Entry Point of Sports Network Course Resource Development and its Management Performance Evaluation

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Abstract

With the rapid development and popularization of network technology, the application of the network in the field of education has become more and more extensive. Currently, network technology is affecting all aspects of sports with unprecedented influence. At present, there are many researches on the development of sports network curriculum resources, but there are relatively few researches on the entry point of the development of sports network curriculum resources and which management mode to implement. In order to study the resource development entry point and management performance evaluation of sports network courses, This article uses the method of literature data to consult and refer to various domestic and foreign literature related to this article to study the management performance evaluation of sports network courses. The final results show that the development of physical education network curriculum resources should be based on the design concept of physical education network teaching, starting from physical education teaching materials, and combining the needs of students and schools to excavate and collect curriculum resources. In the experimental research on the performance evaluation of online course resource management, we found that the humanistic management mode and technical management mode of online course resources have a great influence on the performance evaluation of online course resource management. In the management model before the improvement, students choose courses based on their own interests and hobbies. The newly added course resources are more attractive to students, and the number of students who choose them accounts for about 50% of the total number; in the management model after the improvement, The effective management model is more attractive to students, and the number of students who choose the improved old curriculum resources has increased by 5%. Therefore, to manage the online course resources with a scientific and reasonable management mode is the focus of the development of sports online course resources.

1. Introduction

1.1 Background Meaning

In recent years, with the deepening of today's ideals of health, physical education courses have received more and more attention [1]. Sports and student health education are getting more and more attention from society and schools. However, the traditional joint university physical education method can no longer meet the needs of current physical education teaching. At the same time, with the rapid development of network technology, computer technology and multimedia technology, and with the needs of the times, modern teaching models such as network teaching and multimedia teaching have emerged at the historic moment, opening up new horizons for the development and reform of sports technology. As part of "Internet + Education", online teaching has also begun to be used in the field of sports academies. Network technology has introduced new methods for sports reform and promoted the development of sports network courses. Sports network courses are based on sports education technology and are set up in accordance with the development of the sports industry in the network age. Its development has opened up new horizons for the reform of sports, brought new methods, to a certain extent, has overcome the shortcomings of traditional teaching, imparted sports knowledge, and improved
the depth and breadth of sports theoretical knowledge. However, the long-term development of online sports resources is mainly concentrated on the content of textbooks. At the same time, the manual has not been studied in depth according to actual needs, and the convenience and timeliness of the Internet have not been fully utilized. The materials required for curriculum resources have changed the source of sports network design resources and reflected the atmosphere of the times. These problems ultimately lead to the lack of narrow, superficial, peak, relevance and convenience of online sports resources. The development of information technology networks in recent years has penetrated into different fields [2]. Online courses that conform to the "Internet + education" trend are the general trend of China's future higher education reform and development. The application of the Internet in the education field has changed the dissemination of educational information and promoted the development of educational thought, educational methods and educational methods. The use of the Internet in education not only provides people with a large number of convenient learning opportunities, enriches the learning environment and teaching resources, but also makes learning activities more autonomous and personalized. The application of the Internet in education has broken the traditional teaching time and space. The update speed of teaching content and education system will be accelerated day by day. Therefore, they use the classrooms, the university network and the Internet currently belonging to the university's physical education department to develop high-quality online courses, and conduct research-based research teaching on this basis. Teaching research and reform of physical education department in ordinary universities. It has important theoretical significance and practical value for improving the quality of classroom teaching and cultivating students' innovative spirit and practical ability. The construction of university sports network courses in our country is the embodiment of current sports and sports communication theory. A systematic analysis of the current situation of the construction of network courses in physical education colleges is carried out, and a new direction for the construction of my country's sports network courses is explored. Online courses have attracted more students to participate in physical education, which provides inspiration for sports theory and sports communication from a new perspective. Research on the entry point of the development of sports network curriculum resources and management performance evaluation, aiming to provide specific and effective management ideas for the development of sports network curriculum resources to ensure the effective development and management of sports network curriculum resources. The main body of responsibility for sports network curriculum resources at all levels can be realized.

