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Research Article

Application of Cloud Computing in the Optimization of College Calisthenics Teaching Mode

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Informatization teaching has become an important method of physical education. Especially with the support of big data and cloud computing technology, physical education teaching pays more attention to the use of information technology to provide rich data information, focusing on the development of physical education under the rich virtual reality environment, targeted scene atmosphere layout, and abundant learning resources. The reform and practical research of college aerobics teaching mode has gradually become an important topic in college aerobics teaching and research, and it has gradually attracted wide attention from teachers and students in colleges and universities. This article explores the status quo of sports aerobics teaching under the conditions of informationization and explores the application methods and methods of information technology in aerobics teaching, practically applies microclass and MOOC resources to physical education, and strives to organize and develop sports teaching intelligence with the help of information technology. In order to improve the quality of physical education and training with the help of information technology, it can meet the needs of students' independent learning and growth and optimize the efficiency of physical education.

1. Introduction

With the development of society, the degree of informatization is getting higher and higher, and people have a new understanding of information resources. Sports information resources in colleges and universities are an important part of the information resource database, covering new directions for the development of sports science at home and abroad, new achievements in sports scientific research, new technologies for training competitions, and so on. In addition, the comprehensive level of college sports is closely related to the collection and management of sports information resources to some extent. The rapid development of information technology has brought new opportunities and challenges to the construction of college sports information resources. The emergence of cloud computing technology has opened up new ways for the management and utilization of sports information resources. With the increase in the application of cloud computing, with the help of cloud computing technology, less investment can be used to solve the current problems to further improve the capacity of resource construction and information resource services and to promote sports teaching, sports promotion, sports scientific research, and other activities. This article is about the construction of sports information resources in colleges and universities. The current situation is analyzed, and new ideas for the construction of college sports information resources under the cloud computing environment are put forward. The innovation and change of teaching mode are the key to the college aerobics education meeting the needs of today's social development. The development of college aerobics education also needs to rely on the innovation and reform of the teaching mode to provide inexhaustible motivation. With the introduction of aerobics projects into the teaching of college physical education, aerobics began to be loved by college students, and the number of students participating in

aerobics elective courses is increasing every year. The application of innovative education in the teaching of aerobics in colleges is conducive to promoting students to fully seize the techniques and skills of aerobics and improving the overall teaching quality and efficiency. Judging from the current status of aerobics teaching in colleges [1, 2], the curriculum resources and curriculum system are not perfect. Different schools have different teaching equipment. Some schools even do not invite professional aerobics teachers, but are replaced by physical education teachers. In this case, the resources invested by colleges cannot satisfy the teaching needs of aerobics, causing many students to learn passively. In order to change this situation, colleges must keep up with the times, actively use the Internet, and integrate traditional teaching with the Internet. On the basis of building a network teaching platform, more network teaching resources have been developed [3–5]. In the era of Internet +, the aerobics teaching reform should make use of Internet technology, strengthen the integration of aerobics information teaching and traditional teaching, satisfy the actual learning needs of students, solve the problems in traditional teaching methods, and make the integrated education form of "Internet + education" play a greater role [6]. Under the circumstances of "Internet +," in-depth analysis of the effective countermeasures of network aerobics teaching in colleges is of great importance to promote the development of aerobics teaching in colleges and stimulate the students' sports potential.

2. Characteristics of Aerobics Teaching Mode

In college aerobics teaching activities, the existing teaching problems are mainly concentrated in the following several aspects. First, the students' enthusiasm for participating in aerobics is not high. Because the teaching content of aerobics is relatively boring, and the teaching knowledge is mainly based on movements, students must practice basic movements again and again, coupled with the similarity of each movement, leading to a gradual decrease in the initiative of college students to participate in aerobics. Under this teaching mode, aerobics teachers do not attach great importance to students' learning interests and learning needs, resulting in students passively accepting knowledge for a long time [7], which greatly affects the play of students' subjective initiative and even leads to the gradual loss of students' innovation ability and creativity, and a sense of weariness for aerobics learning. Under the influence of cramming teaching form, many students believe that aerobics and broadcast gymnastics have the same nature and their movements are basically the same, so they do not have enthusiasm for aerobics registration in the process of physical education course selection. First of all, some teachers are deeply influenced by the traditional teaching philosophy and still use the traditional thinking to teach in the aerobics practice course [8–10]. They one-sidedly emphasize the essentials of movements and the smooth completion of movements and ignore the coordination of students' limbs and the difficulty of some movements. This greatly affects the cultivation of students' innovative thinking and innovative ability. Secondly, in the teaching process, much concentration is paid to teaching, and the teaching method is too simple. Because the aerobics course is extra-curricular teaching, it is difficult for some students to concentrate in class when teaching. At the same time, for some students who are far away from the teacher [11], it is difficult to hear the teaching content of the teacher, so it is difficult to attract students' concentration.

