

Research Article

Research on Multimedia Teaching Model of College Sports Driven by Wireless Communication Network Environment

Shengzhi Peng 

Henan University of Economics and Law, Zhengzhou 450002, China

Correspondence should be addressed to Shengzhi Peng; 20120050@huel.edu.cn

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This paper for wireless communication network environment driven college sports multimedia teaching, better use of all kinds of sports teaching resources, makes the limited sports equipment sports teachers and other education resource be fully used and shared, improves the quality of classroom teaching, enriches the students' extracurricular sports activities, and breaks the traditional restrictions of time and space of physical education. The college sports multimedia teaching model supplements and promotes students' learning of physical education in and out of class, provides new learning space and time for college students, greatly improves students' initiative and enthusiasm in learning education, enhances the popularization of physical education theory knowledge, and scientifically and systematically improves students' physical education quality. In this paper, the application of multimedia technology in college physical education teaching has carried on the theoretical research; this paper mainly discusses that the university sports teaching compared with the other culture has the characteristics of and the feasibility of the application of multimedia technology in the school sports teaching and auxiliary function of physical education teaching research, the standard of multimedia wireless communication under the network environment drive platform design criteria. This paper discusses the design criteria of multimedia network education platform for physical education and puts forward the overall structure model and function module model.

1. Introduction

The continuous maturity and progress of wireless communication network technology and Internet have promoted the development of teaching system and distance education using network. At the same time, the combination of modern network communication technology and multimedia technology, and applied to the teaching activity under the network environment, to create a new teaching mode, broke the traditional teaching mode in time and space constraints, because it is different from traditional education mode of interactive and autonomous learning mode, strengthening the teachers and students, the communication between students and students. Overcome the single auxiliary teaching system faults can timely feedback information in the physical education teaching that is a bilateral activity of teaching and learning. The most practical thing in teaching is not only to explain and demonstrate but also to enable students to understand visually, so as to adapt to the future of physi-

cal education, physical training, scientific research, and teaching management, and cultivate high-quality sports. The development of sports wireless communication network environment drives system based on the hardware base conditions such as broadband network and campus network, gives full play to the network function, and makes the wireless communication network environment drives the real wide application.

Physical education is a bilateral activity of teaching and learning, which is a process of perception and cognition of movement. Therefore, self-observation teaching is one of the better teaching methods. In teaching, teachers often explain and demonstrate visually. However, sports technical skills are strong, and the structure is complex, and sometimes the teacher demonstration also feels small from the heart. Multimedia-assisted teaching is one of the effective methods. Physical education teaching space is wide and open, the scope of students' activities is large, and the teaching facilities are all the same. As a result, the teaching fails to

break through the traditional teaching mode of “teacher’s explanation in the day, action demonstration, students’ imitation, and self-practice after class.” Compared with traditional classroom learning, collaborative learning, as a learning mode, can give more play to students’ initiative and subjectivity [1] and is more conducive to cultivating students’ collaborative ability and lifelong sports awareness and ability, so that students can adapt to the requirements of today’s society earlier and faster. The development trend of education today is to build an open and socialized system in which individuals and the society have extensive connections and interactions. Online education is the best practice of this open and socialized system [2]. In view of this, put forward the thinking and solutions, this study established a gym computer-aided teaching system and experimental research [3]; on the basis of studying the junction interface collaborative learning theory and the characteristics of the physical education teaching, preliminary built sports, and health online learning system, the two systems on the whole interface formed a wireless communication network environment [4] to drive the sports multimedia teaching system. The system provides a platform for students to study independently and cooperatively.

This paper studies to solve the problem of how to promote the multimedia wireless communication network environment driven platform to college physical education through the advantages of multimedia display driven platform in the process of physical education. Make full use of the resource sharing function of the Internet, effectively and reasonably integrate the resource information of the multimedia wireless communication network driving platform of colleges and universities and the resource information of the sports websites, achieve the purpose of complementing each other’s advantages, and break the space and time limitation of traditional sports teaching. Using the timeliness, interactivity, and display of multimedia network, it provides online learning guidance and helps for more college students and noncollege student sports fans.

2. Related Work

By using the method of network investigation [5], this paper analyzes the current situation of the construction of network courses for modern physical education majors. The analysis finds that “the construction of online courses for physical education majors is still in its infancy, and there are relatively few online courses. The construction of online courses shows obvious regional distribution.” It also points out that although the learning resources on the websites of universities are rich, they are not organically combined with the course content. The overall design level of the web page as well as the evaluation and feedback of the problems need to be improved. By means of questionnaire survey, the author makes a survey on the key teachers of multimedia technology in physical education and finds that the application of multimedia network teaching in physical education is far less than that of other subjects.

It is pointed out that it is necessary to strengthen the application of multimedia and network teaching in physical educa-

tion, improve teachers’ cognition and mastery of multimedia and network teaching methods, and strengthen and perfect the construction of multimedia and network teaching in campus physical education [6]. Using the literature material law, investigation method, comparison method, expert consultation method on the basic characteristics of network teaching, network teaching in colleges and universities sports from two aspects such as the meanings of made detailed elaboration found and pointed out that the development of the multimedia network teaching will change the traditional system of competitive sports centered; teaching will be more interesting and practical [7]. The direction of physical education will be integrated, scientific, and humanistic. This paper discusses the teaching of multimedia network in foreign countries and analyzes the feasibility of the application of multimedia network teaching technology in college physical education. Sports teaching form of network teaching has carried on the detailed elaboration, and the future development trend of network teaching of physical education teaching is prospected [8], outlook, to set up the new concept of constructing network learning society, at the same time improve the multimedia network teaching information literacy educators and the educated, to strengthen the construction of sports network education and research. Through literature, field research, questionnaire survey, comparative analysis, and other research methods, this paper describes the application status of network teaching in universities [9] and points out that there are many problems in traditional college physical education, such as the simplification of teaching content, less teaching hours, and the lack of connection between traditional teaching and after-school physical education. It is found that the application of network teaching technology in physical education makes the teaching process more effective and is more conducive to the realization of physical education objectives. At present, the problems existing in college sports network teaching include distortion of sports network teaching behavior, poor interaction of college sports network teaching, single material, and so on [10]. Finally, it points out that the network teaching of physical education has this huge development space, but because of the limitations of the network, so physical education not completely rely on the network teaching form.

