Retraction

Retraction: Research on Innovation of Ideological and Political Teaching Mode for Chemical Engineering Courses Based on Big Data Technology (J. Phys.: Conf. Ser. 1852 032001)

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The authors of the article have been given opportunity to present evidence that they were the original and genuine creators of the work, however at the time of publication of this notice, IOP Publishing has not received any response. IOP Publishing has analysed the article and agrees there are enough indicators to cause serious doubts over the legitimacy of the work and agree this article should be retracted. The authors are encouraged to contact IOP Publishing Limited if they have any comments on this retraction.

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Research on Innovation of Ideological and Political Teaching Mode for Chemical Engineering Courses Based on Big Data Technology

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Abstract. Aiming at the current application of big data technology, this paper proposes a micro-video-based ideological and political teaching and learning system for chemical engineering courses. In order to realize the system, relying on the course of "Light Chemical Equipment and Design", part of the main content of the micro video is designed, and the ideological and political content is run through the entire course; Then, design the system network topology, client and server functions, and finally deploy the system on the Alibaba Cloud server, and design an evaluation method to explore the application effect of the system.

Keywords: Big Data Technology; Alibaba Cloud; Ideological and Political Teaching

1. Introduction

Information technology has become the main trend of global development, in this case. How to apply information technology to intelligent teaching is a new trend in the current development of teaching circles. The application of intelligent teaching in teaching is mainly reflected in the use of frontline teachers. The application of intelligence in front-line teaching can not only improve teaching efficiency, but also effectively stimulate students' learning enthusiasm. [1-3] At present, the traditional teaching classroom model is mainly used in the education circle in our country. This model is relatively traditional and inefficient. Only by introducing intelligence into modern teaching can we better promote Internet teaching and integrate better quality teaching resources. The process of information intelligent teaching is to run the intelligent teaching mode throughout the entire ideological education and teaching process, which can not only cultivate students' thinking ability, but also improve students' professional quality. It can be said to achieve two goals with one stone and better promote the development of education and teaching, and to build a new teaching model of Internet + intelligence. In the application process, the teaching content and the key and difficult points of teaching are vividly and exquisitely reflected, and students are more motivated to learn. Therefore, this research attempts to take the course of "Light Chemical Equipment and Design" as an example, while integrating ideological and political teaching through the course, construct a micro-video ideological and political learning content.[4-6]
2. Demand for micro-video ideological and political learning system

2.1. System design goals
Among the major courses in chemistry, there is a basic course called "Light Chemical Equipment and Design". This course is a basic course for students majoring in light and chemical engineering. This course is a key course for learning the major of light chemical industry. [7-8] It can not only cultivate students' basic operating skills, but also improve their professional quality. As the most important link in the teaching process, the teaching goal plays a vital role in the teaching process. Whether the teaching goal is set reasonably or not is directly related to the level of teaching efficiency. In the process of setting teaching goals, teachers should not only set goals according to the main points in the teaching requirements, but also require teachers to set goals according to the actual learning situation of students. [9-10] The formulation of teaching objectives includes details such as process, methods, specifications, etc., which are directly related to the quality of classroom teaching. The formulation of teachers' teaching goals includes not only pure knowledge teaching goals, but also ideological teaching goals. The formulation of ideological and political teaching goals is the requirement and embodiment of contemporary core values and an extension of patriotism. Therefore, in the micro-video ideological and political learning system, on the one hand, the content of ideological and political needs to be reflected in the curriculum, and on the other hand, it is necessary to combine the requirements of the curriculum content for learning.[11]

2.2 Course content design
In the actual teaching process, teachers cannot simply introduce the subject of light chemical industry step by step, but should raise this subject to a new level to introduce it. It must be combined with the current national development situation and must be combined with the world's light chemical industry development trend. Through such an introduction, students can have a clearer understanding of the development trend and development needs of the light chemical industry, and have a deeper understanding of this course. For example, when talking about the treatment of the three wastes, we must combine the current professional hotspots so that students can have a clearer understanding of the importance of light chemical industry in social development, and a deeper understanding of the importance of harmony between man and nature. Therefore, in the design of the micro-video learning system, the specific courses and ideological and political arrangements are shown in Table 1.

Table 1. Course ideological and political arrangement

| Key points of professional knowledge | Ideological and political mapping and integration points | Teaching methods | Expected results |
|-------------------------------------|-------------------------------------------------------|------------------|-----------------|
| The historical background of the development of the light chemical industry | Chinese traditional light chemical industry technologies, such as the papermaking technology invented and produced in the 2nd century AD, play a guiding and promoting role in the development of human civilization. | PPT, video, WeChat and other information media. | Stimulate students' sense of industry pride and patriotism. |
| Overview of light chemical industry design | National and industry basic design-related regulations and policies, such as the implementation of the "13th Five-Year Plan" outline, "Light Industry Development Plan (2016-2020)". | PPT, WeChat and other information media. | Strengthen students' understanding of the relevant policies, laws and regulations of the industry, establish a sense of safety responsibility, and cultivate a rigorous work style. |
| Site selection | Select actual engineering cases to determine a site from the perspectives | PPT, class discussion, finding | Emphasize ecological thinking and sustainable development. |
of economy, green environmental protection, and feasibility.

