

# Research on college aerobics teaching innovation under the aid of modern educational technology

Xi ZHENG

Physical Education Department, Shanghai Maritime University, Shanghai 201306, China

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**Abstract:** With the rapid development of social economy, the wave of science and technology has swept the world at an unprecedented speed. Under the background of intelligent era, modern educational technology has sprung like bamboo shoots after a spring rain, injecting new vitality and possibilities into physical education activities. The integration of modern educational technology into aerobics, a sport full of rhythm and vitality, has not only brought unprecedented standardization and efficiency to the organization and management of teaching activities, but also shown great potential in promoting the precise improvement of students' sports skills and stimulating their learning interest and potential. Therefore, this paper studies the current situation of the application of modern education science and technology in the field of physical teaching and training.

**Key words:** modern educational technology; bodybuilding in colleges; teaching and training

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## 1 Introduction

As an important part of school education, physical education needs to further strengthen the control of teaching quality and deepen and implement education reform. In 2012, the General Office of the State Council issued the *Several Opinions on Further Strengthening School Physical Education*, which pointed out that strengthening school physical education is the top priority, and enhancing students' physical fitness and improving students' comprehensive quality are of great strategic significance to the realization of educational modernization. In 2014, the Ministry of Education issued the *Basic Standards for Physical Education in Colleges and Universities*, which proposed to improve the characteristics and practice of physical education teaching in the process of innovating educational and teaching methods, and cultivate sports talents needed by the society. The Sixth Plenary Session of the 19th Central Committee of the Communist Party of China emphasized that "education is the great plan of the country and the party". Accelerating the construction of a strong country in education is a glorious mission and a heavy responsibility. As physical educators in the new era, we must fully recognize the importance of school sports, health and art work in the construction of a high-quality education system, practice the original mission of educating people for the party and the country, overcome problems, make up for shortcomings, and cultivate socialist builders and successors with all-round development of morality, intelligence, physical fitness, art and labor. In the traditional aerobics teaching and training process, the teaching methods adopted by teachers are relatively simple, which can neither mobilize students' interest in learning nor ensure students' learning results. At

present, the network information technology is developing rapidly, and China's physical education teaching has made rapid development and progress with the help of this [1]. In the teaching of physical education, the use of modern educational technology can effectively help students improve their physical skills. With the development and progress of modern educational technology, its actual technical level is also constantly improving, and the actual effect is also increasing, which is of great significance and value to the development of competitive sports and daily physical education and training.

## **2 An overview of modern educational technology**

Modern educational technology, formerly known as educational technology, is a reflection of the development of educational technology in different times. From the viewpoint of the development of educational technology in foreign countries, it can be summarized as audio-visual teaching, individualized teaching and systematic teaching. From the 1930s to the 1990s, the term "electrified education" was widely used in China, and this title was also synonymous with "educational technology". Since the 1990s, modern educational technology has gradually emerged as the main content of the development and application of modern information technology such as computers, networks, multimedia, digital audio-visual, artificial intelligence, etc. Its modernization and informatization characteristics have become more and more obvious. Its theoretical characteristics are as follows: first, modern educational technology is mainly based on information technology, that is, the system composed of educational technology means covering information technology is called modern educational technology. Education and teaching process is essentially the process of information generation, selection, storage, transmission, conversion and distribution, and information technology refers to the application of various advanced technologies in the process, including microelectronics technology, multimedia technology, computer technology, computer network technology and long-distance communication technology, etc. Integrating these technologies into the process of education and teaching can greatly improve the ability of information processing, that is, to greatly improve the efficiency of teaching and learning [2]. Second, in the teaching practice, more attention should be paid to the cultivation of students' comprehensive quality. When setting the training goals, we should take into account the social needs and individual needs to encourage students to become comprehensive talents. Therefore, modern educational means should be used in the selection of teaching content, the use of educational methods, and educational approaches.

## **3 Analysis of the current aerobics teaching status in colleges and universities**

### **3.1 The teaching mode is too backward and students are lack of interest**

Aerobics is popular among teachers and students because of its advantages such as physical fitness, physical and mental entertainment, and shaping. In the elective courses of aerobics of ordinary colleges and universities, due to the relatively weak physical fitness of the students themselves and the diverse aerobics movements, the teaching quality needs to be improved urgently. At present, there are some problems in physical education in colleges and universities in China, such as the traditional way of physical education, the lack of reform that adapts to the requirements of the times, resulting in the unsatisfactory results of physical education. In the traditional calisthenics teaching process, the teacher explains, demonstrates and practices, which causes the beauty of dance, music and rhythm of calisthenics can not be fully reflected, and in the long-term study and training, students feel bored and lose interest in the sport. More importantly, they can only decompose the steps and hand positions of the action combination of this lesson, and in the process of movement generation, most of the students are still in the stage of understanding and positioning the movement of calisthenics. Students' action specifications, quality of the action, rhythmicity of movement and music are difficult to carry out in the classroom, which brings great challenges to the development of aerobics teaching [3].