Literature material method, experimental method, and mathematical statistics method for the application of network course in the university sports dance teaching in the three hypotheses to make research to argue that the application of the network course in the university sports dance teaching can improve students’ mastery of technique, can improve the students’ performance, and can improve the students’ ability of the plait [11, 12]. Through experimental statistics, it is concluded that the application of network course in sports dance teaching is complementary and unified to traditional sports dance teaching, and its rich resources can make students enrich and improve their dance skills and choreography ability while taking themselves as the subject of learning. Let the students not only in class but also after class sports dance autonomous learning.

There are similarities and differences between PE teaching and other courses. The similarities are as follows: both are bilateral activities between teachers and students, and

teachers should play a leading role in this process. Teachers should guide students to learn in a purposeful and planned way, teach them certain knowledge and skills, develop students' cognitive ability, and cultivate their personality and ideology and morality [13]. The difference is that the teaching of other courses is mainly through teachers' teaching and demonstration, through students' own thinking process, to understand and master the cultural and scientific knowledge taught by teachers, while physical education requires not only teachers' explanation and demonstration but also students' direct participation in exercise activities to master skills and techniques. In this process, students have both mental activities and physical activities. The teaching of other courses is mainly to develop students' intelligence, while physical education is not only to develop students' intelligence but also to develop students' physical strength [14]. Apply multimedia technology to sports teaching, changed the traditional sports teaching to "teaching" as the center of teaching mode, teachers teaching the use of modern means of multimedia teaching, at the same time with the aid of human-computer interaction and students communicate with each other, inspire the students' participation [15], and embody that the sports multimedia teaching is based on "learning" as the center of teaching thought. This will greatly promote the change of the diversity and practice of physical education teaching methods and the change of the way of thinking of students to learn physical knowledge and skills. In the traditional physical education teaching in colleges and universities, the teachers give lectures mainly, supplemented by pictures, wall charts, and other forms of exhibition. Art lesson is mainly dependent on the teacher's explanation and demonstration; due to the limitation of subjective conditions, many technology demonstration is hard to be totally standard and specification; students are difficult to form the correct action in a short-time concept; students' learning situation also can only rely on the teachers' feedback; the teaching effect was palpable [16, 17]. At present, although the schools with better conditions have invested in multimedia equipment, the characteristics of large capacity and large information of multimedia are not fully played. Objectively speaking, at present multimedia in PE teaching is mostly just to feed the teacher's blackboard writing. Teachers only display the saved teaching content in class, which makes it difficult for students to find the key points, but increases the ambiguity of learning content, and it is impossible to achieve the four-in-one effect of multimedia picture, text, sound, and image [18, 19].

Physical education teaching is a practical bilateral activity of teaching and learning, which are interdependent and inseparable. In the traditional teaching process, teachers teach knowledge and technology to students through dynamic explanation and demonstration. Students can master basic knowledge and skills of sports and develop their quality through positive thinking activities in active physical exercises [20]. In the teaching of physical education practice, students perceive technical actions mainly through "listening" and "seeing," and "seeing" is the main source of information for students. This requires teachers to have a very high technical level and demonstration ability; otherwise, it

is difficult to do a very standard demonstration action, and any teacher is only good at a few items; it is impossible to be omnipotent [21]. In class, let students watch, analyze, and compare with them, ask questions and answer questions, so that students can watch and listen while thinking and speaking and so that students can avoid many common mistakes in practice [22, 23]. It not only helps students to master the movements quickly but also cultivates their observation ability and analysis ability. For example, when teaching "fish jump forward roll," students can hardly grasp the feeling of "jump." At the same time, the practice is prone to bending legs, and the body is not tight and other phenomena, and the teacher can only do it at one go, decompose the demonstration. If multimedia technology is used, it will be much simpler enhanced through the comparison of right and wrong [24, 25]. The role and advantages of multimedia technology in physical education practice class teaching are unmatched by conventional teaching. The combination of multimedia technology and physical education practice class teaching is a new and effective teaching means in the reform of physical education, and multimedia technology assisted physical education practice class teaching is worth trying, exploring, and promoting [26]. Multimedia teaching is mainly in the indoor use of multimedia teaching platform for students to teach, its teaching equipment is relatively fixed, and physical education is mostly carried out outdoors, which determines the application of multimedia technology in physical education; there are certain limitations.

3. Research on Multimedia Teaching Model of College Physical Education Based on Wireless Communication Network

3.1. Multimedia Teaching Model Architecture. Work together reliably and effectively within a framework to arrange the learning activities necessary to achieve learning objectives. It can be divided into classroom teaching, broadcast course, self-study package, network teaching, laboratory teaching, seminar, courseware, and teleconference system. At present, the popular network teaching system is based on B/S. Therefore, we propose a structural model of online sports cooperative learning system based on B/S structure and a computer-aided learning system model of gymnasium based on C/S structure. Figure 1 is the system structural model. In this system, the client is connected with the wireless communication network server, connected with the cooperative learning knowledge base server through the Internet, and completed asynchronous communication and asynchronous collaborative learning. Through the touch screen terminal multimedia courseware in the stadium for real-time multimedia collaborative learning and through the video equipment to record students' action video for video replay and analysis constitute a collaborative learning environment.

