

Teaching Reform of Computer Network of Non-computer Major in Colleges and Universities

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Abstract: It is particularly important to widespread computer network knowledge and grasp the network technology while the unceasing development of computer network technology accelerates the training of non-computer professional network application talents. This paper aims to analyze the current situation of non-computer major students learning in computer network basic course, at the same time, it also analyses some problems existing in the process of teaching, and puts forward some relevant transformation of teaching mode as well as some suggestions, which are in order to cultivate students' operational ability for the purpose of application.

1. Introduction

At present, many colleges and universities stick to provide the teaching material of basic course of computer network of computer major to the students who are not majored in computer to study, which is significantly hard. For that they need to read and understand more professional computer network foundation course content without professional and systematic learning. To some extent, the best results lies in the difficulty of learning is more difficult than before which is of great benefit for students' learning, however, , it is important to teach students according to their aptitude in pedagogy. Thus, for the students who are non-computer major, it's better to tailor the textbook for difficulty that can make learning computer network foundation course fast, practical and easy to understand.

Nowadays, the explanation of basic courses of computer network in China is rigid, and it also lacks of the ability to innovate. At the same time, the embodiment of basic textbooks of computer network for scientific and technological achievements is inappropriate which makes the application and attraction of old knowledge is not good, but existing in textbooks for a long time and cannot withstand the test of the market.

2. Some Relevant Problems in Traditional Computer Network Basic Teaching.

2.1 Think highly of theory while neglect the practice

The basic course of computer network is characterized by strong theory, while the practicality is not obvious. it consumes a lot of time and energy of students in the learning of many theoretical knowledge. In addition, the insufficient class hours lead to the few opportunities for students to participate in practical training. The basis of traditional computer network education focuses on the basic working principles of network, and it has maintained OSI model in theoretical teaching through the study and research of it, therefore, there will be fewer corresponding experimental and practical training operations. Taking the development in the future into consideration, this teaching mode is opposite to the goals of non-computer professional students to master the computer knowledge. It is that to be able to carry out the practical application in future work and life that non-computer major students are learning basic courses of computer network. On the contrary, it takes students a plenty of time to study the theoretical knowledge while they have little time to carry out the experimental training. It is impossible to cultivate students' practical operation ability, and ending up with nothing. That is to say that the non- computer professional students will waste a

lot of valuable time instead of learning, which will lead a bigger influence on themselves major.

Table 1 Traditional computer network -based teaching schedule

Course name	Nature of the course	Major	Total class hours	Theory class hours	Practice hours
Fundamentals of computer network	Common course	Computer	Forty-eight	Twenty-four	Twenty-four

Table 2 Traditional computer network -based examination schedule

The nature of the test	Total points	points at ordinary times	Test points	Pass rate
compulsory	One-hundred	Ten percent	Ninety percent	71.6percent

2.2 A grasp of basic theories is shaky

For students who are not computer majors, they do not know much about the basic knowledge of computer, which has a certain impact on both students and teachers. For students, they are full of longing for learning the basic knowledge of computer network, but in the real class, they will find that it is impossible for them to learn it systematically for the lack of the basic knowledge of computer network. However, if students want to make up these shortcomings, they will spend a lot time and energy in the basic computer network knowledge. For teachers who teach the basic knowledge of computer network, on one hand, students keep a high learning enthusiasm that make teachers happy; on the other hand, the computer skill of non-computer professional students vary widely and the teachers' teaching style is not in harmony which leads that the course objectives and plans are not implemented well. What's worse, The teaching effect will be greatly affected and the training objectives are difficult to achieve.

2.3 Lack of relevant experimental training

For courses with strong theoretical foundation such as computer network, a lot of experimental and practical training should be required, because only through experimental and practical training can students clearly understand the principle and be helpful for future specific operations and the solution of computer network problems. To be honest, there are two main reasons why students are lack of practice, on the one hand, it is the lack of equipment; on the other hand, it is the lack of attention and relatively few class hours. It is difficult to understand, heavy learning tasks and relatively difficult to answer questions, which not only cause great obstacles to students' learning, but also make it difficult for teachers to carry out teaching work. Due to the lack of relevant practical training equipment and experimental training time, teachers can only make a single explanation in class. Compared with the intuitive and understandable experimental training, the effect is not only poor, but also the pressure on teachers will increase.

3. Learning Method of Computer Network Basic Course.

3.1 Link up theory with practice

Computer network basic course is a course that focuses on theory and its textbook usually accompany with a lot of profession term which let people learn it wearily, and the non-computer professional students are no exception that they must have the same feeling. Therefore, during the teaching of computer network basic course, teachers are required to explain the boring theoretical knowledge through experiments and practical training, in this way, students can intuitively understand the principles of computer network and verify the key knowledge through practical training. It not only can enhance the effect of classroom learning, but also good for the students themselves development of application.

Combining theory with practice is not only the inherent requirement of basic courses of computer network, but also a method to solve difficult knowledge for students who are not computer majors. Although these students are not computer majors, they don't need to memorize a

lot of theoretical knowledge, they just need to understand it, and they can know how to operate it in practical application to achieve the teaching purpose. Teaching is to teach according to one's aptitude originally, we cannot too strict to the study of student of blame computer major, this neither accords with teaching target, also do not accord with actual situation. The purpose of this course is to help students build up a clear logical structure and practical ability. If they cannot grasp the key points of the course, this course will be meaningless. So there is a need for school administration in developing computer network basic course for students majoring in non-computer teaching objectives and teaching tasks, according to the practical foundation of the students at cultivating talents as the goal, to the student's comprehensive quality development as the foothold, flexible and varied teaching, so as to achieve the purpose of quality education.

