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Research on the Application and Development of Multimedia Teaching in College Wushu Course based on Internet Technology

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Abstract. The traditional Wushu teaching method is relatively simple, which is not conducive to students' absorption and understanding of Wushu movements, especially for the complex decomposition of Wushu movements, which is not conducive to strengthening students' correct cognition of Wushu. Based on this, this paper first analyses the technical basis of college Wushu multimedia teaching, then studies the design of college Wushu multimedia teaching system, and finally gives the utilization strategy of multimedia tech in college Wushu teaching.

Keywords: Multimedia Teaching, College, Wushu Course

1. Introduction

With the iterative development of computer tech represented by multimedia, it has been widely and deeply studied and popularized in many fields, especially in the field of teaching, which greatly promotes the development of related teaching activities [1]. Specific to Wushu teaching, the utilization of multimedia tech can effectively mobilize students' learning enthusiasm and initiative, and can change the traditional Wushu teaching process, teachers' theory explanation, action demonstration, students' passive acceptance and imitation of the single teaching mode. Because the process of Wushu teaching contains not only a lot of theoretical knowledge, but also complicated action decomposition, it is difficult for students to get more significant improvement in limited time.

On the other hand, multimedia tech is interactive, experiential and interactive, and can realize the organic integration and processing of several elements as shown in Figure 1. Therefore, it can effectively promote students' understanding of theoretical knowledge, promote the repeated watching and learning of Wushu action essentials, and significantly improve the teaching efficiency and teaching level [2]. Moreover, with the help of multimedia tech, students' martial arts learning process



can further break through the limitation of time and space, so as to better enhance the realization of their learning subject status.

In addition, as a form of sports with long history and cultural connotation, Wushu not only helps to improve students' physical quality, but also can promote the improvement of students' mental outlook and temperament [3]. At present, most universities still adopt the sequential teaching method in the teaching process of martial arts courses, mainly teaching and explaining the decomposition of martial arts routines. Although this kind of teaching method is relatively simple, it is not conducive to students' absorption and understanding of martial arts actions, especially for the complex martial arts decomposition actions, this method is difficult to strengthen students' cognition, and is not conducive to students' mastery of the technical essentials of martial arts actions and the law of action display. With the help of multimedia tech, it can effectively split the complex martial arts movements, so that students can carry out martial arts learning in accordance with martial arts routines, levels and rules.

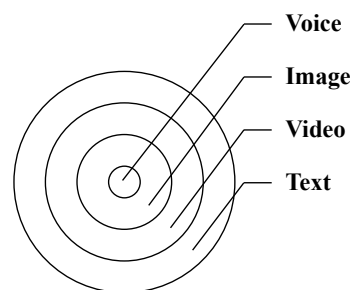


Figure 1. Integration elements of multimedia tech.

In short, as a sports practical course, Wushu not only has high requirements for teachers' professional skills, but also has high requirements for students' learning ability and understanding ability [4]. Multimedia tech with its large amount of info, high efficiency and rich expression, strong adaptability and other obvious advantages, can completely change and innovate the traditional college Wushu teaching mode from the method and form [5]. With the help of multimedia tech, we can optimize and improve the teaching environment and structure of martial arts, mobilize the initiative and enthusiasm of students, and promote the release of students' martial arts learning vitality. Therefore, we should actively apply the modern tech represented by multimedia in university Wushu course, so as to better serve and match the innovation of Wushu teaching ideas and teaching methods.

2. The technical basis of multimedia teaching in college Wushu course

2.1. The connotation of multimedia tech

As a comprehensive tech of multi tech, multimedia tech is produced in the development of digital tech, which is the product of the mutual penetration and integration of computer tech, communication tech and television broadcasting tech [6]. With the help of computer, multimedia tech comprehensively processes many kinds of info, such as text, graphics, images, audio, animation and video, so as to establish the logical relationship between these info elements and realize human-computer interaction. In addition, multimedia tech can comprehensively process the info on various carriers and storage by means of computer. Specifically, in martial arts course, the computer is used as the main body of info media to complete the organic bearing of teaching content and process.

