Retraction

Retracted: Multimedia Technology Based on Cloud Computing in Aerobics Teaching

Mobile Information Systems

This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

(1) Discrepancies in scope

(2) Discrepancies in the description of the research reported

(3) Discrepancies between the availability of data and the research described

(4) Inappropriate citations

(5) Incoherent, meaningless and/or irrelevant content included in the article

(6) Peer-review manipulation

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their agreement or disagreement to this retraction. We have kept a record of any response received.

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Research Article

Multimedia Technology Based on Cloud Computing in Aerobics Teaching

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Multimedia teaching has been widely introduced in college education and has become an important teaching aid. Cloud computing has relatively few applications in China's education field, but it has developed rapidly in recent years. The main feature of cloud computing lies in the use of virtualization technology to integrate various software and hardware resources and provide them to users via the Internet. In recent years, the application of multimedia technology has expanded from professional courses and cultural courses to the courses of sound, body, and beauty, which greatly enriched the teaching content, activated the classroom atmosphere, and improved the teaching efficiency. Multimedia teaching can be based on clear learning objectives, rational selection, and use of modern digital media, targeted for students' new aerobics education. Applying multimedia technology to college aerobics teaching is an important opportunity for the reform of aerobics education. Aerobics is a well-loved and widely popular sports event that integrates group gymnastics, dance, music, fitness, and entertainment. This paper introduces the difficulties of current multimedia technology and explains how to effectively carry out aerobics teaching, focusing on how to combine multimedia technology with aerobics teaching to promote the vigorous development of aerobics education. Taking the aerobics teaching in colleges and universities as an example, this paper mainly analyzes the shortcomings of current aerobics teaching in colleges and universities in China. Applying the strategy can bring certain enlightenment to the aerobics teaching in colleges.

1. Introduction

After entering the search keywords "multimedia" and "aerobics" in CNKI, it is found that the experimental and theoretical research of multimedia technology in aerobics has achieved certain results. However, there is still insufficient research on the use of network resources for teaching and the use of modern media tools. Therefore, the research on the application of multimedia technology in aerobics teaching needs to be further improved.

With the emergence of network technology media and platforms, the transmission of teaching information is no longer limited to classrooms and teachers' oral teaching methods. At the same time, the development and updation of multimedia technology have broken the tradition and routine of education and teaching, which is of great significance for realizing the modernization of teaching methods.

Cloud computing has shown great advantages in the field of education. This advanced computer technology has improved the learning methods of learners and transformed the learning environment. This technology has promoted the reform of the teaching field. Multimedia technology is used in teaching and has immeasurable value [1–3]. Multimedia technology uses images to convey teaching signals to students [4]. Multimedia is the integration of various forms of traditional media, including pictures, images, text, and audio [5–9]. The characteristic of multimedia is that the amount of information transmitted per unit time is extremely large [10–14], which is 4~5 times the amount of information transmitted by traditional media. People use this special new mode of obtaining information to greatly promote the efficiency of information acquisition [15]. In today's society, the field of multimedia application is very extensive. Especially in the field of teaching, multimedia technology can change the quality of teaching, teaching efficiency, and

teaching environment and promote differentiated and personalized teaching [16]. Because of the individual factors of teachers and the different learning and acceptance ability of students, the teaching effect is often not uniform. Teachers must make unified arrangements for student progress, and the teaching efficiency is very low [17–19]. The traditional teaching steps generally include the following: the teacher conducts the complete teaching demonstration, explains the action essentials and precautions, and provides detailed steps to disassemble; the students follow the essentials and perform step-by-step exercises; layered teaching is conducted to correct mistakes of the students; and teachers collectively explain the key and difficult actions [20]. The teaching and learning efficiency of this traditional teaching mode is very poor. Since there are individual students, the learning effect is uneven. If multimedia technology is applied in the teaching process, the above problems can be avoided and the quality and efficiency of teaching can be greatly improved. This will be beneficial for students' self-learning and promote characteristic education.

Building a cloud computing platform to achieve high availability is not only conducive to saving and utilization of hardware resources but also conducive to the optimization and overall construction of cloud computing architecture based on college-intensive customers. This paper puts forward the strategy of optimizing the application of multimedia technology, builds a multimedia aerobics teaching platform, and strives to promote the gradual deepening of aerobics teaching reform, ensuring that the role of aerobics teaching in improving students' physical quality and enhancing students' artistic conservation can be fully exerted.

