The Design and Application of Online Training System for College Physical Education Teachers Under the Background of "Internet+ Education"

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Abstract. In order to strengthen the teaching ability and professional quality of college physical education teachers and build a training system of "offline+ online" coordinated development, the author of this paper follows the reform trend of "Internet+ education" and develops an online training system for college physical education teachers based on Web technology. The system adopts C# language for programming, introduces ASP.NET framework to complete the whole process, and selects SQL server database for data storage and management, with simple interface and powerful functions. This system can help college physical education teachers break through the limitations, accept newer and better professional knowledge and teaching skills, and make contributions to building a team of physical education teachers with both professional knowledge and professional skills.

Keywords: Internet+ education · Physical education teacher · Online training · ASP.NET

1 Introduction

The teacher is an important driving force for the development of national education. The construction of teachers is an important embodiment of the national education level. In order to improve the knowledge level and teaching skills of teachers, our country has never stopped training teachers. In traditional teacher training, lectures and lectures are used, which provides a good offline training platform for teachers. But, the traditional teacher training still has limitations in time and space, especially under the current situation of epidemic prevention and control normalization, offline training is difficult to carry out normally, so the reform of "Internet+ education" came into being. Online learning breaks down the barriers of time and space, and provides new ideas for the reform of teacher training. [1] However, in the process of reform, physical education, as a course that emphasizes practice rather than theory, is often ignored. The physical education teachers in colleges and universities are the important instructors of physical education, shouldering the responsibility of cultivating college students into young people with good physical fitness in the new era.

Above all, the author thinks that to solve the above problems, we should give full play to the advantages of "Internet+ education" and develop an online training system

for college physical education teachers based on Web technology. The system adopts C# language for programming, introduces ASP.NET framework to complete the whole process construction, and uses SQL server database for data storage and management, thus completing a set of online training system for college physical education teachers with high resource integration and strong functional practicality. [2].

2 Key Technologies

2.1 ASP.NET

The ASP.NET is a development framework of server-side Web applications, written in C# language, which is applicable to almost all platforms. Because all its configuration information is plain text, you can make new settings without local management tools. [3] The characteristics of ASP.NET, such as strong scalability, high performance in cluster and multiprocessor environment, make it a very popular development framework.

2.2 C#

The C# inherits the powerful programming ability of C and C++, and at the same time abandons many complicated and useless functions. It has unique advantages: cross-platform use (Windows, MacOS and Linux), complete open source (runtime, library, compiler, language and tools), compatibility (compatibility with. NET Framework, Xamarin and Mono through. NET standard library), etc.

2.3 SQL Server

As a relational database management system, SQL Server is widely used. Its advantages mainly lie in its scalability (it is suitable for various platforms and provides rich interfaces), integration (it provides the function of data warehouse and can be closely related to many server softwares), ease of use (the graphical interface is more intuitive and concise) and high efficiency (it reduces the time and cost of data management for users).

2.4 Development Process

According to the requirements of the above and related technologies, complete the configuration and deployment of the development environment of online training system for college physical education teachers. The system is written in C# language, with Windows10.0 as the operating system, IIS10.0 as the Web server, Visual Studio 2019 as the bottom development tool and SQL Server2019 as the database server.

At first, configure the development environment for ASP.NET, including the download and installation of IIS server, SQL Server database and VS2019. After the development environment is ready, start Visual Studio 2019, create a new web project, select Visual C# in the pop-up window, and click ASP. NET Empty Web Application under the Web menu. Next, right-click the project name in the Solution Manager, click "Add"

and "New Item" in the shortcut menu that pops up. After naming the Web form, select MVC in the pop-up form and add BLL, DAL and Model three-tier projects. Then, the functions of each layer are specifically designed. After all the functional modules of the system are designed and implemented, a simulation test will be conducted. When the test is correct, all the system files will be packaged and released, and deployed in IIs server. After setting the IP address, it can be used by users of the whole platform. [4].

Through the introduction of the above key technical theories, the overall framework process of platform development is determined, and the feasibility of establishing and running online training system for college physical education teachers is clarified.

