



Design and Implementation of College English Personalized Teaching Platform Under the Background of Internet Plus

Mi Zhou^(✉)

Dalian University of Science and Technology, Dalian 116052, Liaoning, China
173840480@qq.com

Abstract. With the further development of the data age, the trade and cultural exchanges between countries have become closer and closer, and the state has put forward new requirements for foreign language professionals. In order to ensure the quality of training foreign language talents, this paper takes computer as the development hardware, combines Web technology with multimedia technology, and builds a personalized college English teaching platform under the background of internet plus. The platform is developed with Windows 10.0 as the operating system, B/S architecture as the development framework of the platform, and C# as the programming language. With the layered advantages of MVC, each part of the content is deployed in layers, and the system functions of the teaching platform are refined to improve the running efficiency of the platform. In the evaluation platform, the qualitative and quantitative AHP analytic hierarchy process is used to calculate, which provides a more accurate evaluation guarantee for cultivating high-quality foreign language talents.

Keywords: College English · Personalized teaching platform · AHP algorithm · B/S structure · ASP.NET

1 Introduction

In the concept of new liberal arts construction, the educational proposition that “we should focus on the shaping of foreign language professionals, so as to enhance our country’s discourse expression ability in the international community and strengthen our country’s cultural soft power” is mentioned [1]. It shows that the demand and requirements of the society for English talents have improved. As a public basic course in colleges and universities, college English should give full play to its own advantages and actively integrate into innovation. However, as far as the development of college English teaching is concerned, there are still some problems. First, the teaching mode of college English is relatively simple. Most colleges and universities still use the traditional classroom teaching mode, which reduces students’ interest in learning and ignores their individual needs. Secondly, the teaching system of college English is not perfect, and book knowledge is still the main teaching content, neglecting the cultivation of practical application ability [2].

© The Author(s) 2023

X. Yuan et al. (Eds.): ICEKIM 2023, AHCS 13, pp. 1513–1517, 2023.

https://doi.org/10.2991/978-94-6463-172-2_166

Table 1. Differences between B/S structure and C/S structure

Differences	C/S structure	B/S structure
Foundation	LAN	WAN
Install	Need to install	No installation required
Pressure	Client pressure	Server pressure
Other	Upgrade and maintenance costs are high, not affected by network speed, higher security	More adaptability, affected by network speed, strong sharing, weak security

Based on the above problems, this paper constructs a personalized college English teaching platform under the background of internet plus. With the advantage of digital electronic technology, it enriches the teaching content of college English, provides a good platform for students to communicate with each other in spoken English, and promotes the development of students' practical English ability.

2 Key Technologies

2.1 B/S Structure

B/S structure, namely browser/server structure, needs to be deployed on the server side, and other software needed to access the website and run on the client side only needs to adopt the browser. In the B/S framework, users express their needs at the client and input corresponding parameters, and then rely on the network to access the server. First, the logic layer solves the user's needs, then the data needs are transmitted to the database, and the specific content is executed by the server. Finally, the business logic layer accepts this kind of feedback information, thus generating a web page that meets the user's needs [3]. B/S structure is an improvement of C/S structure, and its differences are shown in Table 1.

2.2 ASP.NET

ASP.NET is a kind of Web development platform, which provides an overall programming framework for the subsequent development of the platform, is the infrastructure used for development, and also provides various required services for web programs. ASP.NET relies on HTTP protocol, and uses HTTP commands to set up two-way communication between browser and server. ASP.Net can also realize caching, update the performance of some applications, and then cache frequently used pages of users and store them in temporary locations, which can retrieve these pages more quickly and give better feedback to users [4].

2.3 Development Process

According to the introduction of the above related technical contents, the configuration and deployment of the development process of personalized college English teaching platform under the background of internet plus are completed. In order to improve the system function of the platform, the construction of this platform will be carried out by using ASP.NET and other related technologies. The bottom development tool is Visual Studio 2019, and the operating system is based on Windows 10.0. Choose SQL server 2019 as the data storage tool to improve the operation ability of the server. In the development process of the platform, first, choose Visual Studio 2019 tool in the menu, create a new project in the File section under the file, and select ASP.NET Web in the application. Then, after presetting the configuration attributes and paths of the new project, select MVC in the pop-up working window and name it, and you can create the follow-up compilation of ASP.NET MVC project development platform. After the specific functional modules are configured, the simulation test is carried out. Through the description of the above key technologies, the overall framework of the teaching platform is roughly planned, and the feasibility of establishing a personalized college English teaching platform under the background of internet plus is made clear.

3 Functional Implementation

3.1 Online Learning Module

When users access this system for the first time, they need to complete user registration according to the page instructions, and then choose their identity to log in. This platform divides users into teacher users and student users in detail, and provides different services for different users [5]. After the students finish learning basic English knowledge, the system will adopt ESP teaching mode, and recommend corresponding personalized courses for students according to their majors [6]. For example, “English Poetry Appreciation” is recommended for Chinese majors, “Business Communication English” for management majors. Teachers’ responsibilities are more inclined to upload learning resources and organize and supervise practical activities. The implementation code of resource uploading is shown in Fig. 1.

