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TECHNOLOGY OF COMPREHENSIVE TRAINING OF STUDENTS FOR TABLE TENNIS SPORTS

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ABOUT ARTICLE

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Abstract: With the development of computer technology and the deepening of teaching reform, information technology has being used in physical education teaching and training. In order to promote the reform of table tennis teaching, enrich the teaching content and improve the scientific training, this work studied the application of information technology in table tennis teaching. Based on the author's learning and teaching experience, this work first analyzed the relevant meaning of information technology, and then studied the application value of information technology in the teaching of table tennis in colleges and universities. Finally, taking virtual reality as a case study, the application of information technology in the teaching method of table tennis in colleges and universities was proposed.

INTRODUCTION

In order to reform and innovate the traditional table tennis teaching process in colleges and universities and make up for the disadvantages of traditional table tennis teaching, it is necessary to combine the information technology with the teaching process of table tennis [1]. Information technology can enrich table tennis teaching methods, provide more methods in traditional teaching methods, stimulate students' interest in table tennis teaching, so that they can practice table tennis on their own in class, and make up for the shortage of time in class practice. Virtual reality technology is not only used in the field of competitive sports, but also widely used in physical education in colleges and universities, such as basketball, volleyball and so on [2]. The introduction of virtual reality technology has brought a

brand-new change to physical education teaching method. 2. Related Implications of Information Technology Information technology, also known as information and communication technology or IT, is the general name of various technologies used to manage and process information. It mainly applies computer science and communication technology to design, develop, install and implement information systems and application software [3]. Information technology mainly includes three parts: computer technology, sensor technology and communication technology. With the continuous development and popularization of network information technology, multimedia technology with information technology has been widely used in classroom teaching, and has played an irreplaceable role in classroom teaching as following: (1) The application of information technology in classroom teaching is conducive to strengthening the dominant position of students and highlighting the main position of students. (2) The application of information technology in classroom teaching is conducive to activating the classroom atmosphere and arousing students' interest in learning. (3) The application of information technology in classroom teaching is beneficial to the dispersion of teaching difficulties and the breakthrough of teaching emphasis, so as to promote the internalization of students' knowledge. (4) The application of information technology in classroom teaching is beneficial to the improvement of students' learning autonomy and help students to discover and explore. (5) The application of information technology in classroom teaching is conducive to the improvement of teachers' professional level and teaching quality.

3. The Application Value of Information Technology in the Teaching Method of Table Tennis in Colleges and Universities Table tennis is one of the sports that many students like, and it is also one of the elective subjects of physical education in colleges and universities. At present, many colleges and universities still use the traditional table tennis teaching method. From the results of the current research on table tennis teaching in colleges and universities, we can see that the traditional teaching method is less efficient and less likely to let students learn skills in the limited teaching class, thus wasting classroom teaching time. The traditional teaching method is to practice more, and long hours of practice will not only make students bored, but also affect the quality of classroom teaching [4]. With the development of Internet technology and information technology, it provides a new method and theory for the teaching of table tennis in colleges and universities. Although information technology can not teach students some skills, and it is not a kind of equipment for students to practice table tennis, information technology is a very important tool, which can inject "fresh blood" into the teaching of table tennis in colleges and universities. The teaching process of table tennis pays attention to both theoretical skills and practical application. Therefore, it is necessary to grasp both hands in order to achieve better teaching results. Information technology can strengthen the teaching process of table tennis and

improve the teaching effect. Table tennis is a strong point in the field of sports in China, so it is necessary to do a good job in inheriting and teaching. The traditional teaching methods of ping-pong are basically practiced or explained by teaching teachers. They tend to pay too much attention to theoretical teaching. The actual students do not have many opportunities to practice themselves, and they do not practice for a long time, which will inevitably cause that the level of playing table tennis is not high since there is not enough time for practice and practice. The traditional teaching method of table tennis can no longer meet the needs of students' actual development. It is necessary to seek another new method to reform and innovate table tennis teaching so as to realize the goal and task of table tennis teaching. The development of information technology provides possibility for the reform and innovation of table tennis teaching [5]. Information technology can enrich the teaching methods of table tennis, stimulate students' interest in table tennis teaching, and enable them to practice table tennis on their own in class so as to make up for the shortage of training time in class.

At present, the teaching of table tennis is undergoing tremendous changes: the teaching methods of preaching and teaching is turning to the new mode of teaching by means of information. In this process, virtual reality technology is not only an auxiliary teaching tool, but also an indispensable part of the overall integration and promotion in the process of table tennis teaching. The three characteristics of virtual reality technology will overcome the limitation of environment in the traditional teaching of table tennis, stimulate the students' interest in learning, enrich the experience feeling of users, and let the students majoring in table tennis experience the core of the learning content. This technology creates teaching task and environment, which enables students to observe and study in virtual teaching environment, and helps coaches to complete corresponding teaching tasks, thus, it can greatly improve the learning effect and learning interest of daily training.

First, human body digitization. In order to realize the technology of virtual reality, it is necessary to put the human body in the environment of virtual reality first using reflective material as the marking point to mark the table tennis players at each major node. Through reflective point marking and omni-directional camera capture, players, tables, rackets and other objects are digitally presented on high-definition display equipment, and video processing software is used to segment, encode, stack, and de-noising video. Other technologies, such as video segmentation, coding, superposition and denoising, are processed by video processing software to obtain the parameters of the key points required for subsequent data acquisition [7-8]. Virtual reality technology will accurately measure the motion of the human body in three-dimensional space through the reflective point of table tennis player. Based on the principle of computer graphics and the corresponding processing of the image data by computer,

the virtual reality technology will be used to measure the motion of the human body in three-dimensional space. After that, the spatial coordinates (X, Y, Z) of the human body of table tennis players in different time measurement units will be obtained [9]. Second, the data collection of the human body in table tennis sports enables virtual reality technology to complete the recognition and capture of human motion by marking reflective points in the body of table tennis players. All the motion parameters of the athletes in the process of sports are recorded and displayed. Through the establishment of database and video recording, the table tennis players are analyzed for their movements, so as to realize the guidance to the athletes' sports training. The workflow of virtual reality technology is to use fixed sensors on table tennis players [10]. The sensors collect movement data and output or transmit data, and then use software to process the data and build a human body model. Finally, the data-driven model will be imported to recreate the three-bit motion.

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