Blended Teaching Practice of Computer Network Course

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Keywords: Computer network course, Blended teaching, Present situation, Advantages, Practice

Abstract: Under the social background of the rapid progress of informatization, the integration of the Internet and the education industry has been continuously improved. Influenced by the Internet, the traditional teaching mode has been seriously impacted, and the informatization of modern education has been continuously improved. This paper focuses on the blended teaching of computer network course.

1. Introduction

Nowadays, we are living in the information age with network as the core. Employers have higher requirements for the comprehensive quality of college students, especially for their application ability of information technology. Domestic colleges and universities should actively reform and innovate teaching methods and cultivate more high-quality talents in line with the development needs of the times. The teaching mode that combines the advantages of offline classroom teaching and online network teaching is blended teaching mode. Domestic colleges and universities are actively exploring the practical teaching of blended teaching.

2. Problems in the Teaching of Computer Network Course

At present, the main problems in the teaching of computer network course include the imbalance between teaching theory and teaching practice, and difficulty to cultivate students' ability under the traditional teaching mode. The specific analysis is as follows.

2.1 Imbalance between Teaching Theory and Teaching Practice

In the teaching process of computer network course, there are still problems of paying attention to theoretical teaching and ignoring practical teaching. In the learning process, most students feel that the computer network course covers a lot of knowledge points, and the knowledge points are very abstract and difficult to understand, so that they can't flexibly apply the theoretical knowledge they have learned in practical operation. In the experiment, the simulator is mainly used to simulate the local network, and the practice environment is lack of authenticity. In order to pass the examination, students memorize knowledge points by rote, leading to the lack of practical application ability, so it is naturally hard to enhance students' comprehensive ability to solve problems[1].

2.2 Difficulty to Cultivate Students' Ability under the Traditional Teaching Mode

Under the traditional mode, classroom teaching is mainly based on teachers' teaching of knowledge points. The leading role of teachers is very obvious, and students can only be in the state of passive learning. Many abstract knowledge points are involved in the computer network course. Teachers will use multimedia to explain the abstract knowledge points of routing protocol and network architecture, helping students better understand some abstract knowledge points to a certain extent. The traditional teaching mode fails to teach students in accordance with their

  DOI: 10.25236/ermss.2021.051

aptitude, provide students with sufficient thinking time and pay enough attention to the cultivation of students' ability, so that although students are in the environment of the rapid progress of network technology, they can't smoothly transfer the learned knowledge to the actual engineering cases. Students show a serious lack of problem-solving ability and autonomous learning ability. These problems will be more prominently reflected in the learning process of follow-up courses and graduation design.

3. Introduction and Application Advantages of Blended Teaching Mode

Through teaching practice, it is found that there are some defects in the simple application of traditional course teaching or online course teaching, and the teaching effect is difficult to be guaranteed. The blended teaching mode combines advanced information technology with traditional classroom teaching through the combination of "online" and "offline" teaching, that is, it integrates the advantages of network online teaching with the advantages of traditional classroom teaching, and finally realizes the purpose of improving teaching and learning effects. It is very necessary to introduce and apply the blended teaching mode to the teaching of computer network course. Under the blended teaching mode, teachers' guiding role is brought into full play, and students' learning interest is enhanced, and students' learning status is fed back in time, helpful for students to carry out in-depth learning. In order to further enhance the teaching quality of computer network courses, colleges and universities should actively introduce the online education comprehensive platform[2]. With the support of this platform, teachers can actively develop the construction of curriculum network resources, provide corresponding curriculum resources for online learning, and facilitate students' online exchange and learning activities.

4. Blended Teaching Practice of Computer Network Course

The quality of computer network course can be greatly enhanced by effectively using the blended teaching method. In the practical teaching of computer network course, the blended teaching method should be used. The practice of this method is as follows.

4.1 "Blended" Teaching Based on Mooc

In the process of "blended" teaching, many domestic colleges and universities set MOOC as an online platform. The course content covered by the domestic college MOOC course platform is very rich, which can be selected by college students according to their own needs. MOOC explains and presents the knowledge points in the form of small videos. Students can repeatedly watch the key and difficult contents in combination with their own reality. Students and teachers or students and students can communicate and learn through online discussion, which greatly promotes students' in-depth understanding of the knowledge points.