1.2 Related Work

Li took a university education technology "content analysis" network course as the research object. Through the construction process of platform function modules, he discussed the construction and application of network course resources based on the Moodle platform from two aspects: theory and practice [3], but The research is too one-sided. Wang focused on the theoretical value, construction goals, construction content and advantages of online course construction [4], but the data source of this study is not accurate and the research results are unreliable. In order to find the fundamental reason from the development of school physical education resources, Li mainly discusses the value orientation, resource development, influencing factors and knowledge development conditions faced by physical education
curriculum from two aspects [5]. Chang's research focuses on reviewing the progress of the physical education curriculum reform in five colleges and universities in recent years in terms of curriculum objectives, curriculum structure, curriculum content and teaching methods, curriculum resource development, curriculum evaluation reform, etc. [6], but the research methods There are limitations. Fu-Xing analyzes the current problems in the development and utilization of physical education curriculum resources in colleges and universities, and at the same time puts forward specific development and utilization countermeasures for this problem [7], but the experimental steps of this research are too cumbersome. Hai-Long summarized the characteristics of Ultimate Frisbee through literature, logical analysis and other research methods, combined with the existing problems in school physical education, and discussed the feasibility and development path of incorporating it into school physical education [8], but this research There are errors in the experimental results in. Hong constructed the most rigorous regional water resources management performance evaluation model, and used appropriate mathematical methods to evaluate regional water resources management capabilities [9], but the cost of this research was too high. Yi-Chun explores the feasibility analysis of university teaching and scientific research teaching, physical education, and sensory network construction, and provides technical support and curriculum resources for the development of physical education professional network quality courses [10]. Guazzelli evaluated the performance of the resource management module in the cloud environment, which includes processing available resources during execution and ensuring the quality of service defined in the service level agreement [11], but the calculation process of this study is too complicated and the experimental data is too large. Fu's research aims to design the framework of the performance evaluation system based on the characteristics of Chinese technology companies [12], but the design ideas of this research do not match the actual logic.

1.3 Innovation of This Article

Restricted by actual experimental teaching conditions, it has become an inevitable choice to carry out online experimental teaching of modern distance higher education in China at this stage, which requires the construction of experimental network courses in modern distance higher education in China [13]. This article studies the entry point of the development of sports network curriculum resources and the performance evaluation of sports network curriculum resource management, and conducts research and analysis on the content of this article through the method of literature data. The innovations of this article are as follows: (1) The research content of this article adapts to the current development trend of social teaching mode and educational philosophy; (2) This article uses the literature method to research and analyze the subject, referring to the experience and results of previous scholars, has a certain theoretical basis; (3) This article analyzes the development entry point and management performance evaluation of online course resources to ensure the effectiveness and practicality of the development and management of sports online course resources.

2. Proposed Method

2.1 Sports Network Course
In order to enable students to become future leaders more effectively, higher education increasingly needs to get rid of traditional teaching methods [14]. Online courses are the sum of teaching content and teaching activities aimed at specific topics expressed through the Internet. This is a new form of expression in this course under the conditions of the information age. The development of online courses: The first generation provides students with teaching materials and other related materials through the Internet, and links to specialized education websites. The second generation is to provide educational materials on the Internet, but it also requires students to use electronic asynchronous two-way communication via e-mails, announcements, etc. In addition to the first and second generation functions, the third generation can also conduct two-way two-way communication through Web chat and video conference rooms. For some functions in the learning process, online courses have basic functions, such as openness, interactivity, communication, collaboration and autonomy. Online courses should usually include training resources (at least some training resources should be included). Online tutorials that only include manuals are not complete online tutorials. This is also the difference between online and offline courses.