In the process of carrying out teaching activities, teachers' teaching concepts can influence their understanding and choice of new teaching methods to a large extent. At present, most aerobics teachers in colleges in my country generally have the problem that their teaching concepts are too old. They still have obvious conservative psychology in the attempts of new teaching methods. They cannot adapt and accept the new teaching form well, which is bound to produce their teaching process, as shown in Figure 1. Although aerobics teaching in my country's colleges has comprehensively promoted the reform and innovation in recent years, the traditional teaching concepts and methods have not been completely abandoned. In order to gain the goal of teaching reform, aerobics teachers will focus on improving the teaching form and regard it as the core content of aerobics teaching [12, 13]. However, in the actual teaching practice process, teachers still take demonstration teaching as the leading factor. Teachers' teaching concepts have not kept pace with the development of the times, which makes it difficult for students to fully exert their dominant position in the classroom teaching process. In the teaching content, teachers often pay attention to the cultivation of students' aerobics skills. Therefore, teachers carry out teaching in strict accordance with the content of the textbook and require students to exercise in their spare time to ensure that the task is completed on time. Because teachers only teach knowledge in class but do not let students practice in class, students cannot achieve better results in learning, and there is no chance to express their ideas and innovation of aerobics, which leads to the phenomenon that the teachers teach the course content unilaterally and do not interact with the students effectively [14, 15]. Secondly, in the teaching process, teachers usually teach students the essentials and basic movements of this lesson, and then let students practice by themselves [16]. They pay less concentration to the continuity and standard of students' movements, which leads to the problems of students' nonstandard movements and differences in movement order, which greatly affects students' cooperative learning.

Although some colleges in our country use the network teaching form in aerobics teaching, they usually only evaluate some traditional indicators in the process of investigating the teaching situation [17]. Therefore, for students, only through the traditional way of learning, they can successfully complete the learning task. The current network teaching evaluation of aerobics in colleges is mainly based on the students' examination results, and less concentration is paid to other factors, so the application of network teaching form is greatly limited [18]. Most of the time, it is not the teachers' outdated teaching concept, but the traditional teaching form has to be adopted because of the constraints of

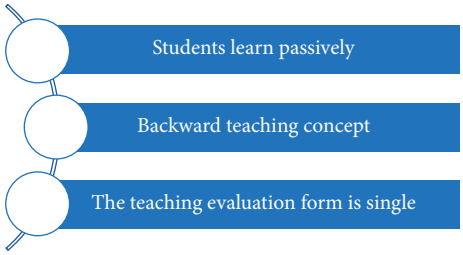

Figure 1: The current problems in college aerobics teaching mode.

teaching evaluation form and exam-oriented education mechanism. Therefore, in the process of using the network teaching form in aerobics teaching, most teachers do not combine the actual situation of students to carry out truly effective application, resulting in that their teaching form still does not really get rid of the shackles of traditional teaching form, and it is difficult to give full play to the advantages of network teaching form.

3. Cloud Computing in Aerobics

Efficient sports information resources are integrated based on cloud computing technology. The aerobics education is placed on the system client through cloud computing technology for system users to manage and integrate sports information resources. The spatial structure of the cloud computing technology of the system is shown in Figure 2. The application of innovative education in college aerobics teaching is conducive to promoting students to master aerobics technology and skills and improving the overall teaching quality and efficiency. In the current teaching process, there are still some problems such as backward teaching concept, passive learning, and low teaching efficiency. The main reason is that the lack of innovation in curriculum teaching leads to low interest in learning, which affects the practical effect of aerobics teaching in colleges. Therefore, the application of innovative education to promote the reform and development of college aerobics teaching is of great significance.