The cooperative learning model is an adaptive knowledge base system which combines the functions of wireless communication network services and artificial intelligence reasoning technology. It points synchronous collaborative learning and asynchronous collaborative learning two most,

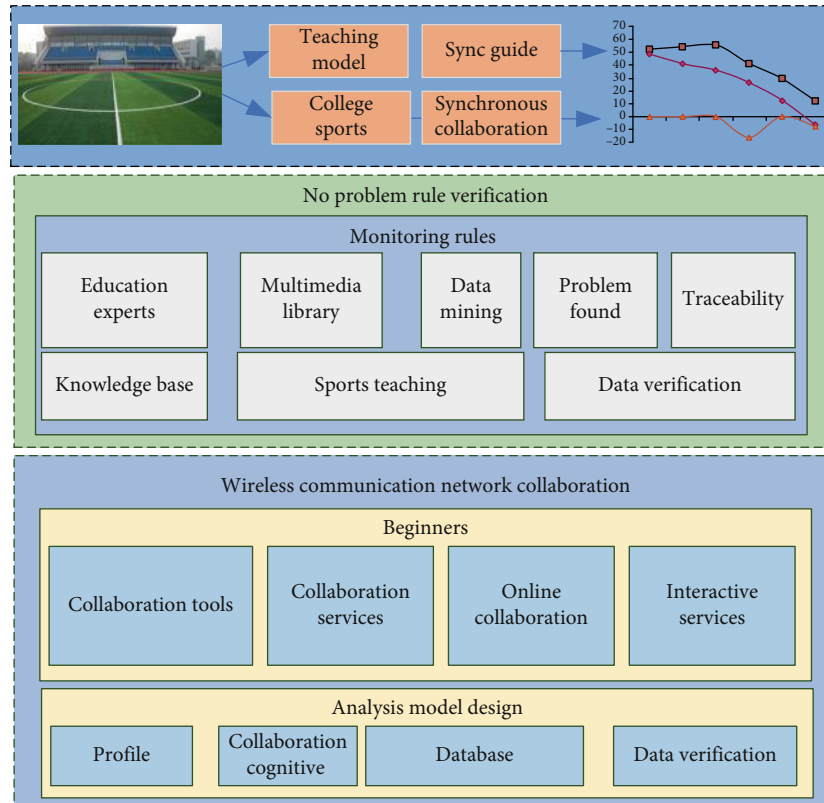


FIGURE 1: Architecture diagram of sports multimedia teaching system driven by wireless communication network environment.

allowing collaboration learners through wireless communication network browser in any node on the network flexible use of tools for synchronous collaboration services discussion teaching system, chat system (touch screen), or asynchronous discussion (virtual classroom, BBS, and E-mail are not affected by geographical location and restriction).

The system is mainly divided into two modules, teacher module and student module; the main functions are as follows:

Teacher module: by making multimedia courseware to courseware database together with peer experts, teachers can also use touch screen computers to teach synchronously in class, guide students to learn synchronously and cooperatively, and use cameras or cameras to record and replay actions and analyze actions. Teachers can also answer questions online, QQ, mailbox answer questions, and the information stored in the answer database. Teachers can view the information of resource database, maintain the sports knowledge base and sports menu library, and effectively manage the corresponding course resources in the server.

Student module: students can customize the learning menu, asynchronous learning, also can download courseware from the courseware database to run locally, can view the teacher's question answering and interaction, and can also send teachers to the teacher to ask questions, at the same time, effective use of the resource library information for collaborative learning. After logging in the system, students can choose courses to study and exchange according to the customized sports menu or knowledge list.

3.2. College PE Multimedia Teaching System under Wireless Communication Network Environment

3.2.1. Touch Screen Computer-Assisted Learning. Touch-screen computer-aided learning is to divide students into cooperative learning groups according to the needs of teaching and the site. In the teaching process, each group carries out multimedia learning and practice according to the plan and time. Multimedia cooperative learning, through watching the demonstration and explanation of multimedia courseware, as well as the playback of personal action video, carries on the human-computer interaction, mainly to establish the correct action technology concept and correct the wrong action, and is the generalization and differentiation stage of motor cognition. The expert group of students improved technical actions, differentiated actions, and finally reached the automatic stage of motor cognition. The main task was to exercise and improve health, and the interaction between teachers and students was carried out. See Figure 2 for the learning strategies.

3.2.2. Online Autonomous Collaborative Learning. Online collaborative learning is independent learning through online and offline courseware in the online learning system, so that students can master the basic knowledge, technology, rules, and judgment of the project. Students are the main body of learning. Students learn and master sports knowledge and skills in independent learning activities, and on this