The innovations of this paper are as follows: (1) The shortcomings of traditional aerobics teaching and the application characteristics of multimedia technology in aerobics teaching in colleges and universities are introduced. (2) The feasibility of applying multimedia technology in aerobics teaching is analyzed. (3) The design of the experiment and the analysis on the difficulty of the realization of the platform are carried out.

2. Defects in Traditional Aerobics Teaching and the Application Characteristics of Multimedia Technology in College Aerobics Teaching

Aerobics is a sport with the accompaniment of music, using physical exercises as the basic means and aerobic exercise as the basis to achieve the purpose of improving health, shaping body, and entertainment. It originated from the traditional aerobic fitness exercise and is a kind of aerobic exercise. There are many kinds of hand shapes in aerobics, which are absorbed and developed from ballet, modern dance, disco, and martial arts. The hand shape is the extension and performance of arm movements. If used well, aerobics movements will be more colorful, lively, and more appealing.

There are some shortcomings in its traditional method of teaching: (1) It is nothing more than a demonstration by teachers. The students imitate the practice, and finally, the teachers organize the students to cooperate with group

training. The content of the traditional aerobics teaching class is to repeat several movements, the course is boring and lack of changes, and some aerobics movements are taught very slowly, and students may not be able to learn a complete set of aerobics in one semester. In this process, students learn mechanically and the subject status is difficult to play. (2) There is an emphasis on imitation training of basic ability, ignoring the ability of autonomous movements. Aerobics is a practical sports skill that not only contains artistic performance components but also improves students' aesthetic ability and physical expression ability; teaching efficacy promotes the coordination of students' physical body and improves the physical quality of students. However, the survey shows that the aerobics teaching carried out in Chinese universities, especially aerobics teaching as an elective course, is rarely professional. Most of them only focus on the imitation training of students on basic movements, but not the aerobics of students. This results in students being too dependent on teachers when learning aerobics. Without the help and tutoring of teachers, students become "loose sand" and are rarely able to organize training and programming independently. (3) The technical means are backward, and the classroom teaching materials are not updated. The aerobics movement is a regular and new movement. Only by constantly excavating new movements and adopting new arrangement techniques can we ensure the continuous progress of the students. Therefore, the teaching materials are scarce and the teaching hardware facilities are not complete. This leads to the backward technical methods of the classroom, the lack of timely updation of classroom teaching materials, and insufficient teaching aids. Relying on teachers "single fights alone," the knowledge imparted to students is very limited. (4) There is a lack of professional aerobics teachers, and the teacher's team urgently needs to build the current aerobics teaching method in colleges. On the one hand, the number of excellent teachers from aerobics majors is quite a few, and the demand exceeds supply. On the other hand, the professional quality of existing aerobics teachers is not high, and the problem of insufficient teaching ability is significant, coupled with the lack of professional teacher training mechanism, which has led to the development of aerobics courses in Chinese universities difficult. Completing a set of aerobics movements at the same time often requires the joint participation of all joints and parts of the body. This puts forward certain requirements on the physical coordination, music rhythm, and memory of aerobics practitioners.

By realizing the virtualization of IT infrastructure, IT costs can be reduced while improving the efficiency, utilization, and flexibility of existing assets. Many media CDs burn a lot of media CD burning (1) integration can be multichannel unified acquisition, storage, organization, and synthesis of information.

3. The Feasibility of Using Multimedia Technology in Aerobics Teaching

Multimedia technology is the product of advanced high-tech development. It has been used in teaching since the 1990s. It combines intuitive text, pictures, and audios and videos to