Software	Functions
Material processing	Video, image, audio, word processing and editing
Operating system	Implementation of associated operations and other content
Creative platform	Multimedia synthesis and programming
Multimedia utilization	Utilization and realization of management function

2.2. Typical characteristics of multimedia tech

Multimedia tech has the typical characteristics of diversity, interaction and integration of info carriers [7]. Multimedia computer software system usually includes multimedia operating system, multimedia material processing software, multimedia creation platform software and corresponding utilization software, as shown in Table 1 below. The main processing object of multimedia tech includes audio, which can be processed by computer. Secondly, it also includes animation and video.

Table 1. Multimedia computer software system.

2.3. Acquisition of Wushu multimedia teaching resources

The multi-media resources in university martial arts course mainly include material teaching resources represented by words, pictures, audio, video and animation, integrated teaching resources represented by multi-media courseware, and related martial arts network courses represented by series of teaching videos, matching exercises and interactive communication [8]. The acquisition of martial arts multimedia teaching resources mainly comes from the creation of teachers, the matching and connection with teaching materials, and the downloading and utilization of martial arts public sharing resources with the help of Internet platform.

3. Multimedia teaching system of college Wushu

3.1. The hierarchical structure of the multimedia teaching system of college Wushu

The multi-media teaching system of martial arts is a more complex system, and it is composed of several easy-to-handle subsystems. Layering is a common method in the structural design of Wushu multimedia teaching system [9]. Generally speaking, the hierarchical structure of university Wushu multimedia teaching system is shown in Figure 2 below, which consists of multiple hierarchical structures. Among them, the utilization layer is the interface between the user and the network system represented by teachers and students, through which network utilization services are provided to teachers and students. The transport layer provides reliable end-to-end data communication between utilizations on any two hosts. The network layer sends the transport layer data to the corresponding network interface, and makes routing selection according to the target node. The interface layer is responsible for sending and receiving packets.

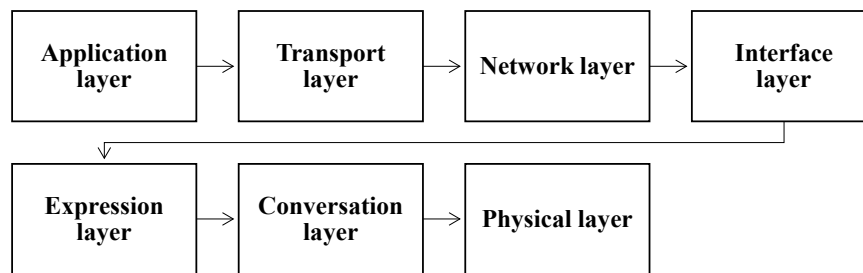


Figure 2. The hierarchical structure of the multimedia teaching system

3.2. Communication of multimedia teaching system in college Wushu course

Through the digital transformation of the multimedia teaching system of university martial arts course, the end-to-end digital connection of teaching resources is provided to support the efficient transmission of the core elements of martial arts teaching resources [10]. The communication system of University Wushu multimedia teaching system is mainly composed of gateway and gatekeeper, and its architecture is shown in Figure 3 below. The former is mainly used to transform protocol, transform info format and transmit info, so as to establish the organic relationship between info. The latter is used to connect teachers and students on IP network, and provides management functions such as authorization and verification, saving and maintaining, executing address translation, etc.

In addition, in the video sharing level of martial arts teaching resources, by storing a large number of course video resources in the video server, the server can respond to the needs of students at any time. Through the transmission network, the compressed and packaged video and audio streams are transmitted to the students, and the original video and audio info is restored through the display device, so as to provide the students with the required high-quality martial arts teaching content.

