The Design and Implementation of Online Teaching System of Ideological and Political Education in Oral English Course for College English Majors Under Web Environment

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Abstract. Based on the characteristics of oral English courses, with the help of the practical characteristics of Internet technology, database management technology and computer application technology, this paper uses Java as the development language and SSM as the server-side development framework to build a Web-based online ideological and political teaching system for oral English courses in colleges and universities, and puts forward a set of comprehensive solutions to many problems in the current ideological and political education and teaching activities. This system will fully combine the actual needs of teachers and students, and cover the whole process of ideological and political teaching. At the same time, it also puts forward CART decision tree evaluation model algorithm to solve the problem that online teaching is difficult to evaluate, which fully realizes the network and digital transformation of ideological and political teaching activities, and makes a useful attempt to improve teaching efficiency, improve teaching system and promote the information reform of teaching mode.

Keywords: Ideological and political education in internet plus · Professional oral English · Web technology · Java · Computer application

1 Introduction

The construction of curriculum ideological and political education system will comprehensively cover all disciplines and links of higher education. Among them, college English, as an important part of higher education, has five basic curriculum systems, including listening, speaking, reading, writing and translation, which are instrumental, general, humanistic and professional. It is rich in curriculum ideological and political teaching resources, and it is an important way to practice curriculum ideological and political education. [1] Especially for professional oral English courses, it is not only necessary to learn and dabble in various types of English learning resources, but also a lot of opportunities for practical training and practice. Over time, under the long-term influence of a large number of western cultures, the ideological cognition and core values of contemporary college students are bound to have a certain impact. In addition, under the

background of the current Internet era, wide-area and efficient information dissemination is more likely to aggravate the impact. So, the integration of oral English courses and ideological and political education in colleges and universities is an inevitable requirement for colleges and universities to cultivate comprehensive professionals in the new era. However, in the actual teaching process of ideological and political education, there are still some problems, such as unclear teaching objectives, lack of teaching content and resources, lack of feedback from practice and practice, lack of special evaluation methods of ideological and political education, etc., which lead to a mere formality in ideological and political education, resulting in the stubborn disease of separation of learning and application. Therefore, this paper holds that colleges and universities should actively innovate and change, combine the new form of "Internet + education", and adopt network information technology, database technology and computer application technology to build a Web-based online ideological and political teaching system for spoken English courses of college English majors. [2] The function of the system will be highly in line with the practical application needs of teachers and students, focusing on the planning and design of ideological and political teaching resources, the organization and implementation of practical training, and the comprehensive evaluation, etc., so as to fully realize the network and digital transformation of ideological and political teaching activities in professional oral courses, and make contributions to improving the actual effect of ideological and political teaching, perfecting the professional oral teaching system, and promoting the information reform of educational mode.

2 Development Process

According to the system development requirements and the use requirements of the above key technologies, complete the configuration and deployment of the development environment. The basic operating system of the online teaching system of ideological and political education for college English majors is Windows10.0, the development language is Java, the JDK version is 1.8 or above, and the integrated development tool is Eclipse Neon 4.6.2. The Web server is Apache Tomcat 9.0, the database is MySQL 5.7, and the project object model (Maven) is used to manage the project structure. Maven chooses Apache-Maven-3.2.1 version. [3].

The overall design of the platform will be divided into two parts. The front-end development takes JSP technology as the core, and combines HTML code, XHTML code, XML elements and JSP operation instructions to form the front-end interactive interface of the system. [4] While server-side development needs to complete the integrated deployment of SSM framework in Eclipse. Among them, Spring belongs to the container framework. When integrating Mybatis framework, multiple interface scans need to be configured, mainly involving Service and Dao, while the construction of SpringMVC framework needs to be configured with Controller scans. As shown in Fig. 1, the Controller layer configuration code. By the introduction of the above key technical theories, the overall environment of the system development, the configuration of related software and tools are determined, and the technical feasibility of the overall project of the online teaching system of ideological and political education for spoken English courses in colleges and universities is also made clear.

```
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.web.bind.annotation.GetMapping;
import org.springframework.web.bind.annotation.RestController;
import java.util.List;
@RestController
public class AccountController {
    @Autowired
    AccountService accountService;
    @GetMapping("/ssm")
    public List<Account> getAllAccount(){
        return accountService.getAllAccount(); }
```