create fresh stimulation and stimulate interest in learning. Multimedia teaching refers to the selection and use of reasonable modern teaching media according to the teaching objectives and teaching objects of different characteristics in the teaching process, which includes designing the teaching process, combining with traditional teaching methods, participating in the whole process of teaching, using a variety of media information to interact with students, and constructing a reasonable teaching process. In practice, it can be concluded that the integration of multimedia technology with aerobics teaching is effective. Through multimedia technology teaching demonstration, videos can be used to slow down the movement so that students can clearly perceive the series of movements and form a correct movement image in the brain, which is easy to imitate and master. (1) Lively classroom atmosphere reflects the sense of the times the accelerated progress of the Internet era has enabled many teaching resources to be shared through the Internet. In the classroom, students can see many classic aerobics teaching videos through video materials. The combination of animation and music, multiangle looping, and lively classroom atmosphere can stimulate students' innovative thinking. Instead of simply imitating the teacher's actions and behaviors, they can realize their own thinking through just the right guidance. The use of multimedia networks to achieve international synchronization can further promote the pace of aerobics teaching in China to keep up with the times and renew its vitality. (2) Targeted teaching makes education more scientific, and multimedia technology applied to classroom teaching integrates educators, students, and Internet media into one. Multimedia courseware is simply a tool used to assist teachers in teaching. In the design, it needs to be designed according to the characteristics of the teaching content and the different needs of the learners. First, information on the whole is classified and organized, and then, text, graphics, images, sounds, animations, and other media materials are integrated in both in time and space, to integrate them and give them interactivity, so as to design and produce auxiliary teaching courseware.. The selection and use of courseware are aimed at the interest and cognition of modern college students. More targeted teaching keeps students interested and helps them take the initiative in learning. The scientific teaching content and standardized terminology allow students to understand the basic theoretical knowledge while standardizing the action. From understanding the music beat to familiarizing with the pace of gestures, from easy to difficult levels, step by step, aerobics teaching is on the track of scientific norms. (3) It can stimulate students' unique aesthetic inclination towards creative and vivid multimedia courseware and improve students' ability of composition and color coordination and students' artistic aesthetic level. The specific dynamic teaching scenarios guide students to consciously enter the learning mode, explore the creativity in the depths of thinking, and turn ordinary imitation into active exploration. This form of teaching not only enriches the teaching resources but also intuitively meets the reform trend of physical education. Combining the shape, sound, and color of the clip configuration, the unique aesthetic

trend perfectly integrates the classroom and life, which greatly stimulates the creativity of the students.

Multimedia teaching usually refers to computer multimedia teaching, which is a combination of various media realized by the computer, which has the characteristics of interactivity, integration, and controllability. It is just one of the many media. Compared with ordinary teaching, the advantages of multimedia teaching include intuitive perception, breaking through the limitations of vision, observing objects from multiple angles, and highlighting key points, which are helpful for understanding concepts and mastering methods. The pictures, texts, audios, and videos are combined to mobilize the students' emotions, attention, and interest from multiple angles.

4. Design and Implementation Platform

In order to cultivate high-level technical talents, make colleges and universities adapt to more fierce competition, and make professional courses more acceptable to students, Wuchang Institute of Technology tries to establish a multimedia interactive teaching platform to assist the original teaching model. A complete multimedia computer system is composed of hardware and software. Its core is a computer, and its periphery is mainly audio-visual and other media devices. The hardware type of the multimedia system is a computer host and various input/output devices that can receive and play multimedia information, and its software is a multimedia operating system and various multimedia tool software and application software packages. The multimedia interactive teaching platform adopts the three-layer structure of the dynamic Web database application system, namely, the B/S distributed architecture mode composed of a browser, a web server, and a database server. The system has an open API interface and can exchange information with a variety of scheduling systems, exchange resources with the course center, support Blackboard (digital teaching platform) and Moodle (open-source course management system), generate SCORM1.2 standard courseware package and LMS Linkless connection to support mega resource applications, provide direct support for Flash10-based live broadcast, on-demand and recording, without installation of plug-ins, and support cross-platform applications. The platform deploys HD codec host, HD camera, large-screen display, and other equipment to the training classrooms as hardware to complete the live broadcast and recording of the training process. A multimedia interactive practice training system platform and server are deployed in the central computer room to facilitate the collection of teaching resources and application and storage of audio and video courseware in each training classroom. The application of the above devices and technologies can realize the integration of user management, resource management, data management, and instrument management and organically integrate the laboratory, the service object, and the external environment to ensure the automated operation and advanced development of the laboratory system. The multimedia interactive teaching platform consists of 5 modules,
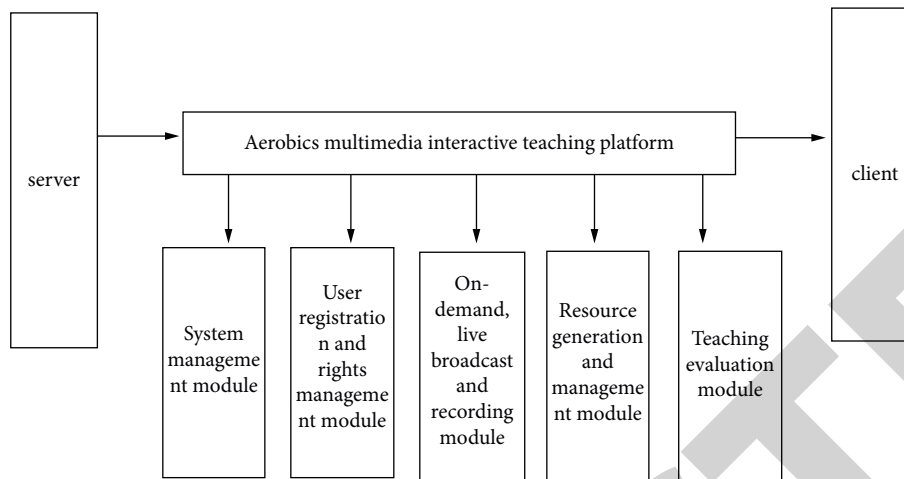
Figure 1: System structure.

