

Exploration and Research of Intelligent Cloud Teaching Evaluation System for Architecture Professional Courses

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Abstract: With the development of modern information technology, the education mode of "Internet + vocational education" has been paid attention to and applied. In recent years, one of the major education goals of Ministry of Education is to include information-based teaching into the planning of education reform and development. In this context, various kinds of information-based teaching platforms have emerged, such as Chaoxing learning platform and provincial online open teaching platforms, and the corresponding teaching mode has been greatly transformed. The combination of education and teaching with the Internet is derived for the intelligent cloud teaching, and this teaching mode overturns the traditional mode of "teaching + learning". The change of teaching mode directly affects the reform of teaching evaluation system, so this paper mainly focuses on the mode construction of teaching evaluation system. According to the professionalism of the course, this paper takes Revit Architecture BIM Application course as an example.

1. Introduction

Cloud teaching is a product of teaching development in recent years, and is a mode that can reflect the characteristics of modern teaching. At present, China has a good development trend of cloud teaching, and gradually develops a variety of modes of cloud teaching mode, but the corresponding teaching evaluation system is not developed accordingly. From the aspect of teacher teaching, through this study, determine the appropriate teaching evaluation system on the basis of conforming to the curriculum standards, and provide guarantee for improving the teaching quality of cloud teaching mode. The purpose of teacher teaching is to have good teaching effect, and the assessment of effective learning effect^[1] is the key to the closed-loop and virtuous improvement of this teaching model. Building a new assessment system, in terms of student learning, helps to promote students' learning autonomy and puts their energy on the learning process rather than just dealing with exams.

2. Status of Research on the Construction of Intelligent Cloud Teaching Evaluation System

At present, the content about cloud teaching in China mainly focuses on case studies in a specific school or a specific subject, and there is almost no research about the evaluation system of cloud teaching, which shows that the current domestic research is not inclined to the evaluation system of

cloud teaching, and at present, the domestic research for this study is not yet developed and mature [2].

The development of "Internet + vocational education" in foreign countries is earlier, which is worth learning from. For cloud teaching, many famous universities have carried out relevant research and exploration, and there are many successful cases. For example, the project of Purdue University's signal course, which counts students' experimental data in the learning process and gives corresponding course evaluation in time, has improved students' interest in learning and course compliance rate to a certain extent [3].

Based on the above research, the research dimensions of cloud classroom teaching at home and abroad are mainly focused on model exploration, resource construction and platform construction, while the research on cloud teaching evaluation system is still been empty. Therefore, this paper aims to build a scientific, reasonable and practical evaluation system for cloud teaching by combining with the characteristics of cloud teaching mode.

3. The Construction Idea of Cloud Teaching Evaluation System

This paper analyzes the importance of establishing a cloud teaching evaluation system through the practice of cloud teaching in the era of "Internet+ Vocational Education", taking the architecture majors in higher vocational education as the object. Taking the practice courses of higher vocational architecture majors as a carrier, it summarizes the design, implementation process and effect of the evaluation system of students' academic achievement through the teaching practice of the course, and puts forward the suggestions of the cloud teaching evaluation system that can be applied to the practical courses, and can be extended to different colleges and universities in different disciplines. In previous studies, most researchers have constructed an appropriate evaluation system through a single course. This topic adds a questionnaire to democratically assess different institutions and further optimizes the system through the method of big data survey, so as to gradually improve the teaching evaluation system. Finally, a set of teaching evaluation system of intelligent cloud classroom that can be applied to architecture practice courses is proposed [4]. The basic idea of the construction of this evaluation system is shown in Figure 1.

