The Teaching Reform of Computer Network Security Management

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Abstract: "Cloud classroom" is a state-built online teaching service platform for vocational education. Based on the current situation of "cloud classroom" teaching management, we analysis the problems existing in the teaching management of computer network courses, proposes the teaching management reform strategy of computer network courses based on cloud classroom, and carries out the teaching management reform of cloud classroom computer network courses. The results show that the implementation of the teaching management reform strategy is conducive to the improvement of learners' independent learning, learning interest and learning enthusiasm, the realization of intelligent and scientific teaching management of "cloud classroom", and the realization of high efficiency and high quality of computer network courses.

1. Introduction

Innovation is the driving force for the development of all things. Everyone has the potential for innovation. Innovation is indispensable to the progress of society and the prosperity of a country. In his government work report in 2015, the premier Li Keqiang pointed out that "promoting mass entrepreneurship and innovation can not only expand employment and increase people's income, but also promote vertical social mobility and equity and justice. "Colleges and universities must pay more attention to the creativity of students in order to train computer professionals with high quality. The following is a discussion on how to effectively develop the teaching of computer network courses.

2. The Current Situation of Computer Network Teaching

The teaching of computer network course is a practical subject, but there are still many shortcomings in the actual teaching process.

2.1 The Teaching Content is Updated Slowly and The Teaching Design is Single

As we all know, computer teaching involves a wide range of contents, including the basic concepts of computers, basic principles, and network architecture and so on. The characteristic of the computer network course is very abstract, the basic concept and the basic principle are many, the student cannot carry on the image analogy with the daily thing, causes the student to understand the course knowledge difficultly. Because of this, the student can't understand the course knowledge. The teaching of computer network course is a practical subject, but there are still many shortcomings in the actual teaching process. Is a rapid progress in information technology, all kinds of new technology and new products emerge in endlessly, development faster and faster, but now the content of the computer network teaching is still the old professor, not to follow the footsteps of The Times, not only the students' teaching material update speed is slow, and the whole system of knowledge also not to add new content, so it is difficult to satisfy the students' thirst for knowledge, to cultivate talents. Second, due to the shortage of funds, many colleges and universities do not have the equipment for curriculum practice. The computer network teaching practice is very strong, only learn not to do, it is difficult to cultivate the creative ability of the ability to start a strong talent.

Third, there is a deviation in the teaching emphasis of teachers, who blindly teach knowledge without inspiring students, which is difficult to stimulate students' creativity, and students do not have the ability to solve problems and explore problems independently, which is not conducive to cultivating innovative talents. Fourth, the lack of case teaching, only pay attention to the basic, rational teaching, with the enterprise specific case practice is less or even lack.

2.2 Traditional Teaching Methods

Now the computer network teaching mainly makes the teacher so important, USES the projection equipment to carry on the multimedia demonstration, or organizes the student to the computer room to carry on the course simulation training, the teacher according to the teaching material chapter by chapter to tell, the student speaks or the independent activity opportunity is few. Computer network course is a relatively complex new subject, and students need to practice interaction, develop thinking ability, practical ability and innovation ability, and master the skills of operating network. But this kind of traditional teaching method only pays attention to the theory, does not pay attention to the practice operation, cannot effectively improve the student's learning effect, this kind of teacher "full house irrigation" teaching model the student does not welcome.

2.3 Practice is Poor, Examination Way is One fold

At present, the majority of colleges and universities for computer network courses, or the final examination of the way of the written examination, the final general assessment of the results of the mid-term examination generally includes the results of the students' usual performance and the final examination. This is not conducive to the test of students' practical ability, innovative ability. Students only understand the knowledge system solidified in textbooks, without innovative and independent thinking, resulting in a high degree of disconnection between theory and practice. Even if students get high scores, it does not mean that students have strong practical ability. Enterprises have a low degree of recognition for such students with high scores and low ability, which makes it difficult for students to find jobs.

3. Problems that Need to Be Improved

3.1 There are Problems in Teaching Link Design

The course "computer network management" is a specialized course, and for the purpose of textual research, there is also an intermediate practical training link for network management examiners. As a result, the previous course teaching is mainly theoretical content, and the practical content is left in the subsequent practical training link. The separation of theory and practice leads to students' lack of perceptual understanding of network management and even loss of interest in learning. However, the practice of textual research is often carried out for the purpose of passing the textual research. As a result, after obtaining the certificate, students lose the interest to participate in the learning of network management and lack the learning initiative.

3.2 The Course Design Lacks the Participation of Enterprise Experts

Computer network management as a major, course construction is carried out in accordance with the subject systematic pattern, curriculum design of lack of business experts, basic knowledge of curriculum ideas from network to network security management and so on teaching knowledge, the knowledge structure cannot help students construct the working concept, unable to form a complete professional cognitive ability, also unable to develop the ability to solve practical problems.

3.3 Teachers Lack Business Experience

Teaching teachers lack enterprise experience, which leads to the teaching design and teaching process, cannot be established to prepare work situation, also won't be able to complete professional environment construction and case simulation, although in the teaching with the method of case teaching or project teaching, but they are still "unit 1" and "task a" conversion, the teaching form of lack of interaction between teachers and students. The teacher directly delivers the book knowledge

to the student, this kind of teaching method cannot guide the student to take the initiative to participate, also cannot reflect the student to be the main characteristic.