namely, system management module; user registration and rights management module; on-demand, live broadcast, and recording module; resource generation and management module; and teaching evaluation module. The overall architecture of the platform is shown in Figure 1.

The system management module includes configuration of basic parameters, configuration of the central server, recording configuration, and upgrade and database management. This module is mainly configured and maintained by the platform administrator. In the user registration and rights management module, the platform defines five different types of users according to different usage rights: visitors and members are two nondeletable roles configured by default, and system administrators, teachers, and students are added as three custom users. Among them, the system administrator has the highest authority, and the administrator can grant appropriate operation rights to other four types of users. User registration function: the user has the status of a visitor when browsing the homepage of the platform and has the permission of "visitor." The user should click "Register" to enter the registration page and fill in the registration page information. After the registration is successful, the page automatically jumps to the personal center page. At this time, the user will be assigned the "Membership" role and the system administrator can also apply for the role change. User rights function: first, the system administrator user, mainly responsible for the daily maintenance and management of the entire system platform, with the highest authority, can control all modules of the system. Daily main responsibility for user management is experimental resource management, video recording, quality course production, and sharing approval. Second, the teacher user is mainly responsible for the input of resource information, including the upload of courseware or videos and student information interaction. Third, student users can study the resources online or download the resources needed, and they can visit the teacher online and ask the teacher what they need to solve. Recording function: the recording function is generally used by the system administrator. The administrator enters the background. In the

recording management, manual recording, quick scheduled recording, or recording according to the schedule can be performed separately according to the requirements. Resource generation and management module: users can record and upload videos, edit videos, create microcourses and other resources through the platform, and classify, modify, and delete resources in the management module. The resource library supports a quick search function for classification, which can be quickly searched and sorted according to the education category, course name, grade level, and so on. Teaching evaluation module: the system administrator needs to create a good teaching evaluation activity in advance in the background and then inform the relevant personnel of the corresponding event name, start time, and invitation code. After the assessment personnel log in to the front desk, they will be able to enter the teaching evaluation page. They can view the current status by checking the status of the list. The activity status is divided into three types: "already in progress," "not started," and "completed."