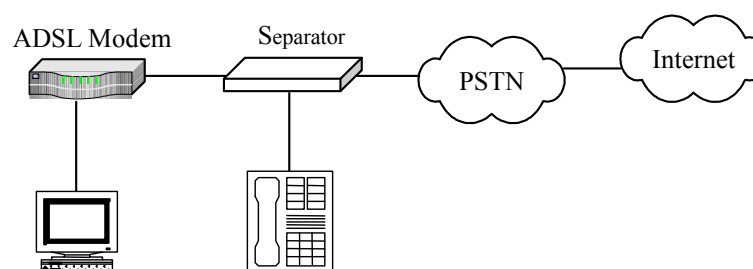


Figure 3. Communication architecture of multimedia teaching system.

In which, the middle detection point is compared with its adjacent points of the same scale and the corresponding points of the upper and lower adjacent scales to ensure that extreme points are detected in both scale space and two-dimensional image space. If a point is the maximum or minimum in all fields of the scale space and the upper and lower layers, it is considered as a feature point of the image at that scale.

4. Utilization strategy of multimedia tech in college Wushu teaching

4.1. Give full play to the function of multimedia in Wushu teaching

First of all, with the help of multimedia tech to establish the correct movement representation, the details of Wushu technical movements and the key points of routine are vividly displayed to the students. By showing students complete, clear and specific martial arts movement imagery, help students to establish correct movement imagery. Secondly, with the help of interactive and experiential multimedia tech, enhance students' learning consciousness. Through the use of multimedia tech to express the image characteristics in the process of martial arts teaching, we can bring students a stronger sensory experience, so as to promote students to better understand and recognize martial arts actions, and promote students to play a dominant role in learning.

In addition, the movements of Wushu routines are complex and changeable, difficult to learn and easy to forget. The use of multimedia teaching, the creation of the scene can make martial arts teaching more fun, so as to cultivate students' innovative thinking and divergent thinking ability. With the help of the interaction of multimedia tech, timely and efficient feedback to the students the problems in their learning, correct the students' wrong actions, and according to the students' personalized characteristics, realize the teaching of Wushu in accordance with their aptitude.

4.2. Specific utilization strategies of multimedia in Wushu teaching

The specific utilization of multimedia tech in college Wushu practice teaching includes many levels and links, such as the production of audio and video, so as to stimulate students' divergent thinking in Wushu learning. Secondly, through strengthening the cultivation of teachers' info literacy of multimedia tech, improve teachers' ability to make and use multimedia tech, in the process of Wushu practice teaching, develop scientific and reasonable multimedia courseware, master the rhythm of the course. Secondly, in the teaching of Wushu theory course, multimedia tech is used to process the rich and colorful info of Wushu knowledge into materials or courseware, so as to enhance the intuition and emotional color of teaching. In the practical teaching level, with the help of multimedia tech, a large number of intuitive and standardized technical actions are vividly expressed.

In addition, the use of modern multimedia tech to establish martial arts multimedia teaching resources, improve the level of martial arts network teaching and distance education, martial arts network education, so that students' learning process is not limited by time and space and venues. The university should deal with the relationship between modern media teaching and traditional Wushu teaching, let multimedia and traditional teaching organically combine, learn from each other, so as to continuously optimize the process of university Wushu teaching and improve the quality of Wushu teaching.

5. Conclusion

In summary, multimedia tech with its large amount of info, high efficiency and rich expression, strong adaptability and other obvious advantages, can realize the optimization and improvement of martial arts teaching environment and structure, mobilize students' learning initiative and enthusiasm, promote the release of students' martial arts learning vitality. This paper analyzes the connotation and typical characteristics of multimedia tech and the acquisition of Wushu multimedia teaching resources through the research on the technical basis of university Wushu multimedia teaching. Based on the analysis of the multimedia teaching system of university martial arts, this paper studies the hierarchical structure and communication process of the multimedia teaching system of university martial arts.

Through the research on the utilization strategy of multimedia tech in college Wushu teaching, this paper analyzes the role of multimedia in Wushu teaching and its specific utilization strategy.

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