Fig. 1. Key code of controller layer configuration implementation

3 Student Side

3.1 Online Learning

When the student user completes the login authentication by using the account password, the system will automatically jump to the homepage interface. In this interface, students can intuitively see all kinds of course information, and choose the corresponding courses to join the study. For example, Professional Oral National Culture-China Traditional Culture, Professional Oral Culture-Classical Ancient Poems, etc. The course form is video teaching, which is convenient for students to acquire ideological and political knowledge of the course quickly and intuitively, so as to improve their humanistic quality. [5] In addition, the system will also provide a large number of extra-curricular teaching resources, which can not only make up for the deficiency of books and textbooks in this respect, but also better conform to the current habits of college students' online study and life, stimulate students' learning enthusiasm and improve their learning effect.

3.2 Practical Training

In this module, the system supports students to complete the practical homework or training content assigned by teachers online. The students can choose their own propositions or training projects that meet their own abilities and interests, and can complete them independently or invite students to form a team. For example, the personal English speech of "A Good Story of China", the English dubbing contest of "Fighting the Epidemic, Come on China" and so on. Students can record and upload the content of the competition, which is convenient for subsequent evaluation while completing the exhibition. It not only greatly enhances students' innovative consciousness and practical ability, but also stimulates students' ability to think independently and solve problems. It also cultivates the spirit of teamwork and fundamentally avoids the problem of disconnection between learning and application.

4 Teacher Side

In comparison with the functional design of students, teachers pay more attention to the design, organization and supervision of online teaching. When teachers log in to the system, the main work lies in the collection, collation, production, uploading and maintenance of various teaching resources, and the training content is made according to the actual projects or cases, giving students the learning opportunity of integrating theory with practice. As for students' communication and questioning, they can also actively participate in it. With the application advantages of the platform, it is more convenient and direct to complete targeted explanations and help to students, which will help improve the teaching effect.

In addition, the system will provide an evaluation model algorithm based on CART decision tree to solve the problem that online teaching of ideological and political education is difficult to assess. The algorithm will construct the portrait of learning behavior according to the daily performance of students and users, and select the key indicators such as course completion, learning speed, participation times in practical training, communication times, etc. to construct the CART decision tree, and complete the setting of criteria. [6] According to the data characteristics, the expected output value is divided into five intervals: excellent, good, fair, poor and poor to complete the evaluation of the final learning effect. As shown in the table, the CART decision tree model test data shows that the final test accuracy rate is 91.21%, which meets the system design requirements(Table 1).

Table 1.

	Sample number	Superior number	Good number	General number	Poor number	Bad number	Accuracy rate
Excellent	125	119	3	2	1	0	95.20%
Good	57	4	50	0	2	1	87.71%
Ordinary	21	0	1	19	1	0	90.48%
Discrepancy	16	0	0	1	15	0	93.75%
Bad	9	0	0	0	1	8	88.89%
Amount to	228	123	54	22	20	9	91.21%

5 Concluding Remarks

In this paper, taking the present situation of ideological and political teaching of oral English course in colleges and universities as the research object, aiming at the new demand of current teaching mode reform, and with the help of the specific advantages of network information technology, database technology and computer application technology, an online ideological and political teaching system for oral English course in colleges and universities based on Web is constructed. It can not only effectively improve the effectiveness of ideological and political education, but also give consideration to

students' autonomous learning and individualized growth, promote the reform of ideological and political education mode, improve the professional oral English teaching system, and further make outstanding contributions to the cultivation of comprehensive applied talents of oral English major in the new period.

References

1. Meng Lan. The ideological and political path of college English course under the blended teaching mode [J].Social Scientist.2020.12
2. Wu Changzheng. The design of web development framework based on front-end separation technology [D].Nanjing University Of Posts And Telecommunications.2020.12
3. Liu Bingling. The application of Java language in software development [J].Information Recording Materials.2021.10
4. Chen Zhao. The Research on the Design and Implementation of SSM Framework in Web Application Development [J].Computer Knowledge and Technology.2021.04
5. Jiang Zhixue. The analysis of JSP technology and its application in dynamic web page development [J].Journal of Zhejiang University of Water Resources and Electric Power.2020.04
6. Guo Haibing, Liu Yashuai. The decision tree modeling of online learning effect evaluation under the background of "internet plus" education [J].China New Telecommunications. 2022.08