The users of the multimedia online education platform are roughly divided into three dimensions, namely, the teacher dimension, the student dimension, and the system management. From the perspective of teachers, the recorded panoramic video teaching and classroom homework, quizzes, and related teaching materials should be synchronized to the multimedia online platform. This is the most basic component of the platform content and the minimum resource to ensure student learning. At the same time, teachers should also be able to access the teaching resources of other teachers. Each teacher's teaching resources are seamlessly connected and can be viewed by each other. The evaluation of the scores should also be implemented in the platform. The biggest advantage of the platform is that it can break the limitation of time and space, so that the students' test papers can be scanned in the platform for pipeline review and then the system can automatically approve the score uploading teaching management-related system. At the same time, the platform should also be able to add a communication module between teachers and parents. This module is only open to teachers, so that teachers and parents
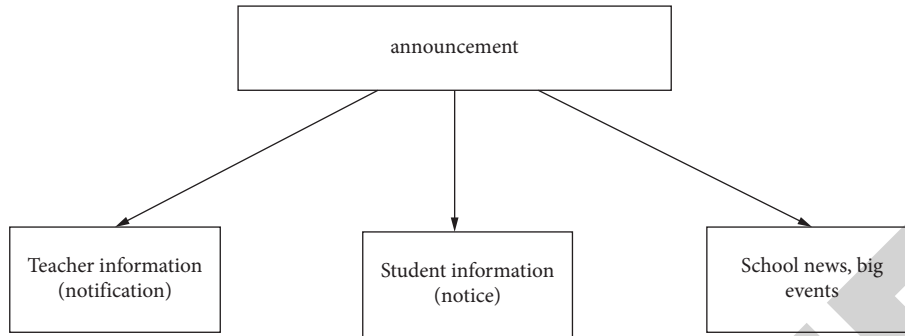
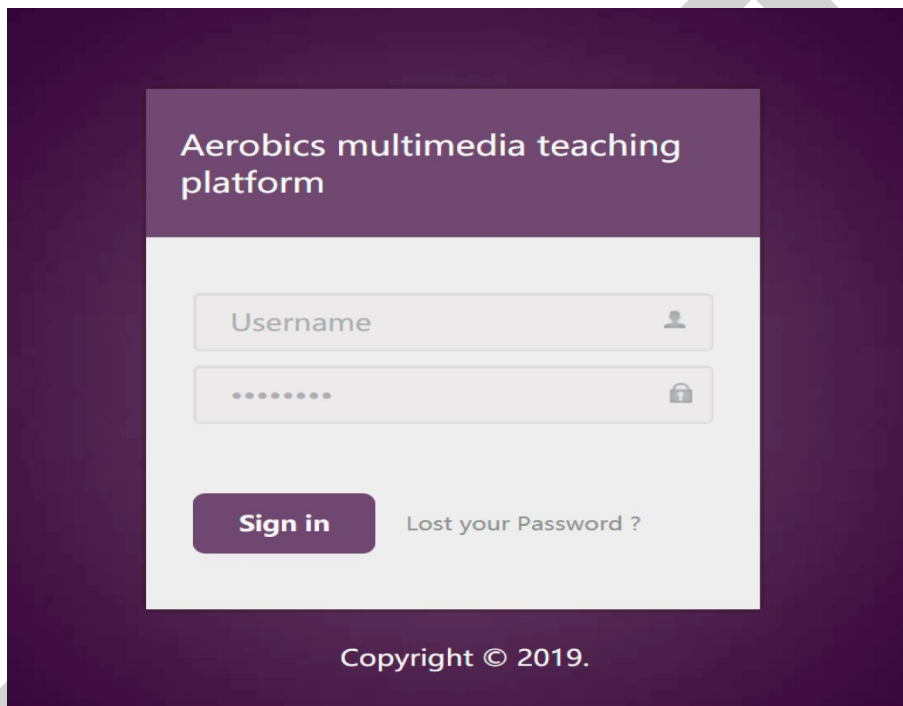FIGURE 2: Notification management.

FIGURE 3: Multimedia platform login.

can communicate and guide together to help college students establish good study habits. This includes a simple operation process. Simply put, students can enter the platform by entering the student number and password, and they can acquire education through the platform. The process of acquiring education should also consider the integration of students' learning goals, design different teaching contents for different students, and propose reasonable evaluation methods. Based on this simple operation, it is also necessary to have the highest level of convenience. It is convenient for students to understand their progress in a timely manner. According to the different learning progress, the prestudy and after-class review will be carried out according to the resources provided by the platform. In addition to the above factors, the platform must have a reasonable assessment system to facilitate students to test their own learning outcomes. Online communication is also the main factor. This communication is not a simple

language exchange. It should include the download of related materials, such as teacher's lectures and PPT. Teaching resources, such as student's study notes and other relevant learning materials, can be exchanged online. The system management dimension mainly includes two aspects of content. The first aspect is to ensure the good operation of the platform and ensure the integrity of the system and identification of the teaching materials.

The second aspect of system management is the management of notification announcements. This is not a notification notice in the traditional sense. The platform design should consider campus information, teacher information, new school initiatives, etc., as shown in Figure 2.