Table 3 Teaching process of the fundamentals of computer network after reform

Course name	Nature of the course	Major	Total class hours	Theory class hours	Practice hours
Fundamentals of computer network	Common course	Non-computer	Thirty-six	twelve	Twenty-four

Table 4 Examination schedule of the fundamentals of computer network after reform

The nature of the test	Total points	points at ordinary times	Test points	Pass rate
Compulsory	One-hundred	Thirty percent	Seventy percent	89.3percent

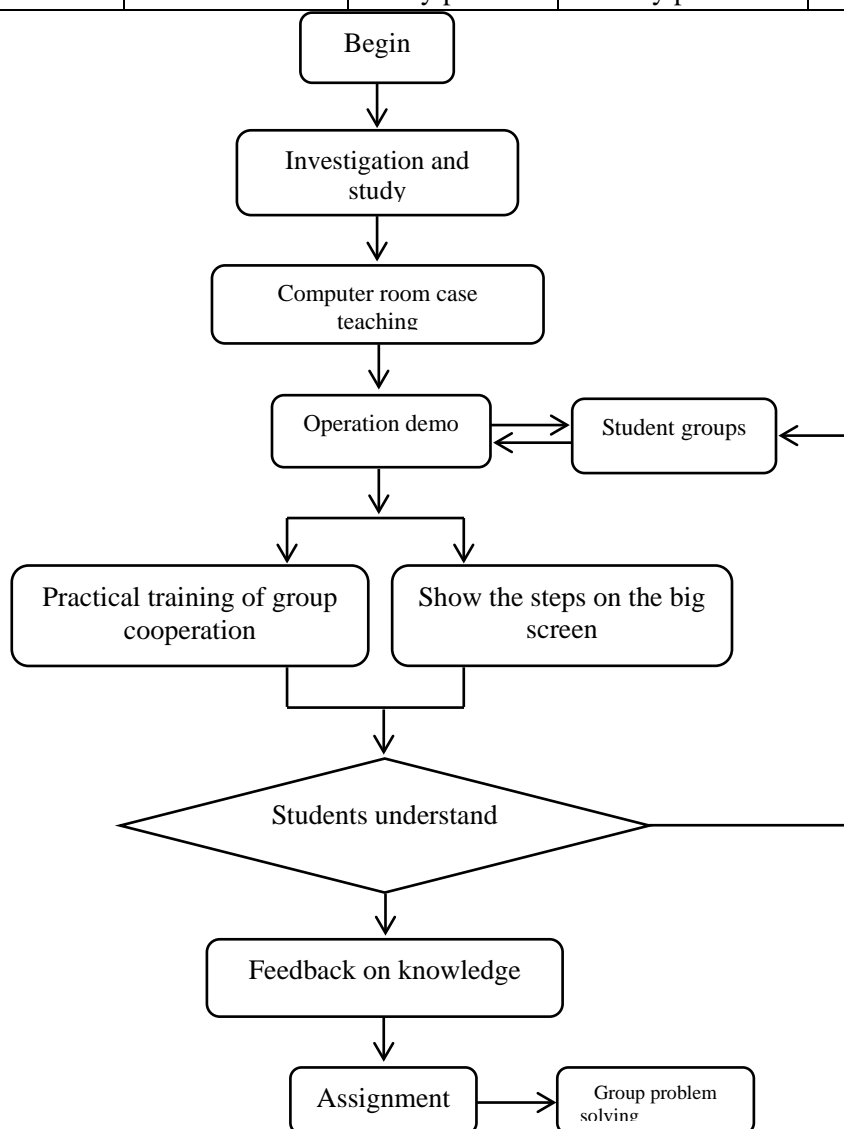


Figure 1 Flow chart of basic teaching of computer network after reform

3.2 Straighten out the learning order

Many students who are not computer majors have a relatively weak foundation. They are not interested in theoretical knowledge and are more concerned about practical operation. There is much theoretical knowledge in this course, and students will have resistance when learning. More students like to operate and practice, because the operation gives students more space to play, and students will feel more free and no restriction. Learning process is the process that from easy to difficult, and from theory to practice, which requires students to correct their attitude when they study the basic knowledge of computer network to take notes in the class and communicate with teachers timely to solve the existing questions, so as to increase their own experiment training skills and training level and benefit a lot their study under the situation that the chance of experiment is limited.

3.3 Strengthen practical technical practice

Strengthen practical technology practice not only can make students better grasp the theoretical knowledge, at the same time the students' actual operation level has been greatly improved, higher vocational colleges should provide necessary equipment and conditions for experiments, which enables the students to the full knowledge on the basis of experimental training, and enhances the application of knowledge to achieve the teaching goal better.

4. Conclusion

To sum up, for the basic teaching of computer network for non-computer majors, first of all, starting from the teaching materials, non-computer majors should have their own basic teaching materials of computer network, so that the pertinence is strong. Secondly, the whole process of teaching is completed in the training room, carrying out a teaching mode that integrate learning from teaching, practicing from learning, texting from practicing these three models, so as to mobilize students' learning enthusiasm and initiative. Thirdly, the introduction of the latest scientific research and teaching results, based on the basic necessary theory of network, taking network application as the main line, guiding students to strengthen the understanding of theoretical knowledge in the process of task implementation. Finally, by adopting the learning-oriented teaching mode, students develop their thinking ability in the process of acquiring and applying knowledge through imitation, observation, experimental and practical training, analogy, association, imagination, divergent thinking, aggregation thinking and other forms. At the same time, adopting new teaching methods, such as the demonstration method, discussion method, case method, task driven teaching methods and so on, and opening teacher and coach website, so that to enhance the ability of the students to found the problem in the task, to analyze and solve problems, to develop the basic professional quality and to operate, improving the quality of personnel training and ensuring the center position of the teaching work.

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