### **3.2 The teaching content is single and students lack autonomy**

Aerobics, which is a comprehensive sports project integrating the agility of gymnastics, the rhythm of dance, the

passion of music and the effectiveness of fitness, should be a bright stage to promote the comprehensive development of students' body and mind and stimulate their infinite potential. However, it is a pity that in the framework of the traditional education model, the teaching content tends to be single and rigid, focusing too much on the mechanical repetition of movements, and ignoring the cultivation of students' creativity and autonomy [4]. Taking the "Charming Youth" aerobics course as an example, under the traditional teaching mode, teachers usually play the role of the dominant player, one by one on the playground, then step-by-step dismantling these actions into easy to learn steps, and students like carbon paper, just follow the pace of the teacher, strive for the standard and neat action. Although this teaching method can ensure that students master basic skills to a certain extent, it also stifles their nature to explore the unknown and innovate, making students "action replicators" who lack individuality.

### 3.3 The application of science and technology needs to be improved

Since the introduction of aerobics into China in the 1980s, it has been widely carried out in our colleges and universities and generally favoured by college and university students. Due to the special characteristics of the teaching environment, aerobics courses in colleges and universities are mostly set up in club venues or outdoor venues, which is significantly different from the traditional indoor theoretical courses, thus restricting the wide application of high-tech teaching equipment. In the current implementation of the curriculum, audio equipment has become the most basic and common auxiliary teaching tools [5]. However, in the face of the wave of new media era, college students have undergone a profound change in the way of obtaining information, and they are more inclined to obtain knowledge through the Internet, multimedia and other channels, rather than the traditional reading of books and newspapers. Network, for contemporary college students, has become an indispensable part of learning and life. Therefore, reviewing the teaching status quo of aerobics courses in colleges and universities, it is not difficult to find that the teaching methods and equipment configuration have not yet fully adapted to this information technology and digital era background.

## **4 Application strategy of modern educational technology in aerobics teaching in colleges and universities**

### 4.1 Use of modern educational technology to innovate the teaching mode

An excellent physical education teacher should be good at using a variety of teaching methods to guide and cultivate students' interest in various sports projects [6]. American psychologist Bruno once said: the best learning motivation is that students have an inherent interest in the material. Interest is the original motivation for students to learn. Once students are interested in sports, they will invest more energy in the practice, which plays a significant role in improving the teaching effect. There are various ways to stimulate students' interest in sports, and the use of audio-visual media is one of the powerful means. Educational psychology points out that the novelty, diversity and interest of educational content and methods are the important conditions to stimulate learning motivation. Therefore, in sports teaching, television, video, multimedia technology and other modern teaching methods are used. The intuitive image, vivid, illustrated, colourful distinctive features can mobilize students' multiple senses, stimulate, attract the attention of students, mobilize their interest in learning, and arouse students' desire to learn, so as to make students consciously and seriously participate in exercise and improve their level of action [7]. Due to the many advantages of multimedia technology, we should change the traditional concept of teaching, attach great importance to the application of multimedia technology in the teaching of aerobics, and effectively play the powerful advantages of multimedia, so as to improve the quality of multimedia teaching. For example, when we teach "Charming Youth" aerobics, we can first use multimedia to show students a full video to grab their attention, then play the decomposition action and students follow the video at the same time. Under the teaching of standard movements, students will do it very standardly and happily. Then, the teacher asks students to do it in

combination with the video and adjust the problems in the process against the video, and finally has the students detach themselves from the video and perform with the music. In this whole process, the students have mastered the knowledge of aerobics very well, and also experienced the real charm of aerobics, while doing aerobics combined with the melody and rhythm of the music, the overall level of the students has been greatly improved.