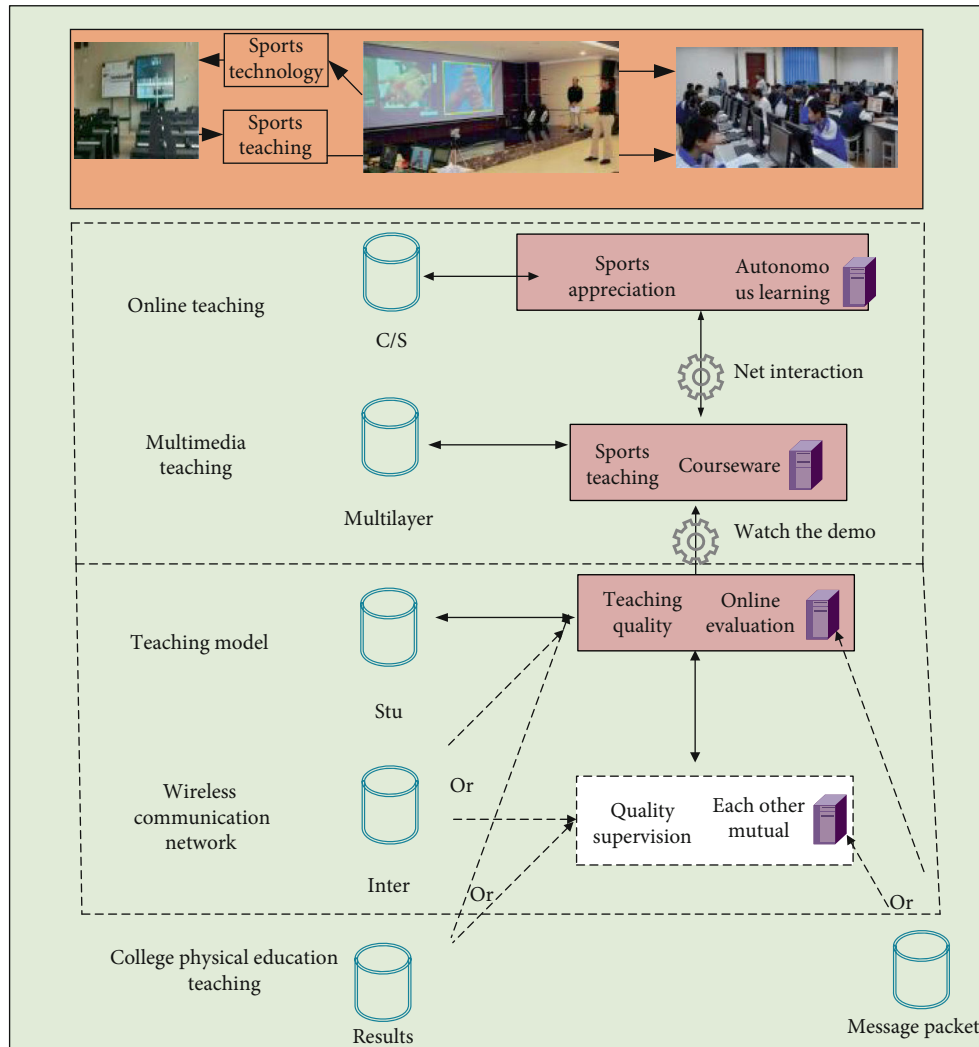


FIGURE 2: Computer-supported cooperative learning strategy diagram.

basis, carry out classroom group cooperative learning and share collective learning and practice results. See Figure 2 for the teaching strategies.

Online autonomous learning, the application of the concept of mental compensation, and autonomous learning in the process of building system, let the student to experience the fun of sports in the autonomous learning, cultivate the students' learning interest, and improve the students' physical education learning ability, and the scientific uses of network autonomous learning habit for future jobs for lifelong physical education learning lay the foundation.

3.2.3. *Teaching Method System.* Teaching process is a complicated process, and no teaching method can completely replace other teaching methods. In teaching, we should optimize a variety of teaching methods, such as heuristic and guided teaching. The role of teachers has changed under this teaching mode. In the past, teachers mainly gave lectures in the traditional classroom, but now, teachers have to impart knowledge, and they are also the designers of the curriculum. The function of teachers has become the designers of the curriculum and the

controllers of the progress of the curriculum. Students become active explorers of knowledge, active practitioners of skills, and participants in the teaching process.

3.2.4. *Online Autonomous Collaborative Learning.* In order to support learners to actively explore and complete knowledge acquisition, learners should be provided in the learning process a variety of information resources, and these media and resources are used to support students' autonomous learning and collaborative exploration cable. Therefore, the selection and design of teaching media in traditional courseware design will have a new place manage way. For example, how and where should information resources be obtained, and how can they be used effectively.

3.3. *Research on College PE Teaching Model Driven by Wireless Communication Network and Multimedia Network.* Multimedia network teaching platform adopts the latest B/S (browser/server) structure, and its structure is shown in Figure 3. The characteristics of the structure are as follows: the environment used by the client is a standardized universal wireless

