

Multimedia Technology Can Be Used to Enrich Teaching Resources of Aerobics

Xiao Gong^{1,2}, Rui Kong^{1,2}, Hong Gong^{1,2}

¹ Ed. EM Philippine Women's University, Manila, Philippines

² Qingdao Film Academy, Qingdao, Shandong, China

Abstract: Aerobics, with its special charm, has won the popularity of the broad masses of the society. It is a popular sport at present and occupies an indispensable position in the national fitness campaign. Meanwhile, there are many kinds of aerobics, including yoga, step aerobics, aqu-aerobics, dumbbell exercise and street dance. In aerobics teaching, it is required that fitness music, movements and contents should be updated in time, otherwise it will have a reverse impact on the interest of students in learning and enthusiasm for practice, and will also affect the fitness effect and education quality. Based on this, this paper uses multimedia technology, integrates aerobics characteristics and educational practice, carries out in-depth research based on video, audio and courseware production, so as to update and enrich aerobics education resources with multimedia technology, and effectively improve aerobics education efficiency.

Keywords: Multimedia Technology; Aerobics; Teaching Resources.

1. Introduction

With the gradual deepening of modern educational concepts and the widespread application of modern educational means, the development of multimedia technology has greatly extended the boundaries of educational space and time, promoting the gradual realization of the concept of sharing educational resources, continuously improving the free choice degree of students in learning, and making it possible for students to yearn for and pursue personalized education. At present, the syllabus of physical education in colleges and universities in our country is constantly changing, the teaching time of physical education courses is gradually decreasing, and the development trend of physical education, which innovates educational concepts, enriches educational contents and changes educational means, is becoming more and more obvious. How to scientifically apply information education technology and modern education theory to guide education practice is a topic worth thinking about for every PE teacher. The positive effect of multimedia educational resources on students' learning cannot be ignored by educators. The use of multimedia educational resources in aerobics education can improve educational results and make up for the shortage of energy and time for physical education teachers. However, there are still some problems in this education mode, namely although there are learning materials, there is still a lack of thinking on how to develop and use multimedia education resources and promote their full integration with education links. In the development and practical application of multimedia resources, there is still a lack of thinking on how to get rid of the shackles of traditional education mode.

2. The Analysis on the Advantages and Disadvantages of Traditional Aerobics Education

2.1. Advantage Analysis

In the past, aerobics education in colleges and universities paid equal attention to both advantages and disadvantages.

Especially in recent years, the proposal and implementation of the national fitness strategy have made aerobics widely publicized by various media platforms, and appealed to the public to actively respond to the national fitness strategy and take the initiative to carry out aerobics. Aerobics education has a strong appeal in the campus, Based on the process of educational activities, it has popularization and affinity, which can enable students participating in sports to learn and grasp basic aerobics hand and pace movements in a short period of time, and at the same time can meet students' differentiated needs for sports. It has certain characteristics in the aspects of mind cultivation, weight loss and shaping. In addition, aerobics also has certain competitive characteristics, which can satisfy some students with higher self-requirements to complete self-challenges and breakthroughs, thus developing to a higher level. At present, in the traditional aerobics education under the background of popularization, most students have high enthusiasm and interest in aerobics, especially among female students.

2.2. Disadvantage Analysis

At present, the traditional aerobics education system in domestic colleges and universities is an elective course for college students and is not yet perfect. Aerobics teaching materials are relatively backward and the educational contents have not reached unity. The differences in aerobics teaching materials used by various colleges and universities are obvious. At the same time, the educational level and ability of aerobics teachers are also mixed. They are basically taught part-time by school physical education teachers. There is no special assessment system for aerobics teachers' qualifications within the school. At the same time, because colleges and universities are unwilling to invest too much resources in aerobics education, they are in a relatively backward development state for a long time, and the education mode and resources cannot be updated, which hinders students from truly mastering aerobics skills and limits the development of aerobics education.

