Ideological and Political Collaborative Teaching Platform of College Computer Professional Courses Based on MOOC

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Abstract: Socialism with Chinese characteristics has entered a new era, which generate higher requirements for the ideological and political quality and scientific and cultural quality of the people. This paper aims to study the implementation of the political collaborative teaching platform for IT majors based on MOOC. Using the method of online questionnaire survey, a teacher-student questionnaire survey was conducted on the implementation of the ideological and political collaborative teaching platform for large-scale computing MOOC courses. Finally, the experimental group and the control group were formed to analyze the academic performance. In terms of average score, the average score of the experimental group was 83.1 points, and the average score of the control group was 81.1 points. The independent sample T-test results show that $P<0.01$, there is a significant difference, that is, the MOOC-based ideological and political collaborative teaching platform for computer majors in colleges and universities can significantly improve student performance.

1. Introduction

"Course Ideological and Political" refers to a new educational concept and method with curriculum as the carrier. At present, there are still many problems in the collaborative education process of "curriculum ideology and politics", that is, the collaboration of teachers needs to be strengthened, the collaborative education awareness of some course teachers is weak, the Marxist theoretical literacy of teachers in different disciplines is uneven, and various courses There is a lack of effective communication among teachers [1]. As one of the educational technologies with high research interest. The shared resources and multiple evaluation functions of the MOOC platform are increasingly perfect [2].

At home and abroad, the research emphasis on the ideological and political collaborative teaching platform for computer majors in colleges and universities is different. Yu Aparicio M proposes a theoretical framework to identify the determinants of successful MOOCs and these factors in actual MOOC projects. We propose the role of gamification and suggest that together with information systems (IS) theory, gamification has been shown to play an important role in the success of MOOCs [3]. Stefik We discuss two key actions your team can take to make your CSP usable. First, with the help of accessibility experts and teachers, all Code.org CSP code is reviewed to make it more accessible [4]. Many of the above requirements reflect the importance of applied research on ideological and political collaborative teaching platforms for computer majors.

This paper examines the implementation of the MOOC-based ideological and political collaborative learning platform in college computer majors. It is necessary to strengthen the interaction and communication between disciplines, so as to enhance the breadth and depth of discipline research.

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2. The Theory of Teaching Platform Based on MOOC for Computer Majors

2.1 The Current Situation of Collaborative Education of Computer Majors

(1) Policy-driven

Higher engineering education is related to the development of my country's higher education, and is an important factor affecting the national economic development and the improvement of the country's comprehensive strength [5]. It is necessary to integrate production and education to educate people [6-7].

(2) Action path

Mainly, universities and enterprises carry out industry-university cooperation, and combine the development of disciplines with enterprises and industries. The joint construction of majors between schools and enterprises aims to give full play to the participation function of enterprises, emphasize industrial needs, and connect the "last mile" distance between schools and enterprises. It is beneficial to improve the training effect of students, and it is beneficial for enterprises to obtain specialized human resources. Through the joint construction of majors by schools and enterprises, the industrial chain and innovation chain can be effectively connected [8-9].

(3) Collaborative subject

It is divided into intra-school collaboration, extra-school collaboration and social practice according to the implementation site. Intra-campus collaboration mainly includes school-enterprise co-construction of colleges and departments, school-enterprise co-construction of talent training bases, and "order-based" training modes. School-enterprise co-construction of colleges and departments is mainly represented by the co-construction of secondary colleges. This model is to run a school jointly by schools and enterprises, and take advantage of the company's advantageous resources, including equipment and management talents, to undertake practical teaching tasks to strengthen students' skills training [10-11]. Under this model, enterprises have a more "ownership" consciousness, which can effectively enhance the enthusiasm and initiative of enterprises in collaborative education. In addition, colleges and universities that jointly build secondary colleges can obtain teaching resources and practice bases of cooperative enterprises. Students trained in this model have strong professional ability, have a deeper understanding of the culture of cooperative enterprises, and are more likely to obtain work opportunities in cooperative enterprises. However, limited by the uniqueness of cooperative enterprises, there is a significant gap between graduates and compound talents who meet the needs of industrial development [12-13].

2.2 The Connotation of Curriculum Ideology and Politics

Curriculum and political education is a systematic project, which requires the comprehensive development of various forces to form a comprehensive, comprehensive and complete education system. The heads of the party and government departments, including the party and government "veteran cadres" in colleges and universities, are not only practitioners of academic and political science, but also must personally practice the educational process and political education in the classroom, and they are also organizers of education and political public opinion. He's done well in leadership and engineering, and he's done well in science and political studies [14-15].

