. Due to the limitations of various factors, physical education teachers in colleges and universities have less opportunities to participate in professional training and exchange, especially with the developed areas at home and abroad, the number of professional exchanges with colleges and universities is less, the teaching concept is stagnant, and the comprehensive quality needs to be improved. Affected by teachers’ own factors, the development of physical education information is slow.

2.1.3. Information physical education teaching resources to be vigorously developed
Throughout the software resource market, the professional sports software is less, and the update rate is slow. Most of the teaching software is only a single video resource, does not have more professional data analysis and other functions, and the software built-in charging function is not completely open. The lack of the cognition of the physical education resources in the society and the university has limited the input of human, financial and material resources. The pace of resource development can not keep pace with the demand of the upgrading of sports facilities and ideas, and the shortage of the information resources of physical education is restricted to the smooth development of the information on the teaching of physical education in colleges and universities.

2.1.4. Students’ passive learning habits
The passive learning of the students is a common problem in the teaching practice. In the traditional mode of physical education, the students in the passive listening course can not only master the knowledge points, but
also reduce the students’ interest in sports. Most of the students are just to cope with the exam, do not form a permanent sports study habit, let alone the persistence exercise, strengthen the idea of body.

2.2. Strategies for the development of physical education information

2.2.1. Actively improve the informatization of hardware facilities and site construction
The condition of facilities and auxiliary site is an important prerequisite for the smooth development of the information of physical education. The capital investment of the competent department is the main source of the construction of the site and facilities, including the mobile data collection and storage device, the wireless network equipment with wide coverage, the field and field electronic screen, the indoor teaching site computer, the projector and the like.

2.2.2. Vigorously improve the information technology application ability of physical education teachers
In order to promote the beneficial help of information technology to physical education teaching, physical education teachers in colleges and universities should master the application method of information technology skillfully. Colleges and universities should carry out targeted and professional training for physical education teachers, help teachers master physical education teaching software and information resources, and promote the deep integration of information technology and physical education teaching. Colleges and universities should provide a better platform for learning and communication, so that teachers can communicate, interact and learn with their counterparts in developed areas or with high quality information technology teaching[1-2].

2.2.3. Strengthen the development and application of physical education teaching resources
With the cooperation between teachers and the exchange of sports culture with professional and technical teams, colleges and universities and government departments should give full play to the service function of functional departments, provide a good communication platform and reward, promote the cooperation between schools and professional software development teams, jointly develop some practical physical education teaching software resources, and promote physical education teaching reform. The competent government departments and schools should also support the development of physical education information so that the information teaching resources of physical education can meet the teaching requirements.

2.2.4. Choose suitable learning content and attach importance to students’ physical health
The application of information technology in physical education does not mean that all physical education teaching contents should be mastered by students. The choice of learning materials should not be too arbitrary, only by choosing the appropriate teaching content for information teaching, can we produce a good "chemical reaction". In physical education teaching, the physical health of students can be limited monitored, the appropriate teaching objectives, teaching plans and curriculum system can be formulated, and the physical quality of students can be improved[3-4].

3. Conclusion
The extensive use of information technology in the field of education has promoted the teaching reform of colleges and universities in the "Internet +" era, and the teaching of physical education should be in accordance with the trend. In order to better improve the current level of physical health of college students, colleges and universities should actively adapt to the requirements of physical education under computer technology. Information is constantly increasing to help college students shape a healthy body[5-6].

References
[1] Li Yizhu. Investigation and analysis on the present situation of public physical education teaching in colleges and universities in Chongqing[D]. Chongqing: Chongqing University, 2010.
[2] Dong Bin. A preliminary study on the Application of Modern Information Technology in physical Education Teaching in Colleges and Universities [J]. Science and Education, 2008 (5): 31 / 32.
[3] Niu Jinping. An Analysis of the Informatization Teaching Mode of Physical Education in Colleges and Universities[J]. Journal of Henan University of Technology (Social Science Edition),
2005(02):86-87.

[4] Guo Guanghui. Analysis of college physical education based on the application of micro-class information teaching[J]. Journal of Hubei Technical College of Water Resources and Hydropower, 2015, 000(003):P.4-6.

[5] Shan Wenyong, Liu Lushuai. Research on Teaching Reform of Physical Education Informationization in Colleges and Universities[J]. Educational Science (Full Text Edition): 00081-00081.

[6] Li Xiaoguang. Thoughts on the modernization of college physical education under the conditions of informationization[J]. Business Intelligence, 2019, 000(005):120.