The core and fundamental function of the multimedia online education platform is to realize the management and platform maintenance in the process of teaching through the Internet. The above aspects mainly include multimedia teaching process, multimedia online interaction, and
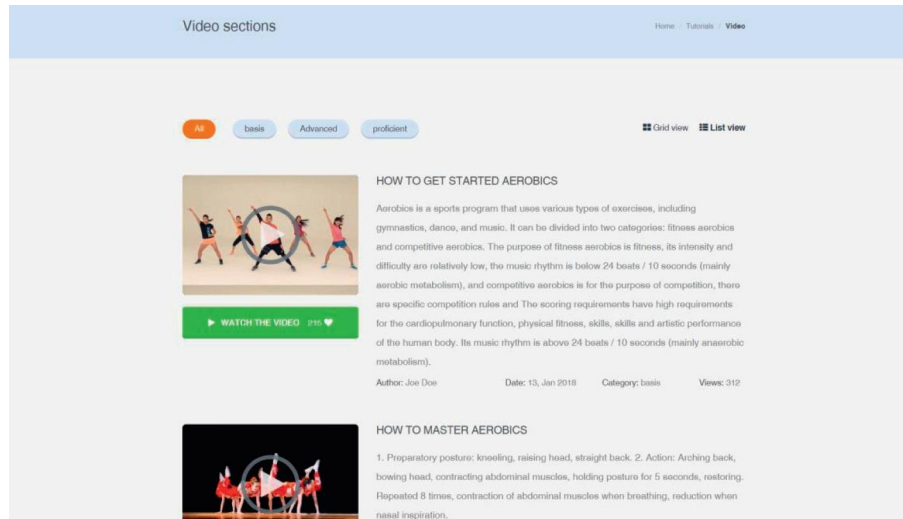
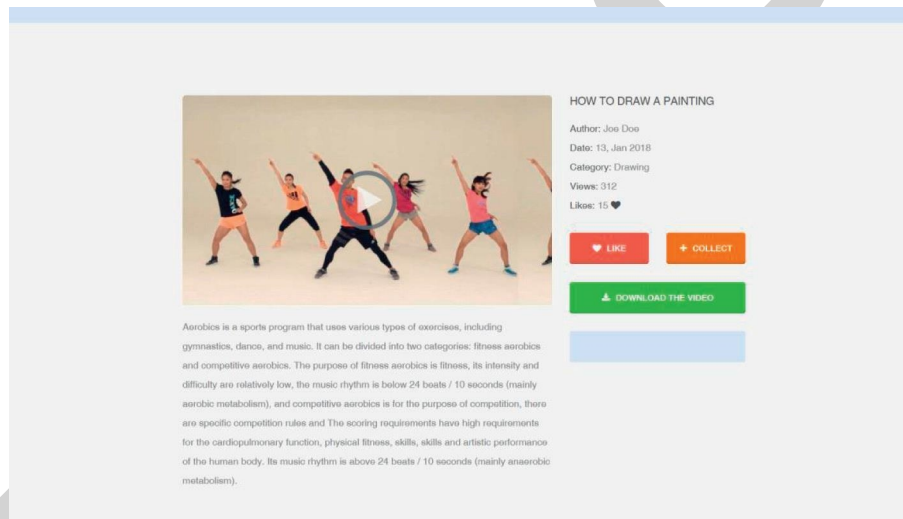FIGURE 4: Aerobics multimedia teaching video list.

FIGURE 5: Aerobics multimedia teaching video details.

scientific and reasonable assessment methods. The system login interface is given in Figure 3.

After logging in through the system, users can choose different levels of instructional videos for aerobics to watch and learn. They have basic, advanced, and proficient videos of all levels. The video also has related introductions including teachers, video dates, views, and more (Figure 4).

After selecting the corresponding multimedia learning video, the user can directly click on the video to view it, as shown in Figure 5.

The use of multimedia teaching methods has improved the teaching quality of aerobics, and the research indicators have basically achieved the expected results. Therefore, the implementation of the experiment is feasible and superior, and this teaching mode can be applied in the teaching of aerobics in physical education. It is worth noting that multimedia technology is only a teaching method, which is a beneficial supplement to traditional teaching. In teaching, on the basis of giving full play to the advantages of traditional aerobics teaching methods, we should absorb the essence of multimedia teaching and combine the two organically, so that they can develop their own strengths and complement each other, in order to achieve better results.

5. Conclusion

The main feature of cloud computing lies in the use of virtualization technology to integrate various software and hardware resources and provide them to users via the Internet. At present, major universities are very concerned about the changes brought about by cloud computing and are beginning to put relevant research results into practical applications. Platforms can fully share many excellent courseware resources, and the platform can automatically generate a large amount of courseware, which can make the teacher's ability develop in a balanced manner. Students can

also carry out targeted and hierarchical learning through the platform in combination with their own situation, and this can timely detect the ability of students to learn independently. For aerobics teaching, only by combining multimedia teaching with traditional teaching can we get the most out of it. Traditional teaching helps students to train in practice and can help teachers to further understand students. Multimedia teaching can achieve individualized development of students, enhance understanding of memory, and enrich the acquisition of professional knowledge. These two teaching modes are indispensable. Therefore, only by rationally combining the two can the advanced teaching method of multimedia be better served for teaching work. The experimental content designed by the multimedia teaching method in this experiment is not perfect, and the research results are still unreasonable. The scope of the experiment should be expanded, and further detailed and comprehensive exploration should be carried out to increase its effectiveness.

Data Availability

No data were used to support this study.

Conflicts of Interest

The author declares no conflicts of interest.

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