Physical education is an important part of college students' physical exercise [15]. With the rapid development of computer network technology, the network course center has been gradually popularized in major universities across the country, and gradually applied to various courses [16]. Sports network courses are developed in response to the development of educational technology in the network age and the needs of the physical education curriculum. Of course, the definition of sports professional network courses is also based on the definition of network courses. Sports network courses have realized the innovation of teaching concepts, promoted the cultivation of applied talents, can provide students with abundant sports learning resources, increase the time and space for students to study independently, and promote the transformation of sports learning methods [17]. The sports network course is the sum of the teaching content and teaching activities of the network sports course. It consists of two parts, namely, sports content organized according to specific sports goals and the teaching strategy and support environment of sports network education. In addition to integrating the common features of online courses, online courses for athletes should also emphasize the characteristics of the sport, that is, through multimedia software, it can display technical links that are difficult for teachers to clearly display. Cartoons or videos can help students understand the basics and difficulties of knowledge more intuitively. Professional sports network courses are web-based sports courses, guided by advanced training ideas, training theories and learning theories. The learning process has key characteristics such as openness, interactivity, sharing, collaboration and autonomy. In the Internet age, sports online courses are a challenge to traditional physical education. It directly leads to the tightening of physical education time and the expansion of space, leading to the development of physical education courses from legal consolidation to illegal differentiation. It gives full play to the advantages of online courses, makes up for the shortcomings of traditional classroom teaching, cultivates students' innovative thinking, improves students' overall quality, and at the same time increases students' interest in learning [18].

2.2 Entry Point for Resource Development
Online course resources refer to dynamically generated materials and information that interact with teachers and students in the teaching process and are used for teaching purposes. It mainly includes all resources related to the course in the online course. The establishment of online teaching resources is a long-term key task. In the development process, practicality and ease of review, integrated design and step-by-step implementation must all be considered. According to the needs of development, the school will implement the principles of batch investment, batch development, gradual refinement, and rolling development, and strive for a high starting point, strict requirements, and independent development (must have its own intellectual property rights). A batch of diverse styles and strong practicability, Course network teaching resources that can meet multi-level needs. Only by finding the entry point of development based on the characteristics of online course resources can the effectiveness of development be ensured and the efficiency and quality of development can be improved. In a broad sense, only by finding the entry point of development based on the characteristics of online course resources, can the efficiency of development be guaranteed and the efficiency and quality of development improved. From the perspective of macroeconomics, the development of online curriculum resources needs to explore physical education curriculum resources from teaching materials to meet the requirements of online physical education. Therefore, the entry point should be based on the design idea of sports network teaching, starting from the use of sports teaching materials to the use of sports network course resources. At the same time, it is necessary to combine certain resource collection technologies to integrate the independent development and resource collection of sports online courses. Effective development and use of physical education curriculum resources can not only promote students to participate in sports, but also support and promote the reform of physical education curriculum to a certain extent [19].

The course of Sports Network is the first course organized according to the theme logic. It has a strict logical structure and system. It requires the course to combine the basic concepts and principles contained in this course in a fluent manner to help students understand the laws of movement of different things through thematic research. But we should not be limited to physical education textbooks, but should use creative books to avoid copying books. Physical education courses in colleges and universities should not be conducted only in the classroom. The emphasis on the development and utilization of the curriculum can improve the quality of physical education courses and cultivate college students' attitudes towards physical exercise [20]. That is to say, the development of sports network curriculum resources should be based on teaching materials, constantly monitor and predict the needs of students, schools, and society, and use the network as the basis to expand ideas and use planning resources to conduct targeted and practical activities inside and outside the school. Sports research. In order to satisfy students' knowledge, skills and knowledge about sports and health, and serve for the teaching of sports network courses. The development of sports network curriculum resources must be ultimately applied to students, and the resources developed should also be targeted to students. Therefore, it is necessary to consider the needs of students as a guide for the development of sports network curriculum resources, namely in the "student center." Focus on students' sports knowledge, technology and knowledge skills, and use this as the starting point for developing sports network
curriculum resources. Only from the perspective of the students, find out what students are interested in. At the same time, students should have many opportunities to apply the knowledge they have learned in different situations and "externalize" these knowledge. Can mobilize students' interest and enthusiasm for sports online teaching.