#### 4.2 Focus on a variety of combinations to enhance the charm of classroom teaching

In the traditional process of aerobics teaching and training, the content of aerobics teaching is relatively single, generally based on a single action, which is difficult to reflect the comprehensive characteristics of aerobics, resulting in a lack of autonomy of students in the learning and training process of aerobics, which seriously affects the teaching effect of aerobics. Through the optimization of the teaching content, the modern educational technology can provide students with more abundant learning content, and then mobilize students' learning enthusiasm to actively participate in the learning and training of aerobics, and effectively improve the teaching effect of aerobics. Multimedia technology has a very powerful function, which can be used as an efficient auxiliary method. In order to really improve the use effect of multimedia technology, teachers should start from many aspects, combine the multimedia technology and aerobics teaching properly, so as to more clearly reflect the advantages of multimedia. Firstly, multimedia technology and traditional teaching methods should be combined [8]. For example, when teachers use multimedia courseware to demonstrate the specific movements of aerobics to students, they should also add theoretical explanations and guidance, so that students can easily put theory into practice. Secondly, we should pay attention to the combination of multimedia technology and students' independent practice. When students watch the aerobics multimedia materials, teachers also need to arrange students for reinforcement exercises, so that the effectiveness of teaching can be further improved. Third, it is necessary to pay attention to the combination of multimedia and students' psychology. Everyone is eager to be recognized and appreciated by others, and so are college students. Teachers should film the aerobics competition performance of students, and then play it out with multimedia, which not only meets the psychological needs of students' self-presentation, but also discovers the shortcomings of the aerobics technique through the display, and is conducive to the improvement of aerobics techniques.

#### 4.3 Promote the improvement of modern educational teaching technology and facilities

To develop education, investment is the key. In order to successfully apply modern educational technology to aerobics teaching in colleges and universities, we must increase the investment to ensure that the software and hardware construction is in place. Colleges and universities should implement the advantages of multimedia teaching, intensify the transformation of teaching resources, improve old and backward teaching equipment, improve the quality of teaching hardware, actively adopt a variety of ways to effectively utilize and invest in teaching funds, upgrade the school teaching equipment and perfect the operability of teaching equipment, improve the efficiency of utilization, and serve for classroom teaching. For the multimedia teaching of bodybuilding, schools should introduce the new computer multimedia equipment, build relevant aerobics teaching platform, upload the teaching resources needed by teaching in time, and pay attention to the construction of information websites and platforms, such as opening up resources and other technologies on campus websites to facilitate the sharing of excellent teaching resources among teachers and students; strengthening the maintenance and management of multimedia equipment; and introducing specialized technical personnel to develop and maintain multimedia resources. Schools can also take advantage of advanced cloud technology to store a large number of teaching resources in the cloud for use and sharing [9]. At the same time, the concept of multimedia teaching should be comprehensively publicized and implemented. It is necessary to make multimedia teaching play an ideal role, strengthen the development and utilization of teaching software, write teaching software rationally and scientifically, strengthen cooperation with social resources, and jointly complete the development and construction of software. Therefore, colleges

and universities should prepare special funds for research and development of teaching equipment, including hardware and software facilities in teaching equipment. Only by making the investment relatively stable can the software be used in an orderly and efficient manner. Professionals personnel should be hired to carry out in-depth development of teaching facilities, improve the use and research and development of multimedia teaching technology, and significantly improve the efficiency of multimedia equipment. In addition, when carrying out the development and maintenance of teaching equipment, colleges and universities should pay attention to the consistency of instructional software on campus, such as adopting a unified access port and a unified login password, etc., to facilitate the use of multimedia equipment by teachers as well as to facilitate the maintenance and management of the equipment, so as to unify the mode of course design and enable the teaching to be carried out more smoothly, thus improving the quality of teaching. Attention should be paid to the development and construction of online communication platform to strengthen the sharing of resources among teachers, and also to facilitate the discussion between teachers and students on academic issues, so that teachers can share their strengths with each other, and make a reasonable allocation of limited teaching resources.

## 5 Conclusion

In the wave of education in the new era, the deep integration of modern educational technology and teaching has become an irreversible trend, which not only profoundly changes the face of traditional education, but also opens up a new path to improve the quality of education. In the teaching field of aerobics, which is full of vitality and rhythm, the introduction of modern educational technology has undoubtedly injected strong impetus into teaching and training. Through the clever integration of modern educational technology, the teaching and training of calisthenics can break through the shackles of traditional framework, show unprecedented intuition and vividness to stimulate students' interest in learning, optimize the teaching process, and promote the improvement of students' physical quality. Therefore, we have reason to believe that, under the educational background of the new era, the deep integration of modern educational technology and aerobics teaching will surely open a more brilliant and wonderful new chapter of physical education.

## Conflicts of interest

The author declares no conflicts of interest regarding the publication of this paper.

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