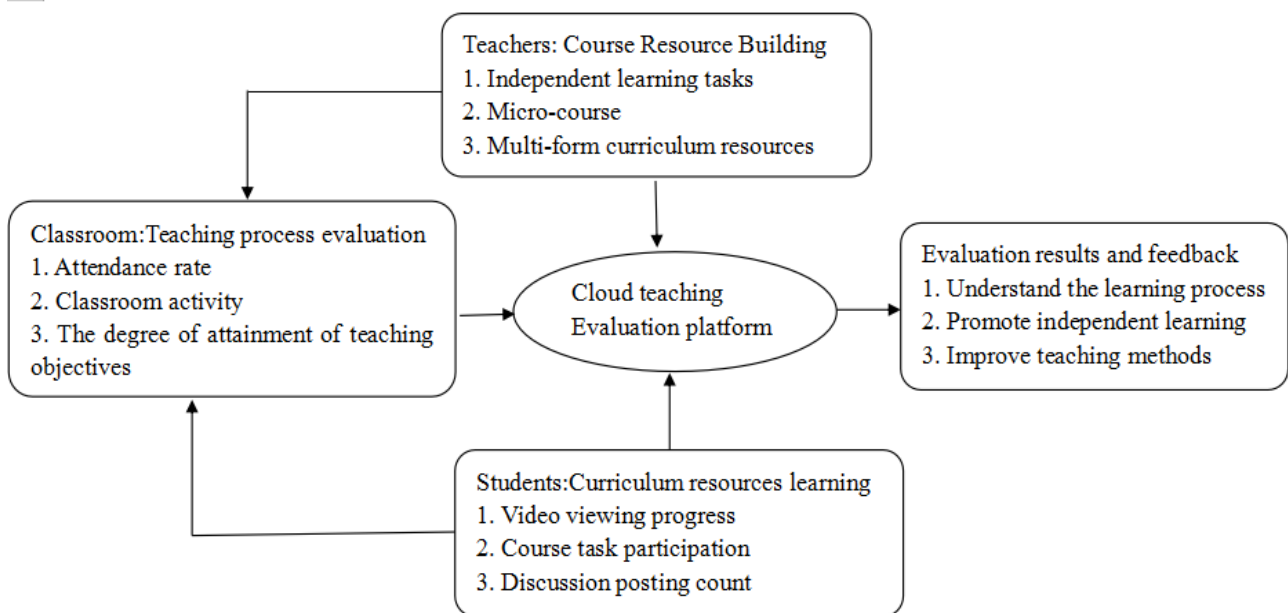


Figure 1: Design of classroom cloud teaching evaluation system

4. Explore the Model of Cloud Teaching Evaluation System

4.1 Research on the Evaluation System of Teachers' Classroom Resources Construction under the Intelligent Cloud Teaching Model

According to the requirements of the curriculum standards, teachers establish a complete teaching resource platform, and students can study in advance before the class. Taking the course "Revit Building BIM Application" of architecture major as an example, the teaching resources are prepared before the course starts. Firstly, according to the comprehensive quality of higher vocational students and the teaching and training objectives of the major, the curriculum design is carried out by project, and the teaching team is formed, and the course teaching resources are collected. The content mainly includes recording teaching micro-lessons, designing courseware, collecting drawings, compiling question banks and sorting out extra-curricular auxiliary websites. Using the intelligent vocational education platform, teachers upload the corresponding materials to the platform, including theoretical courses and practical operation manuals, so that the theory and practice of the course can be integrated, and students can watch and consolidate repeatedly in the learning process. One of the criteria for the construction of course resources is the quantity, and a certain quantity is used as the standard value to judge whether it is qualified or not. In addition, the course team invites professional and technical personnel from off-campus enterprises to score the construction of course resources and put forward suggestions for modification from the perspective of practical work, so as to continuously improve the online course resources [5]. At the same time, a questionnaire can be added to let students rate the teaching resources of the cloud classroom and suggest the links they would like to add or remove, so as to continuously optimize the online course resources.

4.2 Research on the Evaluation System of Student Participation in Courses under the Intelligent Cloud Teaching Model



Figure 2: Grade distribution

Teachers use problem-oriented and task-driven teaching methods in the teaching process to project the tasks, and the learning of each module is combined with corresponding training projects to promote students to practice more, and the post-class assignments are also completed using the software and the platform [6]. Classroom practical training and post-class assignments are in the form of theoretical answer sheets and software practical exercises, which are finally uploaded to the platform [7]. Students' participation in the course is divided into the following measurement criteria: first, students' learning completion of course resources, with the length of video learning as the evaluation index; second, participation in course tasks, with the completion of each section of the

task test as the evaluation index; third, questions, discussions, and postings, with the number of questions answered and the number of posts as the evaluation index [8]. The above several measurement criteria are combined to build an evaluation system of students' course participation. The evaluation system in the learning process is shown in Figure 2.

4.3 Research on the Evaluation System of Classroom Teaching Effect under the Intelligent Cloud Teaching Mode

The classroom is the main place for teaching and learning, so classroom teaching needs to be active to improve students' interest in learning, and promote students' unity and cooperation [9]. The classroom attendance rate, classroom activity index, and the degree of expression of teaching objectives are relative [10]. The classroom attendance rate can be expressed in the form of online sign-in [11], and the sign-in rate is measured by a certain standard value; the classroom activity index can take the average value of parallel classes as the parameter; the degree of classroom teaching objectives expression takes the 60% of the total score of classroom tests (or homework/group activities) as the standard value, and the overall assessment method is shown in Table 1.

Table 1: Assessment method

Type of assessment	√Practice test				Non-practice test					
Form of assessment	Written test		Oral test	√Operation	Open-book test			Closed-book test		
Composition of total score	On-line	Video viewing	40 %	Forum postings	10 %	Home work	20 %	Test	20 %	Total proportion 90%
	Offline	Attendance	5%		Classroom performance	5%				Total Proportion10%

5. Conclusion

At present, under the background of "Internet + professional education", the teaching of higher vocational colleges has become more and more attached to the Internet, create wisdom cloud classroom can conform to the development of the times. By analyzing the opportunities and challenges, as well as current development status sand existing problems of cloud classroom teaching in higher vocational institutions under the background of "Double First-Class" initiative, this paper researches and explores the evaluation system of cloud classroom teaching, and finally summarizes and constructs a teaching evaluation system applicable to architecture majors in higher vocational institutions, which can be researched and comprehensively developed into a evaluation system applicable to more majors in higher vocational institutions in the future.

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