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Research on Online and Offline Mixed Teaching Reform of Electrical Drawing Based on "Rain Classroom"

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Abstracts: Electrical Drawing is not only the basic course of electronic specialty in colleges and universities, but also the core course of specialty. In the traditional course teaching of Electrical Drawing, the teaching mode adopted is very single, the students' learning enthusiasm is not high, and the theoretical teaching is more prominent in the traditional course teaching. Therefore, it is necessary to do a good job in the teaching reform of the course. The application of online and offline mixed teaching mode in rain classroom is of great significance to effectively improve the quality of curriculum teaching and promote curriculum teaching reform. This paper explores the mixed teaching mode in the rain classroom, and analyzes the reform countermeasures of the mixed teaching mode in the middle line of the teaching of Electrical Drawing.

Keywords: Rain Classroom; Electrical Drawings; Online and Offline; Mixed Teaching

1. Introduction

Rain classroom is an intelligent teaching scheme organized and developed by the online education office of Tsinghua University. It promotes teaching development by providing data and intelligent information support for courses. It is a new information-based teaching tool. The rain classroom integrates the PPT teaching mode into the teaching, combines the teaching work before, during and after class, and realizes the online and offline interactive teaching. At present, the teaching form of rain classroom has been applied in many areas. The application of this teaching mode to the course of Electrical Drawing has also accumulated some experience and has certain reference value for this research.

2. Overview of rain classroom mixed teaching mode

In the traditional curriculum teaching mode, teachers are the main body of teaching. Teachers will explain the key and difficult points of textbook knowledge in class and complete knowledge transfer through teaching. In traditional teaching, the teaching concept of teacher centered and classroom centered is highlighted, and students are in a passive position in curriculum learning. Moreover, the teaching methods adopted by teachers in teaching are also very single, which can not teach students according to their aptitude, not conducive to cultivating students' autonomous learning ability and innovative consciousness [1]. The rain classroom mixed teaching mode is that teachers integrate diversified materials such as video, exercises and voice into courseware PPT, integrate and push teaching resources for students, and build a perfect communication bridge for extracurricular preview and classroom teaching, in order to maintain classroom interaction anytime and anywhere. The rain classroom can also realize real-time problem and bullet screen interaction, so that students' learning can break through the time and space constraints of the traditional classroom, and ensure that all links before, during and after class can be covered. Teachers can also timely grasp students' learning dynamics through the corresponding teaching platform, continuously cultivate Teaching skills and promote the development of scientific teaching.

2. The process of online and offline mixed teaching mode of Electrical Drawing based on rain classroom

2.1 Self study before class

Teachers have corresponding teaching tasks on the cloud classroom platform, and students need to carry out pre class self-study in combination with the course teaching tasks. With the help of relevant teaching resource database and mobile cloud classroom APP, students can watch visual, micro class, animation and construction video, and form corresponding learning research groups to discuss relevant problems in preview. After completion, they participate in the pre class online test on the cloud classroom platform. Teachers can obtain teaching feedback information in combination with students' curriculum test, so as to design and grasp the corresponding teaching content [2].

2.2 Guidance in class

In class, teachers need to convey the production tasks to relevant groups, give specific cases of Electrical Drawing, and let students explore and think about the teaching tasks. With the help of course learning, students can grasp the corresponding theories and methods and complete the corresponding production tasks. Combined with students' foundation and cognitive law, we can grasp the knowledge level, skill level and application level of the course, let students break through the study, and promote students to achieve effective skill improvement from theory to practice.

2.3 After class development

After completing the in class teaching, students can log in to the cloud classroom for online homework. Combined with the specific teaching contents of the Electrical Drawing course, they can complete the corresponding after class contact and consolidate the classroom teaching knowledge. With the help of cloud classroom teaching activities, teachers can summarize and analyze the questionable and difficult problems in the on-site operation, carry out brainstorming, special discussion and actively guide students to think and analyze. In addition, teachers can also timely grasp students' classroom learning, grasp students' learning through footprints and results recorded by relevant systems, and do a good job in students' evaluation, so as to promote students' summary and reflection, make necessary adjustments for weak links, and lay a solid foundation [3].