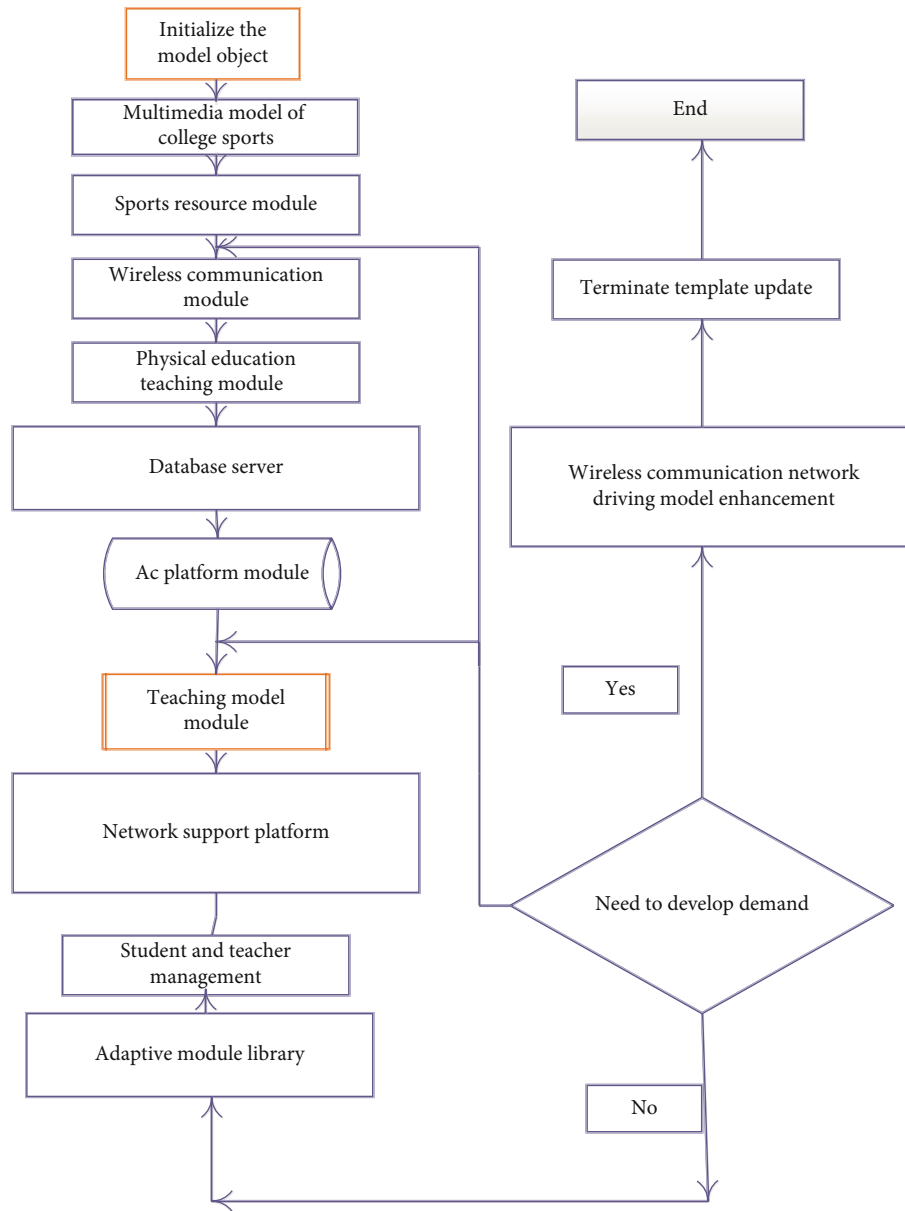


FIGURE 3: The flow chart of the teaching mode of college sports multimedia network based on wireless communication network.

communication network browser, and all applications are stored on the wireless communication network server, which can be directly downloaded when needed. Easier to manage and maintain, because the client does not require dedicated software, you only need to update the software on the server when upgrading network applications. Such a structure has good expansibility and openness; using the standard TCP/IP communication protocol, the school can according to their own development needs to expand the system at any time.

The working principle of the model is as follows: teachers and students access the multimedia network teaching platform through the browser, and students use personal computer devices to connect with the server through the browser to carry out the related sports teaching content learning, sports resource information query, timely communication between teachers and students, personal data

upload, and other operations. Administrators of multimedia network teaching platform and PE teachers in colleges and universities can update and maintain the contents stored in the server through browsers, and upload the latest PE teaching resources to the server. Meanwhile, they can answer questions online with students and give sports guidance to students. The server consists of wireless communication network server and database server. The wireless communication network server storage systems of all kinds of application modules complete customer application functionality; it receives the user's request and the client and translated into a database request after interaction with the database server and the interaction results in the form of wireless communication network page to download to the browser; users can request the results observed. The database server stores the database and its management software

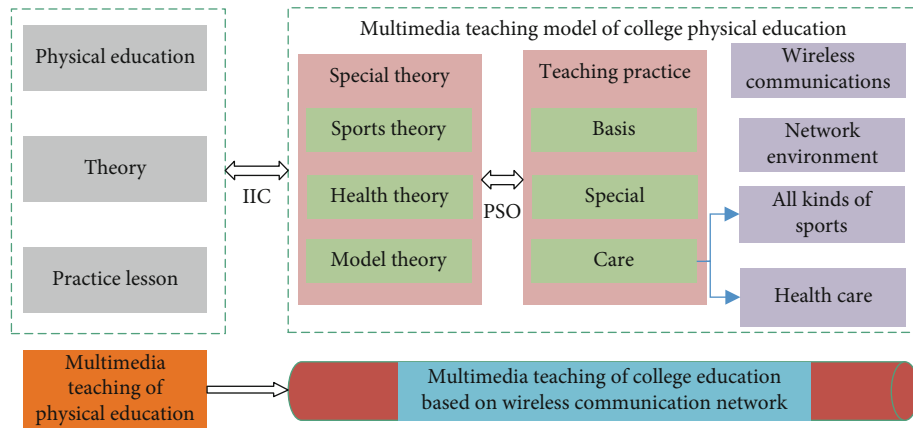


FIGURE 4: Overall structure of teaching content of sports multimedia courseware.

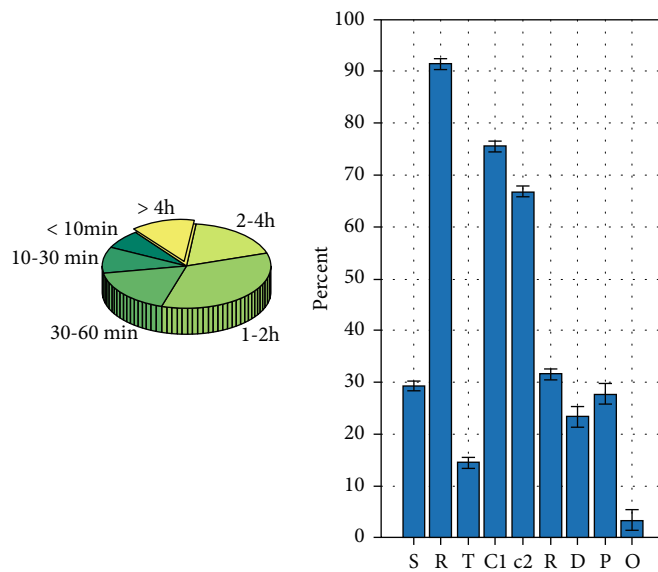


FIGURE 5: Duration and location of college students using mobile phones to surf the Internet.

required by the system. It operates the database according to the request sent by the wireless communication network server and transmits the result to the wireless communication network server.

With the in-depth development of classroom teaching reform, multimedia technology can be widely used in sports teaching, which can not only cultivate students' interest in learning but also enhance students' understanding of specific movements, so that students can master the key points of movement technology in a short time and learn more relevant knowledge.

3.3.1. *Flexible Use, Stimulate Interest.* In the teaching of physical education practice, the sound, light, color, and shape of multimedia have an impact on students' psychology, satisfy their strong thirst for knowledge and strong curiosity, and stimulate their interest in learning. For example, in the teaching of basic basketball tactics (cross cutting, screen, etc.), most students have little understanding of it, so they are dull and nervous when they cooperate with

teachers to demonstrate tactics. As a result, it takes a long time to reach the expected teaching effect. We can use basketball game software for auxiliary teaching, which can set up the competition environment freely under the conditions allowed by the competition rules and can show the basic tactics with no effort.

