Research on Basketball Basic Technology Design Based on Computer Online Teaching System

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Abstract. With the reform and update of the education system, experts found that the performance of information-based online teaching system in schools is very excellent. With the gradual development of online teaching system, people have developed the education in the new era into a new mode of independent research and development of information education [1]. As a popular sport, basketball not only improves people's physical quality, but also carries forward the spirit of sports. On this basis, people plan to apply the online teaching system in the teaching of basic basketball skills. Firstly, This paper briefly describes the basic technology of basketball related concepts. Secondly, This paper also briefly describes the research level of online teaching system at home and abroad. Finally, this paper puts forward the strategy of constructing the online teaching system based on the basic basketball technology.

Keywords: Computer, Online Teaching, Basketball, Basic Technology

1. Introduction

As a ball game with a long history, basketball has a great impact on human entertainment culture. This kind of motivation supports people's love of basketball more and more. In many schools in China, most of the contents of physical education are related to basketball [2]. In the learning process of many ball games, the learning of basketball technical movements is more complex. It mainly depends on the long-term training of athletes. After the formation of muscle memory, athletes can master the technical essentials of basketball. According to years of teaching experience, basketball teaching can be divided into two different forms. The first is the teaching of theory. The second is the teaching of basic movements. Indeed, the learning of the second kind of content is much more difficult than the theory teaching (see Figure 1).

Nowadays, the progress of computer technology is very rapid. In today's era, people pay more and more attention to health. Many schools begin to regard physical education as an important teaching content. With the popularity of online teaching system, experts plan to use online teaching method to teach the basic skills of basketball. The emergence of online teaching system makes the traditional teaching mode and old teaching methods suffer a huge impact. However, the emergence of this kind of impact has the historical significance of the times. Although the online teaching system is still in the stage of theoretical research, there is no doubt that its emergence marks the significant improvement of domestic basketball culture.
2. Theoretical research on the definition and development stage of online teaching

2.1. Main domestic and international standards
In fact, online teaching system and network learning system are very similar. Its technical basis is information technology and Internet technology. In China, it is defined as a system that can be used for network learning by combining cloud computing and Internet technology. In foreign countries, it is defined as a network education system using information sharing system. According to foreign research, this system is made into smart mobile phone software.

2.2. A brief summary of the sources of online teaching
Online teaching originated from vocational training institutions in the United States. Its name abroad is online training system. Foreign scholars first used it in the staff training of enterprises. Its remarkable effect shocked scholars. After that, scholars continue to expand the application field of this technology. In recent years, because of its excellent application in campus training, people formally named it online teaching system.

![Offline teaching of basketball.](image)

Figure 1. Offline teaching of basketball.

2.3. Theoretical significance of online teaching
Generally speaking, human beings are very lazy. It's hard for us to control ourselves to learn all kinds of things. Autonomous learning is a difficult goal for us to achieve. The main purpose of online teaching is to help people learn autonomously. The study of network course breaks through the limitation of time and space. It can let people study all kinds of resources anytime and anywhere. It mainly emphasizes the autonomy and initiative of human learning.

2.4. Research on online teaching in Physical Education
With the implementation of the policy of education reform in recent years, many schools turn their attention to the cultivation of students' physical quality. On the basis of online teaching, people use computers to analyze sports technical movements. This kind of movement training helps students to solve the problem. Gradually, people integrate physical education and online teaching successfully. However, the popularity of this technology is still very low.

3. The design of computer online teaching system based on basketball basic technology learning

3.1. Preparation for system design
We should carefully consider the purpose of doing something before we do it. Before designing the online teaching system, we should also understand the goal of the system design. The internal...
courseware of the system must cover all the contents of the basic basketball technology course. In addition, it should also include the arrangement of network resources, the optimization of various formats and the cultivation of teachers’ information thinking. Facing the students' propaganda work is also very important.

3.2. Design of internal application layer of the system
Generally speaking, the network carrier of teaching system is the website of education type. The design content of application layer should include login function, teaching function and auxiliary function [3]. The login function mainly manages the user's login system and registration system. The teaching function mainly adopts the form of video learning to provide students with knowledge. Accessibility can be built according to the developer's ideas. Its interior can include many small functions.

3.3. Design of hidden management layer in the system
In the process of teaching website opening, developers and designers need to monitor all its behaviors. Therefore, the function construction of management is necessary. It can monitor all faults of the system. It can timely feedback these problems to technical personnel. Through the management system repair function, developers can repair the system failure in time to prevent the system crash. Therefore, the design content of management is system monitoring function and system repair function.

3.4. Design of resource layer in the system
The source of course resources in online teaching system is network resource database. The design content of resource layer in the system should include network resource database, personal resource database and resource search function. The network resource database can collect all kinds of basketball technology teaching content in the network. Personal resource library is a way of playing local resources provided by the system to users. The function of resource search mainly helps users search other kinds of video resources.