The collection of sports network course resources should have a certain logical sequence, as shown in Fig. 1.

2.3 Performance Evaluation

Performance evaluation is an important management tool. It provides performance information and results by evaluating the performance of a specific aspect of the evaluation object and comparing it with related plans, goals and standards. Performance evaluation is an objective, fair and accurate comprehensive evaluation of the company's operating income during a specific operation period. Insufficient understanding of the indicator system and defects in the construction of the indicator system can easily affect the results of performance evaluation [21]. Sports network curriculum resources should be based on the evaluation results to influence the value and behavior orientation of the curriculum resource development team, so as to improve the efficiency and quality of curriculum resource development and management. The purpose of its performance evaluation is to help curriculum resource development and managers choose the best development method, reduce the time and energy of curriculum resource developers in the development process as much as possible, accelerate the pace of curriculum resource development, and improve development efficiency and quality. The standardized performance evaluation index system will have a positive effect on the development and management of sports network curriculum resources [22]. At the same time, performance evaluation is also conducive to timely discovering the loopholes and defects in the development and management of online course resources, so as to timely reform the old curriculum resource development models and methods, and provide reasonable and feasible basis for the development of sports online course resources. Of course, the performance rating of curriculum resources also reveals the use value of curriculum resource development and management to a certain extent, which is conducive to playing the role of curriculum resource development and management, and attracts schools, teachers and society to the development and management of sports network curriculum resources. Attention and supervision of management work. Explore the establishment of a set of scientific research performance evaluation index system, through reasonable quantitative indicators, more objectively and comprehensively evaluate the management mode of online course resources [23]. According to the principles and ideas of system construction, first choose to implement performance appraisal indicators, and use existing research results to implement the selected performance appraisal indicators [24]. Figure 2 shows the performance evaluation flowchart of research on sports network course resource management.

The performance evaluation index system is a collection of performance evaluation indicators. To better integrate the evaluation indicators to achieve the purpose of evaluation, the following principles should be followed: (1) The principle of comprehensiveness. When defining the index system, we must fully
consider the scope and breadth of the index so that it can reflect the characteristics of the micro and macro levels. On the other hand, the performance appraisal system is the basis of performance appraisal and must be consistent with the purpose of the appraisal in order to fully reflect all aspects of the operation of the appraisal target system. (2) The principle of operability. When selecting indicators, it is necessary to fully consider whether the data required by the indicators under current conditions is convenient to collect and can be processed accurately. (3) The principle of rationality. The evaluation results must reflect the results of the project, and the indicators are appropriate. For the purpose of ensuring that the evaluation items can be reflected, the indicators can be improved, thereby reducing workload and improving work efficiency. (4) The principle of combining quantitative and qualitative. Quantitative indicators should be selected when selecting evaluation indicators. However, the project has a large amount of non-quantitative performance and can only be measured by qualitative indicators, which can be quantified by logical mathematical methods. Therefore, when selecting indicators, you can choose a combination of quantitative and qualitative to obtain good evaluation results.

2.4 Literature Method

Through literature research and comparative analysis [25], this paper studies the entry point of sports network curriculum resource development and its management performance evaluation. The literature research method is to search and consult the entry points of domestic and foreign sports network curriculum resources development and various literature materials since the creation of management performance evaluation. The concept, characteristics, basic theories, implementation models and related information of network curriculum resource development and management Technical support has done a systematic introduction and comprehensive analysis, trying to establish the development of sports network curriculum resources on a solid theoretical foundation and technical support. According to the needs of this research, through the library of Southwest Jiaotong University, the Reading Room of the Sports Work Department of Southwest Jiaotong University, China Knowledge Network, Chaoxing, Weipu and other electronic literature libraries and sports core journals, the domestic and foreign related to this subject research in the past 5 years Papers, materials, documents, literature, focusing on studying related monographs on school physical education, pedagogy, resource development and management related to this research, laid the theoretical foundation for the research of this topic.