3. The Analysis on Advantages and Disadvantages of Multimedia Aerobics Education

3.1. Advantage Analysis

In recent years, most colleges and universities have carried out the idea of keeping pace with the times, actively applied multimedia technology, eager to make the new education mode and the traditional education mode form organic complementation with multimedia, and under this background to establish a platform rich in aerobics education resources. Based on the perspective of students, this platform effectively regards students as the main body of classroom education to implement educational activities and fully mobilizes students' interest in participating in aerobics and knowledge learning. Under the environment of this platform and rich educational resources, the cooperative learning between teachers and students and the positive process are efficiently mobilized, and scientific arrangements and distribution are also obtained at the levels of aerobics teachers and educational resources. For example, with the support of multimedia technology, college students can learn more standardized, rich and authoritative video education resources at home and abroad in aerobics education activities. At the same time, these educational resources can effectively correct some wrong actions in teachers' daily education, thus indirectly providing value reference for students to accurately learn aerobics and knowledge, and ultimately improving the quality and efficiency of education. Based on the overall dimension, aerobics education resources based on multimedia technology can solve the problem of scarcity of education resources caused by too many aerobics learners at this stage to a large extent. For example, teachers can use multimedia technology to carry out online aerobics education, thus alleviating the problem of insufficient school venues and facilities, ensuring that students can obtain massive educational resources in the network and realize training and learning anytime and anywhere. Compared with the traditional injection education mode, which relies on teaching materials, it is more advanced and can also bring more diversified and pure aerobics experience to students.

3.2. Disadvantage Analysis

Aerobics in colleges and universities has two disadvantages in using multimedia educational resources to carry out teaching activities. On the one hand, it has higher requirements for the basic hardware facilities of institutions of higher learning. At present, most colleges and universities pay less attention to aerobics, an elective education course, so it is difficult to meet the development and application requirements of multimedia education resources at the infrastructure level. At the same time, because the school has not recruited a professional aerobics teaching team, most ordinary physical education workers in colleges and universities do not have the relevant skills to develop and apply aerobics multimedia education resources. On the other hand, in recent years, teachers have mostly adopted online teaching and online education platforms such as distance massive open online course for teaching. Although there is some interaction in this education mode, the education process lacks efficient emotional interaction, and aerobics teachers are also difficult to grasp the psychological state and learning process of students like previous education modes.

Therefore, although multimedia aerobics education is rich in resources, diverse in functions and convenient to implement, it is relatively insufficient in the level given by objective emotional factors, and the educational results in some levels have not reached the results obtained by the previous aerobics education mode.

4. The Path to Enrich the Education Resources of Aerobics by Using Multimedia Technology

4.1. Educational Resources Can Be Enriched with Video Technology

First of all, aerobics videos can be recorded in TV programs. At present, whether it is CCTV or local TV stations, TV programs are changing with each passing day, including many sports events and sports education programs. For example, the youth time TV programs of CCTV cover street dance, Latin dance, body training and fight exercises. Aqu-aerobics in Guangdong TV's sports square program, street dance in Fujian Education Station's daily fitness program, etc. Teachers can use video technology to record these program resources for future aerobics education. Teachers can install the video capture card into the computer, connect the TV signal line with the TV input of the capture card, and then run the program attached to the capture card to select the settings and video format related to sound and image, especially paying attention to the system volume adjustment, recording control and the selection of line input.

Secondly, aerobics videos can be recorded on the Internet platform. At present, the rapid development of networking makes the network contain sufficient educational information and resources. Although most resources can be downloaded, some resources cannot be downloaded. Downloading online educational resources involves many ways. For example, HTTP links can be downloaded directly through browsers, and RTSP and MMS links need to be downloaded with streaming media downloading tools. For educational resources that cannot be downloaded, such as some action materials and action fragments, teachers can record the materials in web pages with screen video recording software and save them as video files in AVI format. Then the sound of the action material is recorded by means of recording software and saved as an audio file in WAV format. The audio file is inserted into the video file through an audio editor. The image and sound are synchronized through debugging, and finally the teaching video resources with both image and sound are synthesized.

Thirdly, DVD and VCD can be used to copy data. With the continuous strengthening of the public awareness in fitness, it is especially true that the love degree of women for aerobics has increased. Most people will buy DVD and VCD related to aerobics in video stores. PE teachers can borrow the fitness CDs of colleagues or friends and use DVD and VCD recorders to copy CD materials, thus saving funds and enriching educational resources.

4.2. Educational Resources Can Be Enriched with Audio Technology

First of all, direct application of music resources. At present, digital audio technology is widely used in various fields. Aerobics teachers can directly select or intercept teaching institutes: music tracks according to the needs of aerobics

education in Latin dance, disco, street dance, jazz, rock and roll music, without any processing methods. This way needs to select and determine the music repertoire, and then arrange the corresponding aerobics movements for the selected repertoire, but this will restrict the arrangement of aerobics movements to a certain extent, and will also affect the organic combination of aerobics movements and music.