4. The design of the auxiliary function of the computer online teaching system for learning the basic basketball skills

4.1. The function of basketball movement analysis
The learning of the technical action of basketball is not accomplished in one move. Students need long-term training to form muscle memory before they can make perfect shooting action. In order to help students through this stage smoothly, the auxiliary function of online teaching system can be set as the analysis of students' basic movements. According to the video of students' technical actions, the computer analyzes the errors of their actions. On this basis, students can correct these mistakes in time (see Table 1).

| Function          | Features         | Advantages                  |
|-------------------|------------------|------------------------------|
| Technical action analysis | Data analysis | Finding students’ detail error |
| Animation Teaching | Video Explanation | Stimulate students' interest |
| Virtual combat    | live operational training | Training muscle memory |

4.2. Basic technology teaching of animation form
One of the disadvantages of the current indoor classroom is that it cannot improve the students' interest in basketball learning [4]. There is no doubt that this kind of classroom is a failure. In order to prevent the online teaching from happening, designers can design the basic basketball teaching course in the form of animation. The psychology of students is pure. Compared with the boring teaching form, they prefer animation interpretation teaching. However, the deficiency of this function is that the cost
of animation design is very high.

4.3. Simulation of basketball match supported by virtual reality technology
This form of online teaching is more suitable for contemporary basketball players. Computer can use virtual reality technology to create a virtual basketball court. Players use VR connector to enter the virtual world to simulate the actual basketball game. The coach can see the data analysis of each athlete's basic technology through the computer. According to the difference of actual combat experience of different athletes, the computer can put forward different training modes.

5. The advantages of learning basketball basic technology based on computer online teaching system

5.1. It can stimulate students' interest in basketball
The main purpose of online teaching system is to improve the awareness of self-learning of users. At the same time, it can use vivid and vivid video to explain different basketball skills in stages. This kind of explanation mode is very attractive in middle school education. Teenagers are tired of traditional classroom teaching. Therefore, the new online teaching system can stimulate students' interest in basketball.

5.2. It can find out the details of athletes
The computing power of computers is beyond doubt. The function of action analysis based on cloud computing is the most important auxiliary function of online learning system. According to the above description, it can detect the technical errors of each athlete. Generally speaking, these mistakes are very difficult for coaches to find out. Through the application of computer's powerful analysis ability, the problems that human eyes can't find can be found by computer.

5.3. It can help basketball develop
According to the statistics of the world sports committee, more than 80% of schools advocate basketball learning. It can be found that basketball has become popular all over the world. The application of online teaching system enables people to learn basketball technology anytime and anywhere. If the online learning system is shared around the world, it can transmit basketball culture to every corner of the world. Therefore, online teaching can carry forward basketball.

5.4. It breaks the feudal thought of traditional teaching
The traditional teaching idea is closed. At that time, people thought that the main body of teaching could only be teachers [5]. The traditional classroom takes the teacher as the center and ignores the existence of students. Online teaching system abandons the concept of physical teacher. It takes students as the center of the classroom, and it really serves students' learning. Its appearance broke the feudal thought of traditional teaching. Its appearance is epoch-making.

6. The problems that should be paid attention to in the learning process of basketball basic technology of computer online teaching system

6.1. The athlete's self-control is not strong
There is no doubt that the emergence of online learning system makes the learning of athletes full of fun. However, athletes with low self-control cannot accept this kind of learning. We can add an assessment system to the teaching system to help athletes control their learning time. The assessment system can be divided into two forms. The first form is online classroom assessment, which is mainly manifested as check-in. The second form is to upload the video of basketball self training after class.

6.2. Traditional classroom cannot be abandoned
Indeed, online teaching system has many advantages. After discovering its advantages, many people
think that we should abandon the traditional classroom teaching form. This idea is one-sided. There are many advantages and disadvantages of traditional classroom and online classroom. They have their own strengths. Schools should combine traditional classroom and online classroom effectively. Through the combination of the two, the school will provide better teaching of basic basketball skills to students.

6.3. Addition of system feedback mechanism
The establishment of online classroom can satisfy the learning needs of some students. However, it cannot meet the needs of all students. Therefore, feedback mechanism can be added to the online classroom system. Through the feedback mechanism, students can feedback the deficiencies of various functions to the developers. Students can also give feedback on how they feel about the use of these systems. The addition of feedback system can make the system more humanized.

7. Conclusion
In the current stage of information education reform, the traditional teaching mode of basic basketball technology is not appropriate [6]. Based on the computer online teaching system, the study of basketball basic technology is very necessary. Although it will have a great impact on the traditional teaching, it makes basketball teaching more convenient. More importantly, it can carry forward the excellent sports culture.

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