3 Function Realization

3.1 Teacher Side

The teacher clicks into the online training system for college physical education teachers, clicks into the "Teacher's Entrance" to register and log in. After logging in, you will see the following two sections, "concentrated learning" and "decentralized learning". The specific functional modules are as follows:

In the "online training" module, a certain number of teachers will be assigned by the system to form a training class, and they will collectively attend classes in the same virtual classroom. The system integrates the class examples of famous teachers in famous universities, such as "Improving the core quality of college physical education teachers and physical education teaching ability". Teachers can study and study together. When the course is completed, teachers can share their learning experience in "experience exchange", discuss and reflect on the problems existing in teaching activities collectively. In the "classroom extension" module, teachers need to submit learning reports for each lesson, and assign learning tasks to realize task-driving. It is also possible to collectively carry out "teaching material analysis" and "course standard interpretation". There are abundant and constantly updated teaching materials, courseware and other materials online, such as "Sports and Health" revised by People's Education Edition in 2021. The teacher can also upload and share other learning materials. The code of uploading materials is shown in Fig. 1. [5].

In the "online course" module, teachers can listen to the latest thematic lecture videos in the field of physical education, such as "Three core qualities of college physical education teachers-based on college public sports". Part of the code of the search video is shown in Fig. 2. The teacher can also declare the subject in the "subject research" module, and study and determine the subject from the regional researchers. In this way, the individual subject research results can be transformed into common knowledge wealth, and the common development of college physical education teachers can be promoted. In the "lesson-telling training" module, teachers can form effective interaction with regional trainers, and teachers upload their own courses. Within 3–5 days of successful uploading, regional trainers and sports experts will give corresponding opinions and suggestions, and teachers can dynamically adjust teaching methods and methods to continuously improve their teaching ability and professionalism.

```
Try //Connecting database
    {      //Link code
                        string Ziliao Date = D atc Time .Now.ToString0;
                        string Ziliao_ ID = (string) Session["Ziliao_ ID"l;
                        FileUploadI. ZiliaoFilc.S avcA s(path + Ziliao-id +
Zilio filcE xtension); /Load data
                        string Ziliao-Title = Ziliao-Titlc.Text;
                        string Ziliao Content= tb Ziliao Content.Text;
                        string Ziliao -Path = Ziliao-path + Ziliao-id +
Ziliao filcExtension; /Define data path
                        string Zllao -Name = Zillao -N ame. Text,
                        c mdIn scrt.CommandText = "insert into PPT valucs(" +
Ziliaoid+", "+ Zilao-Titlc +","+ Zilliao Content +","+ Ziliao-Datc +","+
Ziliao-Path +","+ Ziliao-Name +")";
                        c mdIn scrt.Excc utcNon QucryO;
                        conn.Close();Close the database
                        Labell.Text= "Upload data successfully";
```

Fig. 1. Upload data part code (Original)

```
SearchVideo.Visible = true;//Set the video search button
string video- Name = "video -text"//Set search name
if (dlSpCoursc.Text != "")
video-Name = "and vid eo-Name="" + dlvideo-.Text+ "";.
string sql =" SELECT"* from videoInfo where video-Title like '%"+
video -Name.Text +"%"+ vidco-Name; //Search video
SPshow(sql); //show}
```

Fig. 2. Part of the code for searching video (Original)

3.2   Administrator Side

The administrator clicks into the online training system for college physical education teachers, and clicks into the "administrator entrance" to register and log in. After logging in, you will see the following three sections: account management, resource management and system maintenance.

In the Account Management, administrators can add, modify and delete all teachers' personal accounts, classes and groups. The "resource management" includes the operations of uploading teaching resources, checking the number of students, modifying information, issuing notices and deleting them. The "system maintenance" refers to the monitoring and operation of the whole system, including servers, databases, system software, etc. When problems are found, they will be repaired in time.

4   Concluding Remarks

The online training system of college physical education teachers can complement the training mode of college physical education teachers, form a flexible and efficient training system of "online+ offline". It can not only improve the personal knowledge level and teaching ability of college physical education teachers, but also help to build a team of college physical education teachers with considerable scale and excellent ability. In the future exploration and research, we will continue the reform of online training of college physical education teachers, so that online training of physical education can exert greater influence, promote the sustained and healthy development of physical education in China.

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