Secondly, with the help of music editing programs, digital editing and effect processing are implemented for music tracks. With the development of computer technology, a large number of music editing programs have been born in the market. These programs can implement digital editing and effect processing for music, among which GoleWave, Cool Edit Pro and others are more common. Cool Edit Pro is a multi-track digital music editing program with various functions. It can process many audio files at the same time, and implement the operations of cutting, overlapping, merging and pasting sounds in each file, reducing or amplifying the volume, slowing down or accelerating the rhythm of music. Aerobics teachers can use this procedure to make aerobics education music, thus enriching teaching resources.

Thirdly, independent creation and arrangement. Aerobics teachers can create music according to the arranged aerobics movements by virtue of drum generator or music editing platform that directly creates staff. Relatively specialized music production and synthesis methods include beat editing, chord, note and key input creation staff, etc. Teachers can create and write aerobics music according to aerobics movement requirements and individual styles, and maintain a high degree of integration of music and movement. However, this way requires teachers to have sufficient knowledge of music theory.

4.3. Educational Resources Can Be Enriched with the Help of Network Technology

In the process of rapid development of information technology, multimedia technology has also been improved and promoted, which can effectively enrich curriculum resources, improve teaching quality and make aerobics teaching more timely and dynamic. However, according to the operation mechanism and development characteristics of modern education, It can be found that the application of network to multimedia teaching, Although it can effectively improve the utilization efficiency of data and information and stimulate students' enthusiasm and subjective initiative to participate in classroom teaching, more than 70% of teachers generally apply multimedia technology to theoretical explanation, action analysis, key point consolidation and other levels, and seldom use network technology to carry out aerobics teaching in the teaching process. On the level of enriching teaching resources, network technologies headed by big data and cloud computing can effectively enrich aerobics teaching resources and improve classroom teaching quality. However, in order to give full play to the function and function of network technology in multimedia teaching of aerobics, we must use classroom activities as a medium to enhance students' dominant position in teaching activities, pay attention to students' individual consciousness and respect students' choices, so as to cultivate the ability of students to explore independently and actively analyze problems in the aspects of knowledge sharing, theoretical extension and action exploration. First of all, construct diversified, dynamic and free activity topics to broaden the

breadth and depth of aerobics teaching. For example, "the development of aerobics", "the social influence of aerobics", "the function of aerobics" and "the innovation of aerobics" can all be taken as topics in aerobics teaching. Secondly, according to the results of students' discussion and practice, big data technology is used to integrate and embed the corresponding teaching resources, so that students' topic discussion is more in-depth and based, and students' understanding of aerobics theory and perception of movements can be deepened. Finally, attention should be paid to the effectiveness and initiative of multimedia technology, and an immediate evaluation mechanism should be built to stimulate students' enthusiasm and enthusiasm for independent learning, so that students can develop the awareness and ability of collecting and learning calisthenics knowledge in the multimedia teaching process, and thus lay a solid foundation for the future "ubiquitous learning". It should be noted that teachers use network technology to enrich aerobics resources, and must pay attention to the positive and targeted nature of resources. They must not present irrelevant resource information in teaching activities, which leads to problems such as students' inability to grasp the key points of knowledge and effectively acquire aerobics knowledge.

4.4. Educational Resources Can Be Enriched with the Help of Courseware

With the continuous expansion of the application of computers in China's education, educational means based on multimedia technology are gradually popularized in various colleges and universities. Under this background, aerobics education can enrich educational resources with multimedia technology, thus making it develop by leaps and bounds. Taking CAI courseware as the benchmark, CAI courseware for aerobics teaching has the function of picture control, which can realize slow motion or freeze-frame effect for important and difficult movements, and can also implement the comparison between correct and wrong movements, so that students can clearly define their own mistakes and correct methods, and construct an accurate concept of aerobics movement skills. CAI courseware can express the action picture relatively intuitively and vividly, To provide students with specific aerobics movements, especially the color pictures presented in the courseware, along with the melodious music playing, can effectively stimulate students' audio-visual senses, push the aesthetic feelings of students to a climax, and then make them enter the cognitive activities of exploring knowledge, actively learning and actively thinking. In addition, because of the differences in sports foundation, intelligence and physical quality among student groups. Therefore, in the past, the contents learned in aerobics education were difficult to meet the needs and could not be digested. However, the specific characteristics of human-computer interaction contained in CAI courseware effectively solved the problem, enabling students to choose the corresponding aerobics contents according to their real conditions to start learning.