3. Experiments

3.1 Test Subject

This article analyzes the influence of the degree of popularity of the sports network course resources by students, the humanistic management mode of the course resources, and the technical management mode. Various index data are obtained from the index data, and the performance evaluation of the sports network course resource management is analyzed from the index data.

3.2 Experimental Data
According to the historical data of sports online courses, the number of students who choose volleyball, basketball, badminton and table tennis before joining sports online courses in martial arts, dance, gymnastics and swimming courses, and join sports in martial arts, dance, gymnastics and swimming courses After the online courses, the number of students who choose these eight sports online courses, the total number of known students is 3000. The final results are shown in Table 1.

<table>
<thead>
<tr>
<th>course</th>
<th>Before add new course</th>
<th>After add new course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volleyball</td>
<td>400</td>
<td>150</td>
</tr>
<tr>
<td>Basketball</td>
<td>750</td>
<td>350</td>
</tr>
<tr>
<td>Badminton</td>
<td>350</td>
<td>150</td>
</tr>
<tr>
<td>Ping-pong</td>
<td>1000</td>
<td>200</td>
</tr>
<tr>
<td>Martial arts</td>
<td>—</td>
<td>800</td>
</tr>
<tr>
<td>Dance</td>
<td>—</td>
<td>400</td>
</tr>
<tr>
<td>Gymnastics</td>
<td>—</td>
<td>500</td>
</tr>
<tr>
<td>Swim</td>
<td>—</td>
<td>450</td>
</tr>
</tbody>
</table>

According to the data in Table 1, before the new course is added, the number of students who choose table tennis is at most 1,000; secondly, for basketball, the number of students selected is 750; the total number of students who choose volleyball and badminton is 750 People; there are 500 people who did not choose the course. However, after the new course was added, the number of people who chose the table tennis course was reduced to 200, which is four-fifths less than before the new course. The number of the remaining old courses was also reduced by about half, and the total number of students who chose to join the new course It has reached more than half of the total number of students. Among the eight courses, students who choose martial arts have the largest number of students, reaching 800.

4. Results And Discussion

4.1 Humanistic management mode of curriculum resources

The popularity of a course is inseparable from the influence of the teacher's teaching quality. Due to the changes in the teaching mode of the teaching teacher in the physical education network course, we conducted a reasonable evaluation of the teaching quality of the teacher in the physical education network course by investigating the students’ ratings of the two teaching modes of the teachers. The score is scored with 10 points, and the average of the students’ scores is taken to represent the teacher's final score. The final result is shown in Fig. 3.

According to the teaching score in Fig. 3, it can be seen that since the teacher's teaching mode has changed, the number of students attracted to the class has increased, and the students' evaluation of the
instructor has also improved. Therefore, the popularity of sports online course resources largely depends on the teaching mode of the teacher instructing the course, whether it is accepted by the students, or whether the teacher's teaching methods can attract students to choose this course.

### 4.2 Technical Management Mode of Course Resources

Research on the management mode of the development of sports network curriculum resources, and analyze the effect of the technical management mode of the development of network curriculum resources on the network curriculum resources. Analyze the search volume, click volume, download volume, and resource loss volume of the course resources before and after the improvement of the development technology of online course resources. According to the collected data, the result is shown in Fig. 4.

The small circle in Fig. 4 is the data before the improvement of the technical management mode, and the big circle is the data after the improvement of the technical management mode. According to the comparison of the two data, it can be seen that before the improvement of the technical management model, the loss of curriculum resources is 900, which is greater than the loss of the curriculum resources after the improvement of the technical management model; the number of searches and clicks on the curriculum resources after the improvement of the technical model and downloads have increased. Therefore, it can be concluded that the technical management of sports network course resources has a great influence on sports network course resources, and it directly affects the transmission data and information security of course resources. The improved technical management model can reduce the loss of course resources due to technical safety and other issues. At the same time, technical improvements make it easier and faster for students and teachers to search and use sports online course resources. The improvement of the technical management mode effectively solves the data and interface jams caused by the overload of online course resource data or the overload of server access, while ensuring the safety of online course resources and reducing the loss of online course resources.