The overall structure of multimedia courseware is composed of teaching objectives and teaching contents. The teaching objectives of courseware include strengthening students' physique; mastering basic knowledge, technology, and skills; cultivating students' good ideological and moral character; and improving students' observation and imitation ability. The teaching content of courseware includes theoretical courses and practical courses, and the teaching content structure of courseware is shown in Figure 4.

3.3.2. *Help Students to Establish the Concept of Action as Soon as Possible.* As mentioned above, the effect of college sports model can be greatly improved if the multimedia

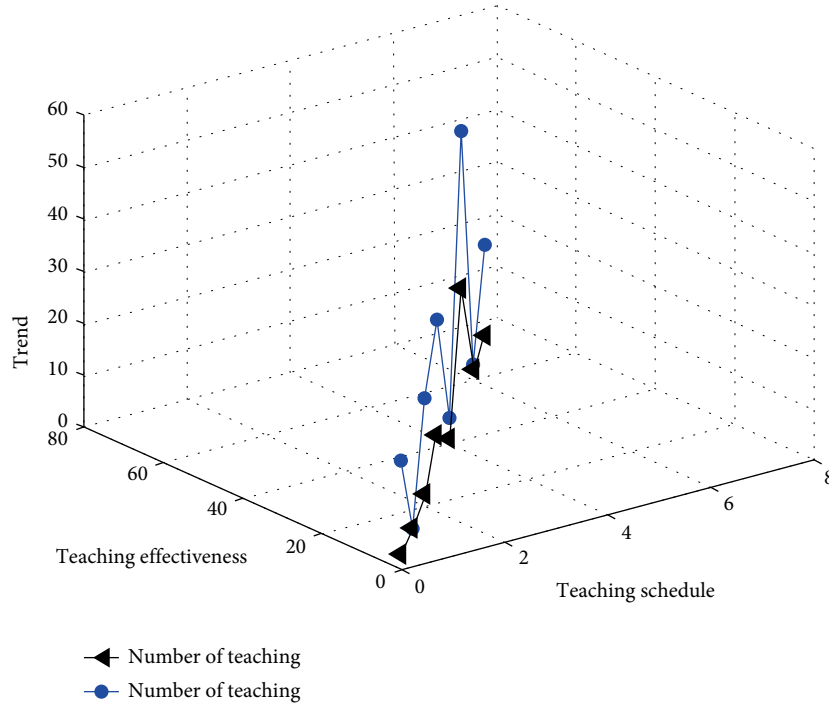


FIGURE 6: Sports multimedia teaching trend analysis function.

wireless communication network environment is used to drive the theoretical teaching. For example, in the football theory class, when the teacher talks about the concept of “offside,” most students feel that the concept is easy to understand, but it is difficult to grasp in practice. Teacher not only can use the form of a drawing but also can make use of audio and video materials of some typical and atypical in football match “offside” lens edit together, in a timely manner from the perspective of the students to demonstrate what is meant by “offside,” and is equipped with a hammering out commentary, mobilize students’ various senses, making students not only from the perceptual rationally and understand this concept.

3.3.3. Timely and Accurate Feedback to Students on Their Learning Progress, Improve Learning Efficiency. Students sometimes feel that their actions are wrong. In order to avoid communication barriers between teachers and students, this barrier can be eliminated through the guidance of the teacher and the slow experience of the students’ behavior; if is a certain movement formed the athletes improve or improve the performance of sports, this will lead to the low level of sports training slower performance improvements. If we record the athletes’ movements of each jump and let the students watch it by slowing down the movements, then the students can find the problems in time and correct them. Or then through the computer processing, prior to the recording of some excellent athletes of this action, the two are compared; the difference can be clear at a glance. The college sports model driven by multimedia wireless communication network is also suitable for the training of professional athletes.

TABLE 1: Regression results of college sports multimedia teaching model.

Y	Coef.	Std. Err.	z
	0.832	0.356	2.284
Impart knowledge before class	1.235	0.523	2.563
	0.756	0.445	1.786
Internalize classroom knowledge	-0.768	0.589	-1.323
	0.632	0.312	1.082
	0.817	0.435	2.045
	0.923	0.305	1.946
	0.789	0.389	2.988
	0.005	0.004	0.369

4. Example Verification

In terms of the use of wireless communication networks and mobile devices, the frequency, time, and location of mobile phones with Internet access capabilities are designed. This aims to fully grasp whether students use mobile devices through wireless communication networks under the multimedia teaching network environment and hardware conditions of university sports learning; this lays the premise foundation for carrying out s-ICM college sports multimedia teaching model in college students. The survey data show that, first of all, all the college students involved in the survey are equipped with mobile phones, of which 96.85% can realize the mobile Internet function, and the rest do not have the Internet function or network service; it can be seen that it is very common for college students to be equipped with smart Internet phones. Mobile phones have become the daily

