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Research and Practice of Online and Offline Hybrid Teaching

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Abstract

Online and offline hybrid teaching, with students as the main body and flexible and diverse teaching methods, improves the teaching effect and meets the needs of students' diversified development. Taking c# programming course as an example, this paper introduces the online and offline hybrid teaching design, introduces the online and offline hybrid teaching design, proposes a diversified teaching method and evaluation mechanism based on the combination of online and offline hybrid teaching and project teaching, so as to promote the teaching reform of the course and further improve the teaching quality.

Keywords

Reform in Education; Online / Offline; Mixed Teaching.

1. Introduction

With the development of Internet and the application of advanced network technologies such as cloud computing and mobile Internet, China is entering the era of Internet plus. More and more colleges and universities encourage teachers to carry out online teaching and invest special funds to support it. For colleges and universities, the development of online teaching breaks through the limitations of traditional classroom teaching platform, technology, time and space, so that more people have access to better teaching resources, which is conducive to the expansion and popularization of higher education. However, online teaching cannot replace the traditional classroom teaching in the cultivation of students in Humanities and social life. Therefore, the combination of online and offline hybrid teaching mode is a new trend of teaching reform in Colleges and universities in the future.

C# programming is a compulsory course for computer science and technology and software function related majors. In order to improve the teaching quality of this course and stimulate students' enthusiasm for knowledge and exploration spirit, online and offline hybrid teaching is introduced into the course of c# programming, and teaching reform research is carried out in combination with project teaching.

2. Characteristics of Online and Offline Hybrid Teaching

In traditional offline teaching, teaching hours are fixed, and teachers and students interact face to face to complete the teaching process. In teaching, teachers focus on teaching content. Teachers can timely control students' listening situation, timely adjust classroom teaching ideas according to students' classroom feedback, and carry out teaching according to the understanding of classes and students. However, they have little contact with students in addition to classroom teaching, which can not solve the problems encountered by students in learning in time, for students with poor learning ability or doubts in learning, they may not keep up with the progress of the course and eventually affect the teaching effect. However, offline teaching is irreplaceable in some aspects, such as the cultivation of students' cooperative

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problem-solving ability, moral education, emotional communication between teachers and students and so on.

Online teaching is based on the course network platform. Teachers import teaching resources into the course network platform. Students independently arrange learning progress and learning content according to their needs. For knowledge points that are interesting or difficult to understand, students can learn and consolidate repeatedly to meet the individual learning differences of different students, but the learning process completely depends on students' independent completion,for students with poor self-control, they may delay until they finally give up the course. At the same time, online learning evaluation is difficult. The development of the Internet makes the online learning evaluation process lack of strict supervision. So far, there is no perfect and reasonable online learning evaluation mechanism, which also limits the standardized development of online teaching.

Therefore, the online and offline hybrid teaching mode combines the traditional offline teaching with the online teaching based on the Internet, uses the Internet technology, integrates the advantages of offline / online teaching, adopts flexible and targeted teaching methods, mobilizes students' learning enthusiasm, and enables learners to obtain a better teaching experience. The hybrid teaching mode not only has the leading and leading role of traditional classroom teaching, but also integrates information-based teaching technology into teaching, which makes teaching span the limitations of platform, technology and time and space, uses diversified teaching methods and rich teaching resources, stimulates students' learning participation and independent innovation, and improves teaching quality.

3. Combination of Online and Offline Hybrid Teaching and Project Teaching

The course of c# programming mainly explains the c# language and window program development technology, involving many knowledge points. In order to enable students to master the c# language to develop Windows applications and cultivate students' practical ability and good professional skills. Therefore, this course adopts project-based teaching. This course takes "book borrowing system" or "student achievement management system" as the course project, in which several sub projects are set, each knowledge point of conventional teaching passes through 1-2 examples to enable students to have a deeper understanding of the basis of c# grammar. Project teaching applies the knowledge points of object-oriented programming through curriculum projects, which improves students' ability to write programs in c# language and has a more comprehensive understanding. Focusing on the knowledge, skills and quality required in the development process of the management system, the corresponding sub projects and each task are refined to ensure the consistency between the implementation of (project) work tasks and the actual work process. In the process of completing (project) tasks, students build relevant technical knowledge and develop professional ability; Students fully perceive and experience in the process of knowledge and ability formation, and acquire process knowledge and experience.