2.3 Design Principles of Collaborative Education Platform

(1) Taking talent training as the fundamental task

The design of the school-enterprise collaborative education platform should always take talent training as the fundamental task, assist universities and enterprises in talent training and teaching business management. The design of the platform also emphasizes collaboration and promotes schools and enterprises to achieve long-term, stable and effective collaborative education and cooperation in personnel training. In the training process, it is combined with industry enterprises [16-17].

(2) Process management

The collaborative education platform focuses on the process management. At present, many universities and enterprises in China have signed cooperative education agreements, and some of

the cooperative units are not professional personnel training institutions. There are plans to implement the situation [18].

(3) Teacher management

The collaborative education platform manages teachers. For the double-qualified teachers in the school, according to the arrangement of the university, they should enter the cooperative enterprises or related industry enterprises for in-depth study is improved. For the instructors of cooperative enterprises in the management of students. Corporate instructors can maintain timely communication with students through the collaborative education platform, familiarize themselves with students' learning progress and deal with problems in students' practical learning.

3. Investigation on the Ideological and Political Collaborative Teaching Platform of College Computer Major Courses Based on MOOC

3.1 Questionnaire Collection

In order to have a deeper understanding of the application effect of the MOOC-based ideological, the author designed and distributed a questionnaire. The questionnaire investigates students' views on the platform and their own ability improvement. A total of 50 questionnaires were distributed and 50 were returned, with a recovery rate of 100%.

3.2 Research Methods

This paper adopts the online questionnaire survey method, and conducts a questionnaire survey on the application of the political collaborative teaching platform of college computer major courses based on MOOC among college teachers and students.

3.3 Data Processing

In this paper, Matlab software was used for statistical analysis of questionnaire results and t test was performed.

$$t = \frac{\overline{X} - \mu}{\frac{\sigma_{\mathrm{x}}}{\sqrt{n}}} \tag{1}$$

$$t = \frac{\overline{X_1} - \overline{X_2}}{\sqrt{\frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2}(\frac{1}{n_1} + \frac{1}{n_2})}} \tag{2}$$

where and is the two-sample variance, and is the sample size.

4. Analysis on the Ideological and Political Collaborative Teaching Platform of College Computer Major Courses Based on MOOC

4.1 Problem Solving and Ability Improvement

In terms of problem solving and improving ability, as shown in Figure 1.

Before applying the platform, 52% of the students would ask the teacher or classmates when they encountered problems, and 38% of the students tried to solve the problem through self-inquiry. According to the data, the number of students who are willing to try self-inquiry first when encountering a problem has increased by 16%, and some classmates said: "I hope to gain a sense of achievement when solving problems through their own efforts."