"Blended" teaching mainly greatly integrates MOOC learning and offline classroom teaching, which largely solves many problems under the traditional teaching mode, such as the difficulty of teaching students according to their aptitude effectively, the limited time for students to think independently, the single evaluation system and so on. MOOC includes two modes: synchronous mode and asynchronous mode. Synchronous mode mainly refers to students' synchronous learning of relevant video courseware resources in MOOC, and active participation in various types of activities such as online homework and discussion. Asynchronous mode is mainly based on the specific teaching requirements of the school. In order to better keep consistent with the curriculum objectives, teachers delete part of the curriculum content. In view of the situation of the school, teachers can carefully analyze curriculum objectives before class, modify the course contents and collect and develop all kinds of curriculum resources for students' autonomous learning. Therefore, the analysis of curriculum objectives should be carefully completed as the first step of "blended" teaching practice. After making reasonable teaching objectives, teachers should modify and design the content of online teaching in combination with the teaching objectives. For example, when

teaching computer network courses, in addition to the learning of theoretical knowledge points, teachers should also focus on the application of theoretical knowledge. Therefore, in online courses, teachers can appropriately weaken the strongly theoretical content and supplement students with knowledge closely related to network application.

4.2 "Blended" Teaching Based on Flipped Class

While making full use of online resources, teachers should also focus on the stimulation of students' subjective initiative, so as to achieve the full integration of online and offline teaching. As a new teaching mode, flipped classroom completely subverts the teacher-led teaching mode. Teachers return the initiative of learning to students, so that students' status and participation in teaching activities have been significantly improved. Students can adjust their learning time in combination with their own characteristics, which is conducive to enhancing students' learning efficiency. When teaching computer network courses, teachers should first combine the course teaching objectives, take the network hierarchy mode as a clue, screen and divide the course knowledge points, and then upload the learning requirements and video learning materials of relevant knowledge points. Students can develop autonomous learning under the guidance of teachers in combination with the learning requirements and materials released by teachers. Students can repeatedly watch and learn difficult knowledge points in combination with their own learning situation, and consult relevant literature. If they still can't solve the problems, they need to communicate with teachers through online Q & A, group discussion and other diversified ways to solve their doubts in time. Before developing classroom teaching activities, teachers must summarize the students' feedback, review and explain the key and difficult contents, set the relevant knowledge points as practical problems on the basis of enterprise network cases, and students carry out relevant knowledge discussion in groups, so as to finally cooperate to solve the problems. Teachers should directly participate in students' discussion, timely understand students' learning situation and constantly enrich the evaluation system. In the presentation session, the teacher can randomly select a group member to share the discussion results on behalf of the group. Other groups score the performance and conclusions of the group[3]. Finally, the teacher is responsible for the overall summary.

4.3 "Blended" Teaching under School-Enterprise Cooperation Mode

The computer network course offered in colleges and universities is a very practical course. If students only study theoretical knowledge and can't analyze and design the network, they will not meet the objectives and requirements of the course. "Blended" teaching can be developed through school-enterprise cooperation. In order to give full play to the advantages of colleges and enterprises in training talents, the school-enterprise dual tutor responsibility system can be adopted. Generally, college teachers have strong theoretical knowledge system and rich teaching experience, but they lack practical experience and know little about the actual operation of enterprises. However, enterprise engineers have rich practical experience but lack teaching experience, so it is difficult to effectively combine the course objectives with enterprise cases. Students' engineering practice ability is hard to be exercised. Therefore, the application and implementation of the dual tutorial system can promote the complementation of their advantages. In the process of setting curriculum objectives, enterprise teachers should also participate. In the flipped classroom discussion link, the school and enterprise tutors can jointly decompose engineering cases, use theoretical knowledge to support system cases, set technology application as the goal of curriculum practice teaching, introduce enterprise resources and mainstream network certification system, promote students to have an in-depth understanding of the practical application of theoretical knowledge on the basis of learning and mastering theoretical knowledge. Through the online learning system, students can timely report their learning situation and understanding of enterprise cases to teachers. Teachers dynamically adjust the teaching progress and content according to students' feedback, and develop "blended" teaching under the school-enterprise cooperation mode, so as to significantly promote the

improvement of students' practical application ability.

5. Conclusion

In order to enhance the teaching efficiency and quality of computer network course, teachers must update the teaching concept and reform the teaching mode. The "blended" teaching mode combining online and offline teaching has very significant advantages. Teachers should constantly explore better teaching methods on the basis of combining the characteristics of computer network courses.

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