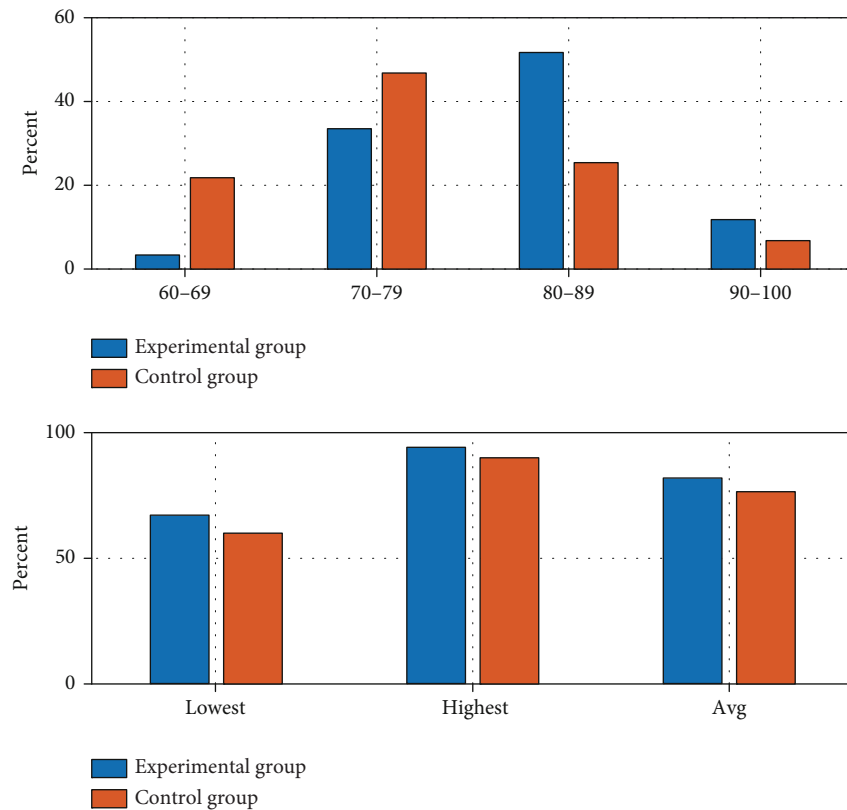


FIGURE 7: Comparison between the experimental group and the control group.

necessities of modern people for interpersonal communication and self-entertainment, which has also laid a good user base for the smooth development of the research. Secondly, in the survey of the frequency and duration of using mobile phones to surf the Internet, more than 70% of students use mobile phones to surf the Internet several times a day; nearly 65% of students surf the Internet for more than 1 hour a day, among which 12% of students surf the Internet for more than 4 hours a day. From here also can see student to use mobile phone Internet dependence and infatuation degree. In the survey of the places where students use mobile phones to surf the Internet, the vast majority of students choose to surf the Internet in dormitories, classroom breaks, and other places in their spare time. However, the survey shows that there are still a considerable proportion of students who use mobile phones to surf the Internet in class. The reasons for this are various. They often use mobile phones to chat on the Internet or surf microblogs, watch news, and play games during class in the classroom. Some students use mobile phones because they are not interested in what they are taught, or the teachers are dull and boring. At this point, teachers need to take advantage of the situation, while improving the teaching level and teaching methods, guide students to effectively combine the use of mobile phones with teaching activities, so as to achieve the optimization of classroom teaching effects (see Figure 5).

Faced with teaching students how to effectively control the status and effects of the classroom, we placed the solution on the Tencent Cloud Analysis WeChat public platform

with data analysis functions. This determines the idea of big data analysis, fully mining and extracting the data of the WeChat background public platform, and providing an intuitive display of exhibits through the data visualization interface. Observe and master the progress and validity of students' pre-class learning. In the detailed explanation of sports multimedia teaching, the specific reading situation of a certain message can be further analyzed, as shown in Figure 6.

The satisfaction tendency of students who choose to use wireless communication network to carry out college sports multimedia teaching and learning is I . F (function variable of WeChat platform in preclass knowledge transmission, teacher guidance variable and activity form variable in classroom learning, and deep reflection and cooperative inquiry variable in after-class inquiry). The satisfaction tendency of students choosing to use wireless communication network to carry out college sports multimedia teaching and learning is expressed by function Y , which depends on X_i (various factors influencing students' choice of this mode). $Y = 0$ and $Y = 1$ are used to represent the two tendencies of students' satisfaction or dissatisfaction with the model, which is a typical binary choice problem. For a given x represents the probability that the corresponding individual will make a choice. This study selects the probit and logit models commonly used and finds that the logical distribution can better fit the probability distribution of the random error term than the normal distribution. Therefore, the logit model is used in this study to analyze students' satisfaction with the teaching mode (see Table 1).

The final exam scores of the experimental group and the control group were arranged in the score interval data, and ICONS were visualized. It can be seen intuitively from Figure 7 that the performance of the experimental group is significantly better than that of the control group. Most of the subjects in the experimental group scored between 70 and 90 points, among which 70-79 points accounted for 33.5% and 80-89 points accounted for 51.4%, accounting for 85.9% of the total proportion of the class; that is, more than 80% of the students scored in the excellent range, while the value of the control group was 71.7%. Two-thirds of the students scored between 70 and 79. Among students with scores above 90, 11.5 percent were in the experimental group, while nearly half were in the control group. In addition, the experimental group is still superior to the control group in the comparison of the highest score, lowest score, and average score. It can be seen that the experimental class has the characteristics of outstanding high scores and high excellent ratio. Therefore, through the comparison of the two groups' academic performance, it can be confirmed that the teaching mode has a positive and effective impact on students' performance.

The application of multimedia network teaching platform can be fully realized. Universities share their teaching information resources through the Internet and link with multimedia network teaching platform of other universities, so that they can also obtain teaching information resources of other universities on their own multimedia network teaching platform. In the information exchange module of multimedia network platform, we can communicate with each university through real-time communication software, electronic bulletin board forum, and so on. Such communication can be between teachers and students as well as between teachers and students. In this way, it provides a good information environment for students to carry out research learning. This form of cooperation between colleges and universities is more conducive to the balanced development of physical education.