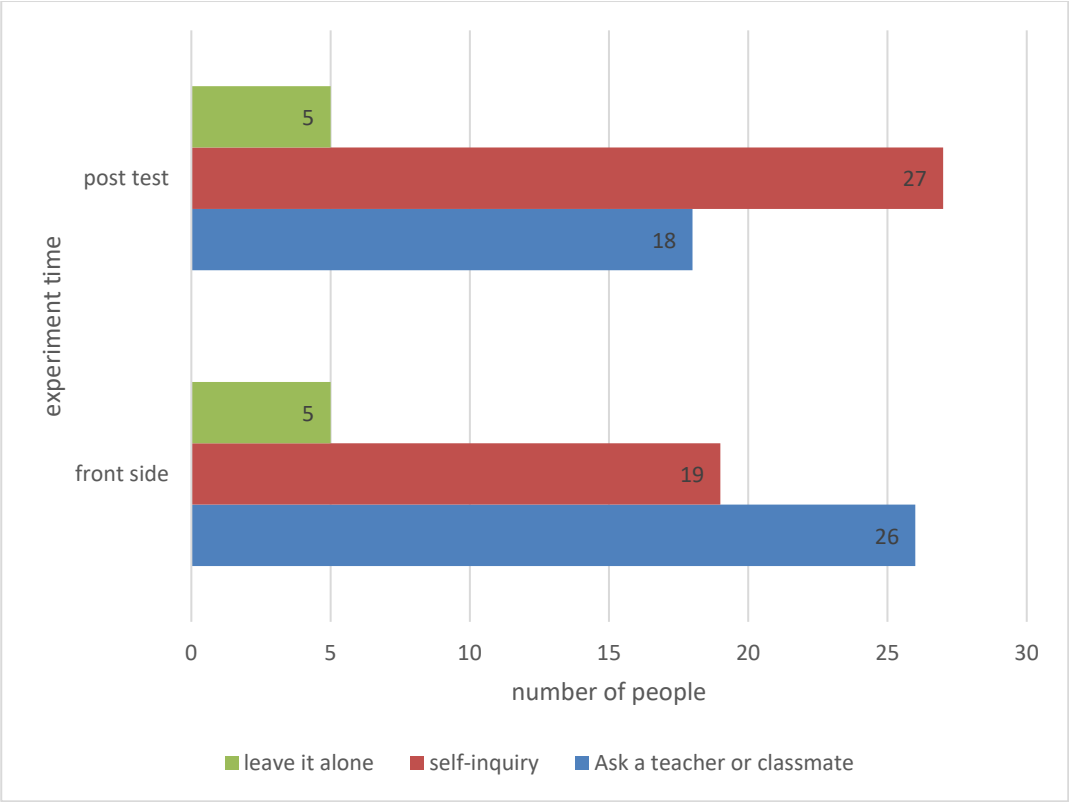

Figure 1. How students deal with problems

4.2 Analysis of Academic Performance

After the experiment, the teacher arranged a class time to conduct a unified examination for the experimental class and the control class.

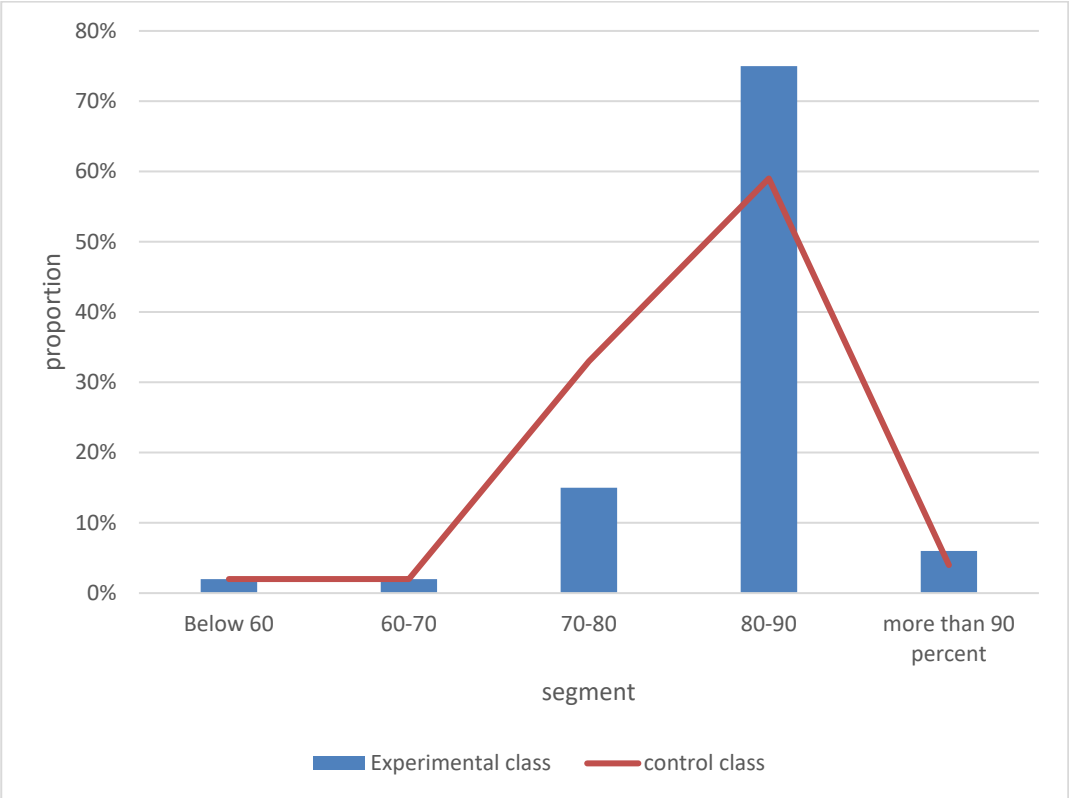

Figure 2. Distribution of test scores

As shown in Figure 2, we divided the scores into five intervals below 60, 60-70, 70-80, 80-90, and above 90. The control group is 2%, 2%, 33%, 59%, 4%. The number of people in the 80-90

divisions of the experimental group is relatively large. In the 60-70 and 90-100 points, there is little difference between the two groups, which proves that the two extremes of the performance distribution do not have much influence.

Table 1. Independent sample t-test

Class	number of people	average value	standard deviation	t	p
Experimental class	50	83.1	4.1235	4.1357	0.000
control class	50	81.1	4.9867		

Through the independent sample T test, the results are shown in Table 1, $P<0.01$, there is a significant difference. That is, the MOOC-based ideological and political collaborative teaching platform for computer majors in colleges can significantly improve student performance.

5. Conclusions

The country nominally carries out "cultural exchange" with my country, but in fact it carries out value evolution. In addition, contemporary college students live in an era of highly developed information. Therefore, colleges should change the concept of educating people in a timely manner, unite multi-disciplinary educating forces, jointly resist the invasion of the corrupt ideas of Western capitalist society, and maintain the dominant position of Marxist theory with a clear stand.

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