A Research of the Collaborative Mode and Sharing Platform of Universities Physical Education Teaching

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Abstract. In view of the big consumption and low rate of utilization of physical education curriculum resources among colleges and universities, the research uses the collaborative mode and informational platform to implement resources sharing in different colleges and universities physical education teaching. This paper analyze the characteristics of physical education teaching and is based on this collaborative mode of colleges and universities physical education teaching while this mode can help achieve sharing teaching resources. In order to improve the utilization of physical education teaching resources and reduce the conflicts of using the resources among colleges and universities, this paper pay more attention to analyze the internet curriculum and the plan of physical education teaching resources in cross colleges and universities, and researches the resources sharing informational platform. While using the platform to arrange physical education curriculum of different colleges and universities, the research of physical education teaching and education aims to realize the collaborative mode of physical education teaching across colleges and universities.

Introduction

Physical education teaching is a teaching process based on fitness and athletic characters. It has distinct characteristics compared with other subject teaching. There are more distinctive characteristics as to physical education teaching in colleges and universities. Students have the specific requirements of various programs, more equipment, and big teaching fields of physical education. Therefore, how to realize the diversification, higher level and efficiency of physical education teaching has become one of the biggest key points and difficulties of the teaching of colleges and universities[1].

The Analysis of the Characteristics of Physical Education Teaching

Compared with other subject teaching such as science, art and language, physical education teaching has distinct characteristics. The content ranges from athletics while it has a different system[2]. Thus it forms the unique knowledge and physical education content (technology) of physical education teaching and makes it more complicated in selection, processing and teaching process.
The Differences between Physical Education Teaching and Athletic Physical Education

1) Physical education teaching targets on education in form and purpose while athletic physical education is mainly for entertainment and competition.

2) Athletic physical education is generally modified, organized, processed according to the teaching necessity before entering into the class to get necessary teaching material reform.

Collaborative Mode of Physical Education Teaching across Colleges and Universities

To strengthen collaboration across colleges and universities is an important means and ways to exploit the resources[3-4]. The ability and level of using the related resources can be improved by a multi-objective, multi-level, multi-link and multi-form of more comprehensive physical education exchanges and cooperation to improve the efficiency of resources usage[5-6]. The ways of achieving collaboration in physical education teaching across colleges and universities are mainly the following:

1) to share the teaching hardware resources.
2) to cooperate for the talents-training.
3) to strengthen the cooperation of the scientific research of the physical education.
4) to cooperate with colleges and universities of the same type and industry[7-8].
5) to cooperate with the high-level universities.

The Resources Planning System of Physical Education and Teaching across Colleges and Universities

It is necessary to build the university resources planning system, short for (URP) system[9], in order to unify the configuration and share the physical education teaching resources of colleges and universities. The premise of the building of URP system is to integrate the information system of university course, teachers and course credit. It makes use of the software based on B/S structure to achieve date exchange and information sharing in the browser form.

In addition to the application characteristics across colleges and universities, the system should have the function of remote operation and management. So the design of the software should use the browser/service(B/S) model of network structure. The realization of the system function is focused on the server side under this structure. Users can access the server through the browser to operate and manage the system. As what is shown in figure 1.

![Figure 1. The operational principle of B/S structure.](image)

The software platform can be divided into three main procedure entities, namely date processing program of course-selection and course-arranging, algorithmic programs and the main program of WEB server. Physical education teaching resources and courses-selection data of all colleges and universities are being sent by the date processing program to the WEB server to deal with. The WEB server accepts the page, date and operation requests the client send to it and returns the corresponding images and results. The WEB server calls the algorithmic module by passing parameters and receives the results the algorithmic procedure returns to it.
The WEB server of the URP management system adopts the hierarchical design. From the top to the bottom are: the presentation layer (UI), business logic layer(BLL), data access layer (DAL), and the data layer(DL). The presentation layer is located in the top of the software system which is also a layer has the most closely relationship with the users, is mainly used for receiving college users’ requests such as data-input, paper-operation and feedback the data and results which is returned by the background process in a appropriate form to the colleges. The main function is to provide users with a friendly interactive operation interface.

The software platform of the URP management system has two main roles in this paper. On the one hand, it can receive message that users input such as information logged in, course plan, teachers’ entry and other page operation. On the other hand, it returns the result users logged in and put information such as the result of course selection plan, date table of course-arranging and analysis curves of the teaching resources utilization and statistical analysis results in the form of curves and graphs. As the software adopts the B/S mode design, the main form of presentation layer of this system is WEB page while the form in the application is ASPX file. The system adopts a lot of charts and curves in need of showing the operation date of the physical education teaching. We adopt the latest version of hypertext language version HTML5 and Scalable Vector Graphics to make a better show effects of the curves and charts. At the same time we choose the third party controls such as High charts and jqGrid to achieve the display of real-time dynamic curve and various kinds of charts of the software platform in order to increase the maneuverability of the interactive interface.

