

Application of SPOC-based Online and Offline Teaching Mode in Higher Vocational Computer Courses

Yuan Ye

Lijiang Teachers College, Lijiang, Yunnan, China

Keywords: SPOC; Online and offline; Teaching mode; Computer course.

Abstract: SPOC online and offline course teaching mode is similar to MOOC massive online course teaching mode. It mainly adopts the open and online teaching mode to convey the course content of professional theory and practice to students. However, it is often aimed at students. This paper discusses strategy of computer course teaching for higher vocational college students by using SPOC small-scale online course teaching method. And through the organization of network teaching content and diversified teaching forms, improve the teaching efficiency and quality of computer courses.

1. Introduction

Compared with MOOC massive open online course, SPOC small-scale online teaching is characterized by a small audience and a high education level. It is only for college students to carry out online and offline teaching of professional course content. This also enables teachers to provide one-to-one classroom communication and guidance to students in the teaching of computer course. SPOC small-scale online classroom teaching method can improve the traditional and single teaching mode to the greatest extent, strengthen the learning and practice of students' online course knowledge, and enhance the interaction and understanding between teachers and students, so as to promote the realization of higher vocational computer course teaching goals.

2. The main concepts and contents of SPOC teaching mode

SPOC small-scale online course is originated from Small Private Online Course of the university of California, Berkeley. It is aimed at dozens to hundreds of students, which are not studied at school. Therefore, SPOC online and offline teaching require students to have a certain professional learning foundation. According to the learning situation of different students' course theoretical knowledge and practical content, the teaching resources and diversified teaching methods in the network are organized, and then the teaching modes of different majors, such as network teaching and classroom teaching, etc. are integrated. In this way, it can meet the needs of different students' learning interests and career development planning. As a result, compared with the loose selection method and flexible online teaching content organization of MOOC, SPOC small-scale online teaching is stricter in the selection of learning talents. The time and intensity requirements for students to participate in SPOC learning are more standardized. Usually, students who have successfully registered their identities will be provided with teaching contents matching their learning status, including teaching video, course lectures, and learning materials and so on. After that, teachers assign corresponding examination questions and homework contents of specialized course in class, and require students to complete the study of specialized course knowledge after class. At the same time, after completing SPOC online teaching, teachers can also carry out classroom interaction and discussion with students regarding a certain key and difficult content offline. Teachers should also assess students' professional examination results and homework completion, and grant course certificates to students who meet the requirements of teaching tasks and objectives.

3. Advantages of SPOC teaching in the application of computer courses in higher vocational colleges

3.1 Application of online teaching resources to innovate traditional teaching mode

Traditional computer courses are mainly taught by teachers, which mainly organize the professional course contents according to the teaching material outline. Then, with the help of multimedia software, PPT courseware and other equipment, students are taught basic computer theories and simple practical operation contents. Students are often in a passive position in computer course learning, which is not conducive to schedule students' learning interest and enthusiasm. By introducing SPOC online teaching mode into higher vocational computer course, we can innovate the simple computer teaching content and teaching method through the organization and selection of online teaching resources. Teachers only need to organize and make network computer teaching courseware, guide students to watch the course content of each unit or chapter, then they can complete the task requirements of vocational computer online classroom teaching. The application of SPOC network teaching resources and teaching methods can not only greatly reduce teachers' teaching tasks and pressure, but also fully mobilize students' learning enthusiasm, and cultivate their independent inquiry ability and innovation ability in computer course learning.

3.2 SPOC teaching is mixed online and offline to deepen the interaction between teachers and students

SPOC mixed online and offline course teaching mode, usually covers online course, classroom discussion, professional theoretical knowledge test, teaching feedback evaluation and other links. On the one hand, through the setting of network computer course teaching situation and teaching content, it guides students to study and discuss the key and difficult teaching content, and strengthens students' enthusiasm of class participation and spirit of inquiry; on the other hand, teachers will integrate offline course theory teaching and online teaching content, and conduct extensive interactive communication and guidance with students, so as to solve students' learning problems or problems. Therefore, the application of SPOC teaching in higher vocational computer course pays more attention to the cultivation of students' subjective initiative, as well as the improvement of communication between teachers and students, and ultimately promotes the improvement of computer course teaching and learning quality.

3.3 Online course teaching evaluation to ensure the objectivity of teaching results

SPOC online and offline teaching mode integrates the advantages of online course teaching and classroom teaching, so it can carry out stratified and differentiated computer teaching and evaluation for students. In the teaching process of SPOC small-scale restricted courses, teachers will participate in the planning and design of the whole course content and teaching mode, and make all-round intervention and guidance for students' independent learning and interactive learning process, so as to help students complete classroom assignments and daily examination activities. Therefore, SPOC mixed teaching mode's course evaluation usually focuses on students' online and offline learning process and examination results, and then makes an objective evaluation on students' comprehensive computer quality, so as to encourage students to continuously improve their learning ability and professional quality.