5. Conclusion

The making process of sports multimedia wireless communication network model courseware is a system engineering. It is an application software compiled by the creators on the basis of multimedia system software and with the help of multimedia editing tools. From the structure design of courseware, design steps, selection of topics, design methods, design principles, and to the final design tools of choice need careful deliberation, careful consideration, in order to design a scientific, reasonable, efficient teaching software. The application and development of network teaching not only involves the reform of teaching methods and teaching means but also affects the development of teaching model and educational theory. Multimedia network courseware based on wireless communication network is one of the main forms of multimedia courseware in the future and also a resource base for developing online teaching in the future. By combining the wireless communication network system with the multimedia network teaching platform of college sports

and applying the more advanced wireless communication network system to the multimedia network teaching platform of college sports, it can realize the synchronous updating of teaching information resources and achieve the optimization of resource sharing and at the same time strengthen the cooperation between universities and enterprises; the combination of multimedia network sports teaching platform and enterprise e-commerce platform can not only achieve mutual benefit and win-win situation but also provide a new way for modern sports teaching.

Data Availability

The data used to support the findings of this study are available from the corresponding author upon request.

Conflicts of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

- [1] D. Zou, "Research on college English teaching model based on multimedia and network," *DEStech Transactions on Social Science Education and Human Science*, pp. 19–21, 2017.
- [2] G. Xiaozheng, "Construction analysis of ecological college English teaching model in computer network environment," *Revista de la Facultad de Ingenieria*, vol. 14, no. 1, pp. 27–31, 2017.
- [3] L. Hong-Mei, "Research on independent learning ability based on the network multimedia vocational college English teaching model," *Agro Food Industry Hi Tech*, vol. 28, no. 1, pp. 3494–3496, 2017.
- [4] L. Guo, "Research on single chip microcomputer teaching platform based on wireless communication," *Concurrency and Computation Practice and Experience*, vol. 2020, no. 1, pp. 324–345, 2020.
- [5] Y. Zhao and C. Zhao, "Research on college English teaching model under the computer environment," *Social Networking*, vol. 8, no. 2, pp. 104–111, 2019.
- [6] C. Ji-Yun, "The support environment construction for teaching and research of physical education based on emerging information technology," *Journal of Computational and Theoretical Nanoscience*, vol. 14, no. 4, pp. 2015–2020, 2017.
- [7] K. Ren and Y. Bai, "Research on innovative methods of college students' sports teaching based on Internet education technology," *Kuram ve Uygulamada Egitim Bilimleri*, vol. 18, pp. 45–56, 2018.
- [8] W. Qian, "Study on the new model of college English teaching under the setting of multimodality," *Universal Journal of Educational Research*, vol. 3, no. 8, pp. 473–477, 2015.
- [9] H. Rec, "Research on medical college English teaching under interactive environment," *Basic & clinical pharmacology & toxicology*, vol. 117, no. 4, pp. 40–40, 2015.
- [10] Y. Z. Jian, "Research on the promotion strategy of multimedia network educational platform in college sports education," *Journal of Physics Conference Series*, vol. 1533, pp. 022084–022098, 2020.

- [11] Y. Sun, "College English teaching model under the environment of multimedia," *IPPTA: Quarterly Journal of Indian Pulp and Paper Technical Association*, vol. 30, no. 7, pp. 680–686, 2018.
- [12] L. Kun, "The influence and analysis of network multimedia teaching management on college psychological teaching model," *Educational Sciences: Theory and Practice*, vol. 18, no. 6, pp. 283–297, 2018.
- [13] C. Wengang and W. Fang, "Practical application of wireless communication network multimedia courseware in college basketball teaching," *EURASIP Journal on Wireless Communications and Networking*, vol. 2021, no. 1, Article ID 73, 2021.
- [14] C. Wang, "Exploration and practice of college English mobile teaching mode under the WeChat environment," *Revista de la Facultad de Ingenieria*, vol. 32, no. 12, pp. 1028–1035, 2017.
- [15] C. Nan, "Research on the teaching model of college English autonomous learning in the environment of Internet," *Theory and Practice in Language Studies*, vol. 6, no. 8, pp. 1624–1638, 2016.
- [16] W. Fang, "Research on college English teaching mode based on multimedia network platform and autonomous inquiry," *International Journal of Hybrid Information Technology*, vol. 9, no. 7, pp. 337–346, 2016.
- [17] H. He, "Research on innovation model of computer assisted higher mathematics teaching in college and university," *Revista de la Facultad de Ingenieria*, vol. 32, no. 9, pp. 115–120, 2017.
- [18] J. Li, "Based on multimedia and network social environment—A study of pragmatic acquisition in college English teaching," *Journal of Contemporary Educational Research*, vol. 5, no. 4, pp. 134–149, 2021.
- [19] D. Cao, "Research on college mathematics teaching method based on computer modeling thought," *Journal of Physics Conference Series*, vol. 1992, no. 2, pp. 22064–22079, 2021.
- [20] M. Song, "Research on the new mode of college students' mental health education under the network environment," *Journal of Contemporary Educational Research*, vol. 4, no. 8, pp. 87–102, 2020.
- [21] J. Chen and B. Bai, "Research and practice on the teaching reform of college physical education under the multimedia environment," *Agro Food Industry Hi Tech*, vol. 28, no. 1, pp. 10–13, 2017.
- [22] Y. Yubing and M. Congying, "A multimedia network English listening teaching model based on confidence learning algorithm of speech recognition," *International Journal of Electrical Engineering Education*, vol. 2, no. 7, pp. 8467–8489, 2021.
- [23] H. Linfeng and T. Qian, "Research on HPM teaching supported by Hawgent dynamic mathematics software: take "the recognition of circle" as an example," *Journal of Contemporary Educational Research*, vol. 5, no. 8, pp. 148–154, 2021.
- [24] Y. Fan, "Research on cultural introduction model in college English teaching," *International Journal of Education*, vol. 11, no. 2, pp. 25–38, 2019.
- [25] T. Xiaoping, "Research on college English writing teaching under the background of big data: taking Leshan Normal University as an example," *Theory and Practice in Language Studies*, vol. 9, no. 1, pp. 60–78, 2019.
- [26] Y. Mingzhu, "Research on the influence of network distance teaching on the reform of college physical education," *Journal of Physics: Conference Series*, vol. 2021, no. 4, pp. 42055–42061, 2021.