### 4.3 Humanistic Management Mode of Curriculum Resources

According to the above-mentioned humanities management mode and technical management mode, as well as the number of students who choose each course, the performance evaluation of the management mode of sports network course resources is carried out. Performance evaluation is reflected by the proportion of students who choose various courses, and the results are shown in Fig. 5.

The left side of Fig. 5 is the data before the improvement of the network course resource management mode, and the right side is the data after the change of the network course resource management mode. Before and after the improvement of the network course resource management model, the number of students in various courses has changed. Through this change, we can see that the success of the improvement of the management model has re-attracted some students to courses that were not liked by students. The decrease in the number of students in martial arts and gymnastics courses is very likely to
be the result of failure or failure to improve the management model. Therefore, according to the data shown in Fig. 5, it can be seen that the factors that affect students’ choice of sports online courses not only depend on whether the sports online course resources meet the students’ hobbies, but also the management model adopted by the sports online course resources. A good management model can make online course resources more effective and attract students to choose this course; and an inappropriate management model will not only cause the loss of online course resources, but also lose part of student resources.

Due to the limited time and knowledge, this paper did not investigate the students' wishes before developing the sports network course resources, but opened the new curriculum first, and then investigated the students' views on the new curriculum. Such data may have deviation, which may affect the experimental results. Moreover, in the later stage of management performance evaluation, only students were investigated and teachers were ignored. These shortcomings lie in the need to improve in the future research work, to ensure that the data is more reliable and representative.

5. Conclusions

Now, the Internet has become an essential part of students' study and life, and online courses have entered the students' vision. Some colleges and universities incorporate the construction of physical education courses into the construction of school network courses. This course presents the trend of simultaneous development of theoretical courses and technical courses, reflecting the characteristics of sports experts. There is a serious shortage of high-quality physical education courses at the national level. The number of online sports courses in physical education courses and ordinary universities is very small, while the proportion of online sports courses on private online course platforms is very low. At present, the setting and presentation of the content of the sports network courses are unified, the teaching objectives and key difficulties of the courses are not yet clear, the course structure design is chaotic, and the course evaluation opinions are not timely. Regarding the implementation of the courses, there are some problems, such as a few clicks, seamless links in the online school boutique courses, and incomplete content.

In order to study the performance evaluation of sports network management resources, this article analyzes the management performance of sports network curriculum resources from the aspects of humanistic management mode, technical management mode and the popularity of various courses of sports network curriculum resources, and based on the data and final results Improve and perfect the management mode of online course resources. This article also analyzes the entry point of the development of sports network curriculum resources, and believes that the entry point of the network curriculum resources should first start with the physical education teaching materials, arrange the curriculum with the subject logic as the center, and integrate with the needs of students, schools, and society, and rely on the network. Open your mind and unearth targeted and practical courses other than textbooks. The collection of sports network course resources should be realized from a technical point of view, and the sports network course resources should be managed in a scientific way.
Finally, according to the experimental results of this article, it can be understood that the performance evaluation of sports network course resource management is closely related to the humanistic management mode, technical management mode and the innovation of network course resources. In order to realize the development of sports online course resources, we should not just follow the old ways, but also pay attention to the needs of students for resources, and carry out targeted and practical collection of online course resources. And the humanities management and technical management of the online course resources should be comprehensive, and the online course resources should be managed in a scientific and reasonable management mode.

**Declarations**

**Competing Interests**

These no potential competing interests in our paper. And all authors have seen the manuscript and approved to submit to your journal. We confirm that the content of the manuscript has not been published or submitted for publication elsewhere.

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**Declarations**

Ethical Approval and Consent to participate: Approved.

Consent for publication: Approved.