First of all, the goal of courseware making. CAI fitness courseware should truly present the characteristics of multimedia technology that integrates words, animation, sound and images, and give full play to its advantages in educational activities. It should also present the characteristics of multimedia education such as relatively intuitive and image expression, diversified demonstration

forms and sufficient multimedia educational resources. At the same time, it must also meet the needs of distance education, campus network and the Internet, and has the characteristics of downloadability and stability.

Secondly, the goal of courseware education. CAI aerobics courseware should provide students with subjective and vivid multi-media interactive learning atmosphere, In the aspects of text description, picture selection, animation design and production, sound preparation and image synthesis, it meets the requirements of aerobics education, guides students to correctly construct aerobics technology and movement concepts, grasps the basic movements, complete sets of movements and movement combination education contents of aerobics, and improves their learning interest and learning effect.

Thirdly, the selection and production of courseware foders. Aerobics video or CD-ROM is an important media for aerobics teaching courseware. The sources of video media include live video or lens collection of large-scale competitions, shooting of teachers' demonstration movements, selection of famous aerobics performances, on-site shooting of students' practice conditions, shooting of professional teachers' teaching contents, etc. Video or CD-ROM video can be compiled and produced by means of multimedia editing platform. At the level of selecting and making music tracks in aerobics teaching, it mainly includes four levels: preparation exercise, basic movements, relaxation exercise and auxiliary teaching. The preparation of sports music is mainly to cooperate with warm-up exercises before class, which has the functions of arousing students' emotions and concentrating their attention. Basic action music is the music applied in technical teaching. Relaxation sports music is the music played before the end of classroom education, and more music with relaxed and cheerful melodies is adopted to relax students' spirit and muscles. Auxiliary teaching music is made according to the needs of some links in education, aiming at stimulating nerves and generating conditioned reflex.

Fourthly, the overall courseware production. According to the script design, the requirements of the education syllabus and the construction of the education flow chart, the knowledge of aerobics teaching materials is analyzed and studied to clarify the important and difficult contents of education. In addition, it is necessary to clarify the multimedia expressions such as video, animation, audio, pictures and text of the important and difficult contents of education. In addition, with the help of Authorware editing program, the CAI courseware for aerobics teaching is made.

5. Conclusion

In conclusion, with the help of multimedia technology, aerobics education resources can be effectively enriched. In addition, Internet teaching resources are used to integrate reasonable and scientific education modes to implement aerobics education, which can not only innovate education methods to achieve the goal of improving the education process and enhancing the educational results, but also improve the comprehensive quality of students through the enrichment of educational resources. At the same time, the introduction of multimedia technology into aerobics education can reduce the repetitive work of aerobics teachers in class in a certain sense. Teachers can also make clear the current teaching situation in the application of multimedia technology, fully integrate and enrich aerobics education resources, and implement educational objectives. In the development of aerobics education resources, teachers can reasonably allocate the existing education resources through the application of multimedia technology, and reasonably integrate the Internet education resources into aerobics education activities to realize the optimization of teaching effect.

References

- [1] Chen, M. (2016). On the Feasibility of Introducing National Aerobics into Physical Education Major Courses in Colleges and Universities-Taking Hubei University for Nationalities as an Example. *Sports World Scholarly*, 2016(5), 86-87.
- [2] Huang, Y. C., & Zhou, L. Y. (2018). SWOT Analysis on "Flip Classroom" Mode in Aerobics Teaching in Higher Vocational Colleges. *Contemporary Sports Technology*, 8(13), 55-56.
- [3] Peng, Y. M., Zhu, H. Y., & Zhao, Y. M. (2017). Research on the Construction of National Aerobics Teaching Mode in Colleges and Universities in the Information Age. *Software Guide: Educational Technology*, 16(3), 32-33.
- [4] Wu, L. A. (2017). Research on Sharing and Optimization of Regional Resources of Aerobics Curriculum in Higher Vocational Colleges from the Perspective of Massive Open Online Course. *Contemporary Sports Technology*, 7(34), 232-233.
- [5] Xiong, X. Z., & Zhao, B. Z. (2018). Research on the Present Situation of the National Traditional Sports Incorporated into the Public Sports Teaching Resources in Guizhou Universities. *Contemporary Sports Technology*, 8(4), 164-165.
- [6] Zhou, Y. S. (2017). Analysis on the Multiple Combination Path of Tea Picking Aerobics and Public Physical Education in Colleges and Universities. *Tea In Fujian*, 39(11), 411.