Chemical calculations
Fourier's law, Bernoulli equation, etc. lead to the story of scientists' diligence and concentration.

Equipment protection and comprehensive utilization
Use actual cases to understand my country's advanced automatic control system.

Environmental protection and comprehensive utilization
Select engineering cases, understand the hazards of production pollutants, treatment status, and propose reasonable prevention and control measures.

Production process selection and process design
Selection of engineering cases, in-depth understanding and application of production process selection principles, and understanding of the unity of opposites between the principles.

3. Micro-video ideological and political learning system design

3.1 Overall network framework
In the above teaching cases, the teaching process is a meticulous process. This process needs to organically combine teachers and students, and needs to make reasonable arrangements according to the requirements of both, so the design of the teaching process is a diversified systematic project. The main service targets of this system include professional students and teachers. Therefore, in the process of video classroom production, video courses must be concise in content, simplified courses, and diverse in forms. Most short videos now use plug-in systems. The plug-in systems include IOS systems, and this system sometimes does not support flash, so this phenomenon should be fully considered in the micro-class production process. This micro-classroom system has fully tested this problem and adopted the internationally advanced B/S (browser/server) model. This system can be compatible without plug-in incompatibility. Because this system has modified the plug-in system incompatibility, it is very convenient for students and teachers to use it, and there will be no problems that cannot be played. The user interface is realized through a browser, administrators and learners can easily log in to watch videos and manage videos via WIFI or 3G mobile communication network.

The main application groups of micro-video courses are students majoring in chemical engineering. The characteristics of these groups determine that micro-classes can only use mobile phones and tablets as players. In the process of playing, you must use the wireless network and traffic to watch. As the playback process must use the flow and wireless network, considering this problem, the use of WIFI or 4G wireless network, this kind of involvement greatly facilitates various learning groups.

3.2 The functional design of the server
The server side of the micro-video course mobile learning system is mainly the manager module, which manages the background of the entire system, as shown in Figure 1:
3 The main application system in the micro-video classroom is the server. The classroom learning materials and teaching content are stored in the video server. Therefore, the design of the server must be compatible, large in storage, capable of docking with various resource systems at any time, information exchange and data transmission. This video micro-classroom system uses the internationally approved HTML5 technology, which overcomes the system incompatibility and has very strong operability. This design considers the actual situation of the learning group. The system adopts a WEB server. The advantage of such a server is that after the system sends out information, the user can receive the instructions issued by the server at the first time, and respond as soon as possible, users’ own needs are transmitted to the server in time. The two can interact immediately. For example, when a customer finds that his basic information is different from the actual information, the user can modify his information through the system and transmit it to the Internet at the first time, and finally save it in the server.

3.3 Functional design of the client
The service targets of the micro-video course are mainly college students and in-service employees, so the functional design of the client must fully consider this requirement. Specifically, when learners need to learn, users are required to download the system and register and log in. After the user logs in successfully, proceed to the next step according to the prompts. These operations can be done independently by the user. Because the page design of this system is very user-friendly, the user can complete it independently through the prompts and information on the page during use. Similarly, the administrator can add or delete the content of the system at any time according to real-time needs, ensuring the real-time and innovative nature of classroom teaching content. All this is to better serve the teaching classroom. The specific process is shown in Figure 2:

3.4 System deployment
After completing the above design plan, the micro-video system was deployed on Alibaba Cloud. After the students have finished their studies, they need to check the learning process. The results of the assessment can not only reflect the students' professional theoretical learning results, but also reflect the students' comprehensive skills. Since the assessment result contains two aspects, the assessment process also includes two aspects, one is the assessment of chemical engineering professional ability, and the other is the assessment of the effect of ideological and political learning. The assessment of students' professional courses is a basic assessment item for students' learning, and the assessment of ideological and political learning can better reflect students' professional ethics. The assessment process consists of two parts, namely process assessment and result assessment. The process assessment part is divided into online learning effects, teacher-student interaction effects, etc., and the result assessment part is a pure knowledge base assessment. Through the two assessment methods, teachers can have a deep understanding of the learning situation, understand the students' ideological and political learning situation, better promote teaching development, improve teaching efficiency, improve classroom efficiency, and promote students' all-round development.

4. Conclusions

It can be seen from the above design that this research only initially integrates the ideological and political teaching of chemical engineering courses through the teaching, and organically combines the chemical engineering course learning and ideological and political learning through micro-videos, which is better and more freely provides students with space and time for chemical engineering courses and ideological and political learning, and also provides a new model for the subject of this research, which is the innovation of ideological and political teaching.

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