The dean office of colleges and universities hope to select, add, delete, modify, sorting, paging, screening and have a series of operation of the data from the date table when the course-arranging data is displayed in the form of data table. The URP system using jqGrid technology can complete all of the above functions. JqGrid is a typical plug-in of the B/s structure. As a client side, the plug-in is provided to display the data. The server is mainly used for data management as the client side for data display.

Sports Network Course Design

According to the certain requirement and purpose of the society, sports network course is a course carrier based on education techniques and media means[10]. It combines the thinking of physical education network teaching design to suit for physical education network courses and teaching activities. It includes a wide range of concepts such as the teaching goals, teaching contents, teaching activities and evaluation methods of the physical education network teaching.

The way of spreading teaching information has changed, thus leading to the changes of education idea, education mode and teaching method. Physical education network courses should take those factors into consideration besides the general requirement of course building.

The Design of Physical Education Network Course

To Make the Motor Movements Graphical. During the process of developing physical education network course, teacher can capture the motion data and collect the physiological and psychological data to show the analysis of training effect graphically to increase the effectiveness and quality of the resources of physical education network course. The biggest characteristic of it is to be able to stabilize or slow even repeat the movement to show the direction, location, routes of it and the relationship between the various parts of our body to highlight the key parts of the movement so as to observe and analyze techniques and tactics.

To Make the Image Motion Simulation. Through the Virtual Reality Technology, motion simulation is to represent the tiny links in student's technical moves, the training intention of coaches and training process. Using virtual reality technology, we can refine the display of physical education movement. For example, students can observe the behavioral essentials from different angles of the same position.
To Make the Motion Micro-standardize. With the progress of computer assisted instruction technology, one of the important contents of physical education teaching is to explain the decomposition process and change of related pace or posture of technical movements, players position and the change of the line of tactic cooperation in group event.

The Forms of Physical Education Network Courses

The Form of Skill. From the basic consensus that people have reacted to the nature and characteristics of physical education curriculum we know that physical education teaching course is a "skill" discipline through teaching and education of physical activities. Different from the general cultural course, the cognitive process of the physical education network course is a kind of body cognition. That is to say, the physical education network course should enable students to master the necessary knowledge of physical education theory, at the same time, through the multimedia course to display the action of physical education movement. We can adopt video processing technology to analyze and demonstrate the slow movement or replay and other forms if some complex technical movement is hard to analysis through language and demonstration.

Dynamic. Physical education network course also presents the dynamic aspect. It can be completed and modified in real-time and keep constantly absorbing the latest scientific and technological achievements and advanced information of the disciplines and maintain the advancement and rationality of the teaching content. According to the demand of the teacher's knowledge structure and the students' interests, we can customize teaching contents and improve teaching quality in the teaching process.

The Multi-Dimension and Diversity. Multi-dimension of the physical network curriculum refers to the usage of multimedia and animation technology to display the physical education teaching content in the form of three-dimension. Diversity refers to the physical education network course has the characteristic of openness and can fuse physical education culture even different teaching style together.

The diversity of Physical education network course enables the application value of it can across borders and greatly expanded the view of physical education teaching. It realizes the continuous update and improvement of the teaching contents in the blend of different physical education culture and physical education development procedure.

Integration. Physical education network course actually integrates communication and software technology and it constitutes a new kind of teaching mode which combines the PE teaching content and teaching method. Physical education network course in nature is a physical education teaching using modern information technology to display. It enrich greatly the forms of teaching and improve the convenience and efficiency of education.

Conclusion

1) The construction of sharing platform of university physical education teaching enables the physical disciplinary of universities to study and communicate with various kinds of sports program and upload video through the platform. and to discuss the teaching contents and methods of physical education. Thus improving the efficiency of physical education teaching and making the regular teaching communication and discussion being possible.

2) Since the sharing platform of colleges and universities physical education teaching has been built, the students of different colleges can select physical education courses and make it possible of credits recognition in colleges and universities. It has a very significance for students to have a verity selection in physical education courses.

3) Physical education teaching of colleges and universities has the characteristics of diversification, high-level, high-difficulty and high-cost. In order to improve the utilization of teaching resources and promote the joint development of physical education teaching across the universities, we shall research and implement the collaborative mode and informational platform of
resources sharing of physical education teaching. The result of this research provide a thought to achieve resources sharing of physical education teaching of colleges and universities under the background of collaborative strategy.

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Reference