4. Teaching Reform of Computer Network Management Course Under Practice Orientation

4.1 Use Flipped Classroom to Highlight the Dominant Position of Students

Flipped classroom, also known as "inverted classroom", transfers the decision power of learning from teachers to students. Students can complete the knowledge learning before class by means of data consulting, group discussion, online video learning and so on. In class, teachers no longer explain, but solve the problems existing in the process of self-study through one-to-one communication. Flipped classroom is not to abandon the traditional teaching mode, but to make a reasonable choice according to the characteristics of knowledge structure and students' knowledge reserve, focusing on highlighting the dominant position of students. Flipped classroom is applied in the teaching of computer network management course. Before class, students are required to study independently according to the task list issued by the teacher to master the relevant knowledge initially. In class, the teacher understands the students' learning status and solves the problem of identity according to the task implementation record form submitted by the students. Then according to the principle of "homogeneous and different groups" grouping, students are required to focus on the key content of the exploration, analysis and discussion, to form a consensus. After that, the teacher made a further summary of the discussion. After class, teachers review students' performance in class, assign homework, and assist students to consolidate knowledge. For example, in the teaching of "network maintenance command" under the flipped classroom mode, before class, the teacher issues the task list for the students to independently learn the format and options of network maintenance command. In class, the teacher asked questions, questioned and solved problems, and selected the key points for discussion, and then explored in groups to achieve unity. After class, the teacher conducts homework around the common network maintenance orders, helps the students to check and fill in the gaps, consolidates the learning, and finally enables the students to effectively master the specific application methods of the common network maintenance orders.

4.2 Establish the Curriculum Knowledge Structure, Follow Up and Reflect the New Technology in Real time

Since the traditional teaching of computer network management course emphasizes on theory, the author highlights the practical operation content when refining knowledge points, establishes the knowledge structure of the course, adds teaching cases for the more difficult knowledge points, and adds the chapter "new technology and future development trend of network management".

4.3 Reform the Curriculum Assessment Program to Reflect the Practical Ability and Comprehensive Application of Knowledge

The overall assessment of the course is adjusted as: the usual score (40%) + the final score (60%).At ordinary times, the grade consists of pre-class preview inspection (10%), class discussion participation (10%), homework completion (10%), recent progress (5%) and class attendance (5%).Final grade = theoretical part of the exam (30%) + practical part of the project design (30%).In order to strengthen the practical teaching, the school also reformed the curriculum assessment program, and added the practical operation assessment part of the project design, which specifically involves the network protocol programming of pre-order courses and the relevant knowledge of network application development. The practical operation examination of the project is carried out in groups. Students should write the project design report and submit the system software to cultivate their practical operation ability and comprehensive application ability of knowledge.

4.4 Carry out the Second Class, Encourage Students to participate in the Network Skills Competition

To further extend the classroom, the school expanded the server configuration in the course from

Windows platform to Linux platform, and the device configuration from the simulation platform to the hardware device. The second class was held on a weekly basis. This method extends the practical teaching of the course and makes up for the problems of limited and insufficient class hours. Usually, the second class of the course of computer network management teaching has the forms of social practice, voluntary activities, scientific and technological guidance and innovation, inspection and practice, among which the network skills competition is an important one. For example, organize skills competition around "comprehensive configuration of routers in the network", "comprehensive configuration of switches in the network", "configuration of CISCO wireless routers" and other contents. So that students can fully master the work requirements of computer network administrators and skill apply them in the enterprise network. So far, through the development of the second class, students master the computer network construction, network configuration, network management and maintenance skills, so that they have the ability to build the enterprise network, become the maintenance of the enterprise network skills technical professionals.

With the development and deepening of network technology, the demand for technical talents in computer network is growing day by day. With the deepening of the integration of production and teaching in higher vocational education, curriculum as the fundamental of talent training, the teaching reform is gradually deepening from the cooperative mode to the teaching process. Teachers in higher vocational colleges have the responsibility to continuously explore how to cultivate skilled talents suitable for the needs of the industry in the teaching process, and at the same time to seek the teaching mode of teaching in accordance with their aptitude, so as to contribute to higher vocational teaching.

Our country from the original exam-oriented education slowly to the quality of education, cultivate more innovative talents, for the prosperity of the motherland to provide talent. The cultivation of well-rounded talents is related to the future and development of a country. Education should be reformed actively to stimulate students' interest and enthusiasm and improve their comprehensive qualities such as innovation ability, thinking ability and practical ability. From the perspective of cultivating innovative talents in computer network teaching is discussed, in the computer network teaching to strengthen the combination of theory and practice, reform teaching mode actively, give full play to the school, the society and students and so on various aspects of positive initiative, fully stimulate student of computer science and technology innovation consciousness, cultivate a more can meet the demand of social development and the enterprise needs innovative talents, for the great rejuvenation of the Chinese nation and the early realization of the "China dream".

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