Cooperative teaching is one of the critical forms of physical education classroom teaching; aerobics teaching can also make full use of this teaching measure. Teachers can choose the way of cooperative learning. This not only can better enrich the training methods of aerobics but also can effectively stimulate students' enthusiasm in aerobics training. In the specific training, we can first create the situation, according to the actual situation of students, provide sports situation and reasonable grouping, maintain the similarities and differences between groups, and carry out heterogeneous grouping in the way of helping and guiding, so as to stimulate the atmosphere of classroom activities, as shown in Figure 3, and then carry out diversified interactive teaching; the teaching of "practice before teaching" should start from the form of cooperation and interaction and stimulate students' enthusiasm for participation in the classroom in the form of rich sports. Most students like interactive activities. At this time, teachers can make full use of everyone's needs to carry out cooperative

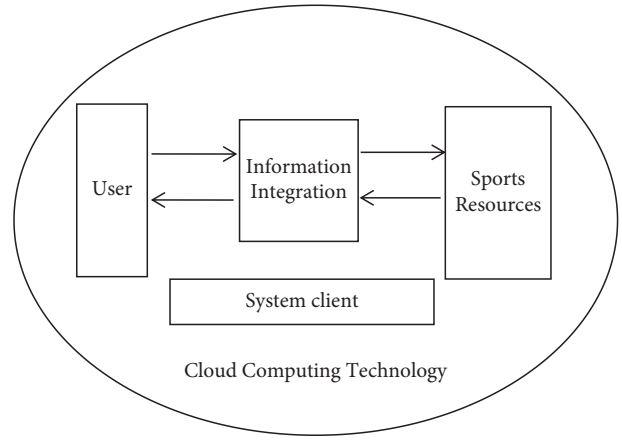

Figure 2: System space composition of the cloud computing technology.

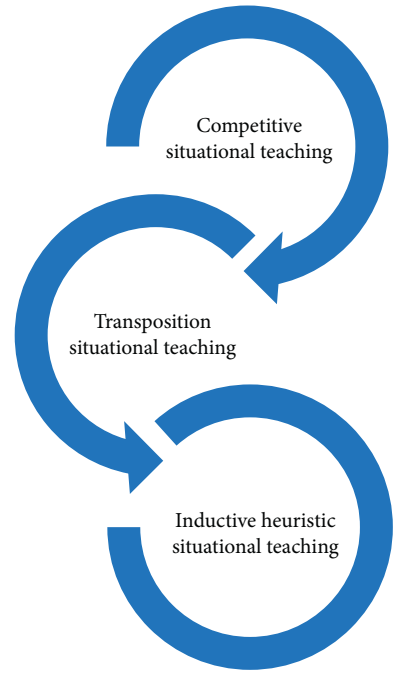

Figure 3: The construction of innovative teaching mode of aerobics in colleges.

teaching in the way of demonstration, group confrontation, pass test, and group evaluation, so as to enhance students' enthusiasm for classroom participation. In view of the lack of cooperative learning atmosphere for students, colleges need to build a strong cooperative learning atmosphere and create a good learning environment. According to the teaching content, online teachers can upload the relevant teaching materials of the course to the online teaching platform, clarify the learning tasks, and require students to study independently in groups. Offline can further enhance the relevant teaching equipment required for the course development and create good conditions for students' cooperative learning. For example, we can add the pedal, fitness, and other equipment for exercise. At the same time, teachers should be aware of the importance of students'

cooperative learning. In specific teaching, students can be required to practice in groups and supervise each other, so as to promote students to maintain a high enthusiasm for learning. Teachers can also use collective training to give students more opportunities to play freely, so as to digest what teachers teach.

In the practical application of innovative education in college aerobics teaching, the most critical problem is to change the traditional education concept. If the teaching of aerobics in colleges still adheres to the conventional education concept, pays attention to the coordination and standardization of aerobics movements, and takes the traditional teaching materials as the overall teaching framework and all teachers use the same teaching system and each student needs to master the same teaching content, then the innovation education will not be able to achieve the ideal effect in the teaching of aerobics in colleges. Therefore, the teaching of aerobics in colleges must innovate the traditional education concept, truly integrate into the concept of talents, realize the transformation from exam-oriented education to quality-oriented education, construct innovative teaching mode, guide students from traditional passive receiving knowledge to active discovery and exploration, and strive to cultivate College students' innovative awareness of aerobics. Aerobics teachers must have the ability to develop and create and tap the individual value of students. Aerobics has the characteristics of diversity and complexity. Students have more freedom in the learning process, which can reflect the students' physical function and learning ability in real time and lay a solid foundation for carrying out innovative education. Aerobics teachers must abandon the teaching idea of teaching material as the core and have the teaching ability of teaching students in accordance with their aptitude.