Each sub project adopts the teaching link of "total score total" to integrate theory and practice, the completion of each sub project adopts the process of "project task - proposal of the project - preparatory knowledge for the implementation of the project - project implementation - possible problems in the implementation of the project - follow-up projects". The development of each sub project starts with the background and specific tasks of the project. By analyzing the tasks of the project, we learn the relevant knowledge points in the process of implementing the project, then carry out the corresponding project implementation tasks, and finally summarize and analyze the project to form a "total and total" Teaching link, which organically integrates theory and practice in the teaching process.

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The course of c# programming adopts the teaching method of "project oriented and task driven", which integrates the teaching process and project development. At the same time, in order to improve the teaching quality, the teachers of the course group integrate the online teaching on the basis of the traditional offline project teaching, carry out the online and offline hybrid teaching reform, introduce the super star pan Ya platform and learning tools, and establish the network platform of c# programming course, try to open online and offline mixed teaching.

(1) Online teaching materials preparation, students' online preview

In teaching, teachers should prepare pre class thinking questions, course PPT, record course videos, classroom interactive activities, after-school tasks, etc. in advance, and publish the materials to the course network platform. Teachers release relevant learning requirements and ask questions in combination with the teaching content of each class. Students sign in online before class, complete the course preview online and answer the thinking questions put forward by teachers. Teachers understand students' doubts and prepare classroom teaching handouts according to students' answers to thinking questions. The pre class learning is completed by the students themselves, which is automatically included in the system and weighted into the students' process scores.

(2) Project Teaching under class

Classroom teaching is conducted face-to-face. The teaching method of "project oriented and task driven" is adopted in the teaching process. Through the explanation of demonstration projects, bloom classification teaching method, boppps teaching model, difference teaching method and group teaching method are integrated into the classroom. Students are centered and guided by the familiar demonstration projects, so that students can find and analyze problems themselves, and teachers play a guiding role.

(3) Finish the task online after class, review and consolidate the knowledge learned

Review after class, consolidate the learning content of this section, complete the after-school tasks and chapter tests, and watch the video repeatedly for the course knowledge points that are not understood. Online supporting learning materials and convenient communication channels between teachers and students can meet the learning needs of students. Actively participate in after-school discussions and make speeches. Teachers participate in discussions and understand students' ideas, summarize students' problems in learning, and guide answers through the platform. Students can also leave messages and communicate with teachers directly online.

4. Establish a Reasonable Evaluation Machine

As an important part of the teaching process, learning evaluation plays a guiding role in students' learning. The learning evaluation of hybrid teaching mode should include both offline test results and online learning process. Offline learning evaluation mainly includes classroom performance and final examination results. Offline teaching is completed in unified supervision and management. There is a strict assessment and evaluation mechanism, and the learning evaluation results are objective and fair. Online teaching is completed by students under the guidance of teachers. At present, there is no strict supervision and management mechanism, so online pays more attention to process evaluation, mainly including online video learning duration, homework performance, participation in discussion and speech, online test performance and other teaching activities. The hybrid learning evaluation mechanism combining online and offline should complement each other and complement each other.

The specific assessment methods are as follows:

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1) Daily performance accounts for 20%, including offline classroom performance and problem discussion;

2) Online platform learning assessment accounts for 40%, including online video learning, test exercises, homework, etc., to assess students' learning ability after class, problem analysis and problem-solving ability;

3) The project assessment accounts for 40%, and the project tasks are completed to assess the students' mastery of knowledge, comprehensive application of knowledge and practical ability.

5. Summary

As a new teaching method after e-learning, online and offline hybrid teaching mode is a new teaching method that effectively combines the advantages of e-learning and traditional face-to-face teaching. The c# program design course combines online and offline mixed teaching with project teaching, optimizes the traditional classroom teaching mode of "teaching first" around the concept of "student-centered", improves the teaching effect and stimulates students' learning enthusiasm. At the same time, the online and offline hybrid evaluation mechanism is adopted in the course, which makes the course evaluation methods fair, objective, flexible and diverse, can objectively reflect the learning results of students, and guide students to develop good inquiry autonomous learning habits.

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