Availability of supporting data: We can provide the data.

**Author’S Contributions**

All authors take part in the discussion of the work described in this paper.

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Figures
Figure 1

Flow chart of online course resource collection
Figure 1

Flow chart of online course resource collection

Resource service object and collection content

Choose the right acquisition system

Determine collection methods and strategies

Implementation Strategy

Result evaluation

keep improve
Figure 2

Resource management performance evaluation flowchart
Figure 2

Resource management performance evaluation flowchart
Figure 3

Teaching score chart The purple cylinder represents teaching mode 1, and the green cylinder represents teaching mode 2. The scores of volleyball, basketball, badminton, ping-pong, martial arts, dance, gymnastics and swim under teaching mode 1 are 5, 7, 4.5, 7, 8, 7.5, 8, 7 respectively. The scores of volleyball, basketball, badminton, ping-pong, martial arts, dance, gymnastics and swim under teaching mode 2 are 6.5, 8, 6, 8, 9.5, 9.5, 9, 8 respectively.
Figure 3

Teaching score chart The purple cylinder represents teaching mode 1, and the green cylinder represents teaching mode 2. The scores of volleyball, basketball, badminton, ping-pong, martial arts, dance, gymnastics and swim under teaching mode 1 are 5, 7, 4.5, 7, 8, 7.5, 8, 7 respectively. The scores of volleyball, basketball, badminton, ping-pong, martial arts, dance, gymnastics and swim under teaching mode 2 are 6.5, 8, 6, 8, 9.5, 9.5, 9, 8 respectively.
Technical management analysis diagram The small circle in Figure 4 is the data before the improvement of the technical management mode, and the big circle is the data after the improvement of the technical management mode. Before the technical management mode is improved, the popularity, click volume, number of downloads and losses are 2100, 1700, 800 and 900 respectively. After the improvement of the technical management mode, the popularity, click volume, number of downloads and losses are 2500, 2100, 2100 and 100 respectively.

Figure 4
**Figure 4**

Technical management analysis diagram. The small circle in Figure 4 is the data before the improvement of the technical management mode, and the big circle is the data after the improvement of the technical management mode. Before the technical management mode is improved, the popularity, click volume, number of downloads and losses are 2100, 1700, 800 and 900 respectively. After the improvement of the technical management mode, the popularity, click volume, number of downloads and losses are 2500, 2100, 2100 and 100 respectively.
The proportion of students

Before-Volleyball          Before-Basketball          Before-Badminton          Before-Ping-pong
Before-Martial arts       Before-Dance             Before-Gymnastics         Before-Swim

After-Volleyball          After-Basketball          After-Badminton          After-Ping-pong
After-Martial arts        After-Dance              After-Gymnastics          After-Swim

Figure 5

The proportion of students before and after the improvement. The left side of Figure 5 is the data before the improvement of the network course resource management mode, and the right side is the data after the change of the network course resource management mode. Before the technical management mode is improved, the students who choose volleyball, basketball, badminton, ping-pong, martial arts, dance, gymnastics or swim are 3%, 7%, 3%, 5%, 26%, 15%, 25%, 16% respectively. After the improvement of the technical management mode, the students who choose volleyball, basketball, badminton, ping-pong, martial arts, dance, gymnastics or swim are 5%, 7%, 4%, 7%, 24%, 15%, 23%, 15% respectively.
Figure 5

The proportion of students before and after the improvement. The left side of Figure 5 is the data before the improvement of the network course resource management mode, and the right side is the data after the change of the network course resource management mode. Before the technical management mode is improved, the students who choose volleyball, basketball, badminton, ping-pong, martial arts, dance, gymnastics or swim are 3%, 7%, 3%, 5%, 26%, 15%, 25%, 16% respectively. After the improvement of the technical management mode, the students who choose volleyball, basketball, badminton, ping-pong, martial arts, dance, gymnastics or swim are 5%, 7%, 4%, 7%, 24%, 15%, 23%, 15% respectively.