"Online" teaching resources should be purposefully prepared, the content should be vivid, clear, and easy to understand, should be in line with the teaching content of each class, and make good preparation so that students can easily and happily accept the online knowledge of each class and fully prepare for the "offline" class psychologically. "Online" teaching can adopt heuristic teaching methods and they can independently think about problems and find solutions to problems in the stage of students' preparation for learning. At the same time, "online" discussion and evaluation are also a critical means to consolidate students' mastery of aerobics. Through "offline" learning and practice, questioning, discussion, summary, and evaluation are the sublimation of "online" and "offline" learning in each class. Figure 4 shows the innovative construction of teaching form of aerobics in colleges. From "preparation process result," teachers teach clearly and students learn clearly, which realizes the optimization of teaching. In general, colleges will not arrange too many class hours for aerobics teaching, and most students will not spend time to exercise after class. This phenomenon is mainly due to the lack of full mobilization of students' enthusiasm. Therefore, in order to better cultivate and enhance students' ability of independent thinking and independent innovation, teachers should make more efforts in the arrangement and design of homework after class. Students can arrange their own time and homework design,

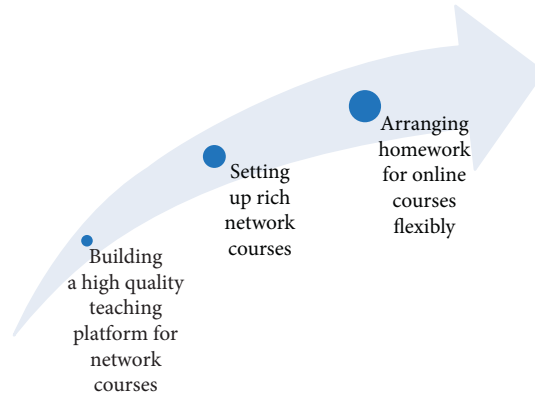

Figure 4: Practical application of aerobics network course construction in the era of Internet +.

and teachers are only responsible for reviewing the specific feasibility and results of the design. In this way, students can not only master specific theoretical knowledge more deeply in practice but also play a positive role in improving students' independent thinking ability and innovation ability. In the daily teaching process of aerobics, we should pay concentration to the cultivation of students' enthusiasm. We should not only enhance students' innovative consciousness and curiosity but also be good at discovering students' advantages and enhancing students' self-confidence so that each student's thinking ability can be greatly developed. In the process of implementing aerobics teaching, teachers need to consider the students' needs of dynamic development and make reasonable innovation from the aspect of evaluation. Teachers should actively practice the incentive teaching idea, conduct in-depth research on students' learning needs in aerobics, give students effective emotional incentives, and praise and affirm excellent students so that the students can have self-confidence in their own sports performance and show more vitality and enthusiasm in the process of participating in aerobics training in the future. At the same time, in the process of evaluation, teachers can emphasize that students actively participate in it, communicate with each other on the matters needing concentration in football through interactive communication, and also promote the effective sharing of experience between each other. In the evaluation, teachers need to strengthen the implementation of innovation from the specific level of technology carrier and give play to the role of microclass in guiding and guiding students' self-correction in the evaluation field. According to the specific presentation in the microvideo, teachers should guide students to think, promote the in-depth implementation of reflective learning, and let students make progress in reflection and grow up in error correction.

4. Results

For the integration of sports information resources, the application of cloud computing technology to design a sports information resource integration system based on cloud computing can not only effectively integrate and

manage sports information resources but also ensure that sports information can be shared in cloud computing and improve actual sports information. The quality of resource integration management and active application value are worthy of popularizing and applying this technology in practice. Aerobics teaching in colleges, as a vital physical education discipline, has a positive significance for college students to strengthen their physique and realize the development of physical and mental health. Under the circumstances of "Internet +" era, the development and construction of aerobics network course in colleges are not only the realistic need of aerobics teaching reform but also the objective requirement of meeting the students' diversified learning needs. Colleges in the construction of aerobics network course should be close to the aerobics teaching reform and the practical needs of college personnel training. Teachers should actively apply the network teaching form, promote students to better learn aerobics knowledge, enhance students' sports comprehensive quality, and promote students to achieve all-round development.

5. Conclusion

In order to continually enhance the teaching quality of aerobics in colleges, teachers must reasonably apply and innovate the teaching skills of aerobics. According to the actual learning situation of students, teachers should adopt various effective teaching strategies to build an experiential teaching concept. In view of the current situation of students' sports, teachers can design the aerobics education system and teaching links and use multimedia technology in the classroom teaching of physical education and constantly enhance the comprehensive learning effect of college students so that the sports ability of college students can be sustainable development.