3. Concrete application of rain classroom in online and offline mixed teaching mode of Electrical Drawing course

In order to update the concept of education and teaching, focus on the intelligent teaching and the teaching reform of electrical drawing under the background of the deep integration of information technology and education and teaching, we should improve the undergraduate teaching level and talent training quality, and earnestly implement the teaching concept of "student-centered". According to the relevant work requirements of the Ministry of Education, Provincial Department of Education and school classroom teaching mode reform, relevant colleges and universities should actively promote the research on the reform of mixed curriculum teaching mode, carefully interpret the Notice on Further Promoting Online and Offline Mixed Teaching (Trial), and explain it one by one from the aspects of overall objectives, implementation time, curriculum scope, teaching requirements, incentive measures, etc. Focusing on the specific contents of the notice, the discussion is conducted from the aspects of teaching effect, students' online autonomous learning ability, online and offline connection, online and offline class hour allocation, online teaching location, process assessment, construction of curriculum resource database, selection of teaching platform, teaching monitoring and management, safeguard measures, etc., and many constructive modification suggestions are put forward from the characteristics of various majors of the Institute of electrical engineering [4].

In the specific teaching of Electrical Drawing, we should not only make full use of cloud learning and vocational education cloud and other platforms to carry out online training, fully test students' theoretical knowledge, and organize and lead offline practice, in order to further improve the construction level and talent training quality of electrical specialty, promote the integration of "on-the-job course competition certificate" and give full play to the effect of comprehensive education.

Promoting the application of online and offline mixed teaching mode under the background of rain classroom is also an important measure to implement the modern vocational education system of vertical connection and horizontal integration

built by the CPC Central Committee for vocational education, which can improve the quality, cultivate excellence, add value and empower vocational education, as well as cultivate students to move forward to technical talents supporting economic and social development. In view of many deficiencies and problems in the experimental teaching process reflected and found in the current teaching of Electrical Drawing, such as the lag of theoretical teaching; The quality of students' basic practical skills needs to be improved; The methods of teachers' guidance to students need to be improved; Some laboratory equipment is obsolete, which affects the development of students' practical ability. In the online and offline mixed teaching mode, it is necessary to put forward innovative and referential experimental teaching methods and modes. For example, it is proposed that experimental teaching should be "doing experiments", not "teaching experiments". In the experiment, students' enthusiasm should be brought into full play, with students as the main body and teachers as guidance; The teaching method of combining simulation and entity in the experiment is conducive to students' better grasp of the course theory; On the basis of existing experimental instruments, we can expand the usage of experimental instruments and cultivate students' learning and practical ability. By actively deepening the course teaching discussion, let the course teachers improve their understanding of the importance of experimental teaching, deepen their understanding of the experimental teaching process and methods of Electrical Drawing, and inspire the improvement of experimental teaching methods and means [5]. This has played a great help and improvement for teachers of relevant courses in the experimental teaching of Electrical Drawing.

To ensure the application of the online and offline mixed teaching mode in the rain classroom of Electrical Drawing, in the specific course promotion, it is also necessary to continuously improve the relevant teachers' understanding of the rain classroom and promote the continuous improvement of the mixed teaching level of the course. The school should also organize relevant course teachers to learn how to use the rain classroom to carry out online and offline mixed teaching, promote the continuous optimization and reform of course teachers, and promote the innovation of Electrical Drawing course.

4. Conclusion

The application of the online and offline mixed teaching mode of Electrical Drawing based on the rain classroom can break through the shortcomings of the traditional curriculum teaching mode, further optimize the curriculum, and promote curriculum reform and innovation, so as to improve the quality of curriculum teaching, truly reflect the students' learning subject status, and continuously improve the students' independent inquiry learning ability. In the online and offline mixed teaching mode of rain classroom, teachers should focus on grasping the key points of different teaching links before, during and after class, and take necessary guiding measures to ensure the continuous improvement of the quality of curriculum practice teaching.

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