4. Analysis of the present situation of computer course teaching in higher vocational colleges

4.1 Serious problems in theorization and programming of Computer Course Teaching

Higher vocational computer course teaching covers various contents, including Programming Methodology, Advanced Language Programming, Principles of Compilation, Principles of Computer Composition, Software Engineering, Computer Network, Multimedia Technology and Application and other Teaching Contents. In the process of carrying out a variety of computer course teaching,

teachers in higher vocational colleges often follow the teaching method of “lecture-style” course to organize and educate the basic computer theory content, but seldom involve the development of computer professional practice course. Therefore, in the traditional teaching of computer course content, there are many problems such as the number of teaching hours and complicated knowledge content. In the teaching of computer course, teachers are always in the main body and leading position, and students seldom have the opportunity to conduct independent course exploration and practice. They are not very active in learning computer content, which makes it difficult to improve the teaching quality of computer courses.

4.2 The contradiction between computer class hours and course teaching tasks in higher vocational colleges

At present, the computer course teaching in higher vocational colleges mainly aims at the outline requirements of the basic computer course, and carries out the organization and implementation of the theoretical knowledge, operation and practice teaching content, so as to achieve the prescribed teaching objectives of professional courses. Under the guidance of this higher vocational computer teaching task, teachers seldom consider students' computer foundation and learning ability, nor pay attention to the difference of different students' computer information literacy, but pay more attention to the teaching of computer teaching materials. At the same time, it is limited to the classroom setting of computer course teaching, and teachers seldom introduce extracurricular teaching content and computer practice course to provide “one-to-one” computer practice guidance to students. Students are unable to form a systematic computer knowledge system cognition, which will have a negative impact on students' computer knowledge learning and career development in the long run.

5. Application strategy of SPOC online and offline teaching mode in higher vocational computer course

5.1 Create online course teaching situation with network and quantified resources

The organization and implementation of the teaching content of a computer course in higher vocational colleges need to focus on students' learning status and teaching task requirements. Especially when students just enter the stage of learning in vocational colleges, they have little grasp of theoretical knowledge and practical content of computer, so it is difficult to understand those complicated computer terms and teaching cases. Therefore, teachers should first create online course teaching situations in line with student's cognition in the production of SPOC network teaching course, introduce quantified pictures, video and audio course resources, and guide students to participate in the learning of basic computer theory knowledge. For example, at the present stage, much higher vocational colleges have set up special computer course teaching and learning discussion areas in the school's professional course teaching website. Students can log on the website platform, browse and download their own computer course learning materials, and assist teachers to carry out the teaching of SPOC network computer course content, so as to meet different learning needs of different students.

5.2 Strengthen the arrangement and design of online and offline computer teaching classes in SPOC

In the process of carrying out online and offline computer course teaching with SPOC small-scale restrictive teaching mode, the arrangement and design of online course content and offline classroom teaching process should be guided by the teaching syllabus and teaching hours of computer specialty. As far as possible in the fixed computer teaching class, complete the computer key and difficult teaching content and analysis. Generally speaking, SPOC online network computer teaching course organization, often takes “one lecture, one section, one test” teaching mode. In other words, the computer professional courses are divided into several lectures. Each lecture contains several sections of teaching content, and each SPOC network teaching course usually focuses on one or two

knowledge points to explain and convey the computer course content. After the completion of SPOC network computer teaching, teachers will assign homework and test students after class, and provide three to five test questions for computer course exercises, so as to investigate students' learning status at a certain stage, and provide reference for the organization of computer course teaching.

5.3 Carry out computer practical teaching with the help of network teaching resources and cases

The teaching of computer course in higher vocational colleges should not only teach students the basic theoretical knowledge of computer, but also strengthen the teaching of practical operation cases and computer demonstration. Only when students master the design of computer web page architecture and the realization of application program assembly, can they improve their computer course practice and application ability. The massive teaching resources and practical cases in SPOC database can provide help for teachers' practical course teaching. Teachers can use a variety of network software for website design, programming content demonstration. After that, in the computer lab, students are guided to design and practice computer practice content. After problems of cognitive problems or questions for students, and students on a wide range of online and offline interactive SPOC, solve different implementation process of computer teaching cases to students, to deepen the student to the computer specialized curriculum practice and understand the content of the mining, curriculum resources, to promote online lesson “ Micro-Course Online Video “ teaching resources, offline fusion and the use of classroom teaching way.

6. Conclusion

Higher vocational computer course teaching, the introduction of SPOC online teaching platform, the traditional simplification, stylized computer teaching content and method reform, can arouse students' interest in computer course learning and motivation, cultivating students' ability of independent exploring and practice operation ability, so as to improve the teaching quality of computer science class. Therefore, by relying on SPOC online teaching resources, the organization and implementation of online and offline teaching courses of computer specialty can strengthen students' cognition and understanding of basic computer theories and practical operations, and promote the interaction between teachers and students, so as to solve the problems existing in the teaching and learning of computer courses.

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