To integrate innovative education into college aerobics teaching practice, we can innovate education environment, create a high-quality sports atmosphere, innovate education concept, strengthen the cultivation of innovative ability, innovate education objectives, carry out hierarchical and classified teaching, innovate education methods, enrich curriculum organization form, innovate education evaluation, and realize comprehensive teaching assessment. These ways can achieve the breakthrough of traditional aerobics teaching mode and promote the healthy and sustainable development of aerobics teaching.

Data Availability

Data sharing is not applicable to this article as no datasets were generated or analyzed during the current study.

Conflicts of Interest

The authors declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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References

[1] H. Lian, "Research on the application of the function of computer management system in college aerobics teaching," *Journal of Physics: Conference Series*, vol. 1744, no. 3, 2021.

[2] C. Jia, "Research on the application of aerobics training methods in colleges," *Boxing and fighting*, vol. 23, no. 3, pp. 94-95, 2021.

[3] J. Wang, "Research on the development of college aerobics network teaching resources," *Research and practice of innovation and entrepreneurship theory*, vol. 4, no. 3, pp. 84-85, 2021.

[4] F. Meili, "Problems and countermeasures of cooperative learning in aerobics teaching," *Sports science and technology literature bulletin*, vol. 29, no. 2, pp. 154-155, 2021.

[5] M. Yang and Z. Zhu, "Exploring the theory and practice of aerobics teaching reform in colleges," *Contemporary sports science and technology*, vol. 11, no. 3, pp. 101-102, 2021.

[6] J. Wang and X. Su, "Innovation and reform of aerobics teaching mode in colleges," *Contemporary sports science and technology*, vol. 11, no. 2, pp. 1-2, 2021.

[7] C. Shan, Z. Liu, J. Ge, W. Hai, and C. Wang, "Application of wechat platform in aerobics teaching under new media environment," *Contemporary sports science and technology*, vol. 11, no. 1, pp. 1-2, 2021.

[8] L. Wang and K. Jin, "Research on the effectiveness of online and offline mixed teaching mode in improving students' learning ability--taking aerobics teaching as an example," *Contemporary sports science and technology*, vol. 11, no. 01, pp. 188–190, 2021.

[9] C. Lu, "Research on the innovation of aerobics teaching mode in colleges," *Heilongjiang science*, vol. 11, no. 23, pp. 98-99, 2020.

[10] C. Huang, "On the problems and countermeasures of aerobics teaching in colleges," *Contemporary sports science and technology*, vol. 10, no. 33, pp. 142-143+146, 2020.

[11] J. Yin, "The application of online and offline integration teaching mode in aerobics teaching in colleges," *Research on ice and snow sports innovation*, vol. 4, no. 22, pp. 42-43, 2020.

[12] J. Yao, "The current situation and optimization path of aerobics teaching in colleges from the perspective of online class," *Science and education guide (first ten issues)*, vol. 11, no. 31, pp. 152-153, 2020.

[13] C. Ting, "Research on the construction measures of the integration mode of aerobics teaching and training in colleges in China," *Contemporary sports science and technology*, vol. 10, no. 30, pp. 169-170, 2020.

[14] L. Wang, "Teaching mode reform of college aerobics course based on MOOC," *Xueyuan*, vol. 13, no. 28, pp. 24-25, 2020.

[15] J. Yang, "The feasibility of applying flipped classroom to aerobics teaching in colleges," *Science and education guide (next issue)*, vol. 45, no. 27, pp. 108-109, 2020.
[16] H. Wang, X.-M. Zhang, G. Tomiyoshi et al., "Association of serum levels of antibodies against MMP1, CBX1, and CBX5 with transient ischemic attack and cerebral infarction," *Oncotarget*, vol. 9, no. 5, pp. 5600–5613, 2017.
[17] J. Yao, L. Wang, K. Liu et al., "Evaluation of electrical characteristics of biological tissue with electrical impedance spectroscopy," *Electrophoresis*, vol. 41, no. 16-17, pp. 1425–1432, 2020.
[18] W. Gaihua, Z. Tianlun, D. Yingying, L. Jinheng, and C. Lei, "A serial-parallel self-attention network joint with multi-scale dilated convolution," *IEEE Access*, vol. 9, no. 5, pp. 71909–71919, 2021.