3.2 Extracurricular Expansion Module

In order to broaden students’ knowledge level, extra-curricular extension modules are set up systematically. In this module, students can choose what they are interested in to learn [7]. For example, students can accumulate writing words by browsing foreign works, and watch famous foreign debates, historical news documentaries or popular American TV shows to exercise their listening and correct their pronunciation. Every Friday, the platform will open an English corner, where students can communicate by themselves, so as to improve their English communication skills. The system will also regularly count students’ browsing data and generate charts, so as to get the most popular content, and then put it in the recommended position on the homepage of the platform for more students to watch. The statistical chart of browsing data is shown in Fig. 2 [8].

```

//Get the original name of the uploaded file
String filename = upload.getOriginalFilename();
System.out.println("Upload file name: "+filename);
String suffixName = filename.substring(filename.lastIndexOf("."));
System.out.println("The suffix name of the truncation: "+suffixName);
//Generate the random file names
filename=UUID.randomUUID()+suffixName;
//Create a file stream
File file=new File(filePath,filename);
try{//Startuploading files
    upload.transferTo(file);
} catch (IOException e) {
    e.printStackTrace();
}
    
```

Fig. 1. Resource upload implementation code

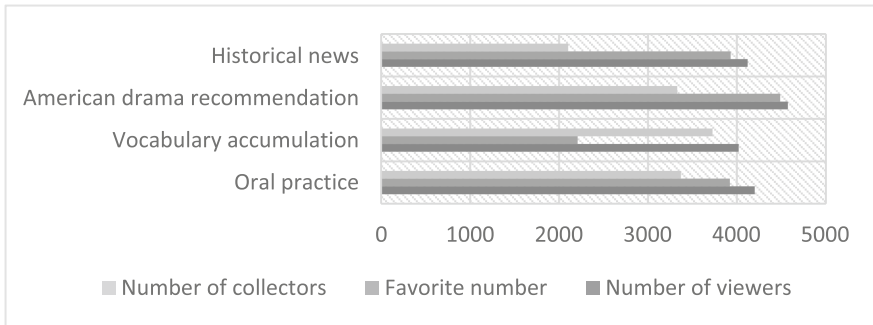


Fig. 2. Statistics of browsing data

3.3 Practice Evaluation Module

In this platform applies various evaluation methods to the practical evaluation to ensure the accuracy of the evaluation. The final score of students is calculated by AHP, which combines qualitative and quantitative analysis. Teachers will give subjective scores according to the final training results [9]. At the end of the evaluation, the system will automatically construct the model matrix G , and combine the teacher’s rating with the system’s automatic rating. Comprehensive grade of students $M = \text{usual grade } P + \text{final grade } O + \text{teacher grade } G$, and the detailed calculation formula is shown in formula 2. Among them, z represents the degree scores of different assessment points, and r is the evaluation confidence [10].

$$G = \begin{bmatrix} z_{11} & z_{12} & \dots & z_{1m} \\ z_{21} & z_{22} & \dots & z_{2m} \\ \vdots & \vdots & \ddots & \vdots \\ z_{n1} & z_{n2} & \dots & z_{nm} \end{bmatrix} \tag{1}$$

$$M = \sum_z [(P_r \times 35\%) + (O \times 35\%) + (G_z \times 30\%)] \tag{2}$$

4 Conclusion

In this paper, the digital electronic technology is integrated with English education, and the functions of personalized college English teaching platform are transformed by using web technology. All kinds of high-quality English resources are integrated for teachers and students to learn, and the learning efficiency is improved. Targeted English teaching activities can better meet the learning needs and habits of teachers and students, and further promote the construction of high-quality education system.

References

1. Wang Qiang. Analysis on the Strategy of Creating College English Wisdom Teaching Mode in the All-Media Era[J]. Journal of News Research.2022(19).
2. Liu Jiajia. Multi-evaluation of College English Blended Teaching under the Background of New Liberal Arts[J]. Journal of Anshun University.2022(01).
3. Xu Yuanyuan, Liang Yamin. Development and Implementation of College English Examination System Based on B/S Structure[J]. Microcomputer Applications.2018(11).
4. Zeng Jian. Design and Implementation of Online Teach Platform Based on ASP.NET[D]. University of Electronic Science and Technology of China.2014.
5. Shu Dingfang. College English Teaching and International Talent Cultivation[J]. Journal of Foreign Languages.2020(05).
6. Chen Xiulong. Analysis of Business English Talent Training Mode in Big Data Era [J]. Overseas English.2022(08).
7. Jin Ning. Research on the Construction of Online and Offline Mixed Teaching Mode of College English [J].Journal of Hanjiang Normal University.2022(03)
8. Jiang Liyan.The Reform Strategy of College English Teaching Based on Wisdom Teaching Mode [J].Journal of Wuzhou University.2022(02).
9. Dang Hua.Research on the Application of New Media Technology in College English Education [J].Overseas English.2022(03).
10. Ji Yongqiang. Analytic Hierarchy Process (AHP) Weight Vector Calculation and Its Application Analysis[J]. China Market.2015(52).

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

