The Application of Network Technology in the Experimental Teaching Reform of Computer Course in University

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Abstract. In college computer teaching, experimental teaching is the key link to improve the teaching effect. The experiment teaching can carry out the practical operation of the theoretical knowledge that students learn in the classroom. By improving the level of computer operation, schools can train students' practical ability. However, there are still many problems in computer practice teaching at this stage, which affect the learning effect of students' computer courses. With the development of network technology, the experimental teaching of computer courses in universities will be reformed gradually. By effectively improving the effect of experimental teaching, we can help students better integrate theoretical courses with practice. In this way, we can improve students' comprehensive ability.

Keywords: Network Environment, Computer Course, Experiment Teaching

1. Introduction

With the development of science and technology in our country, network technology has also developed rapidly. The development of network has brought great impact to computer courses. University computer experiment course is the key link of university computer teaching. It is of great significance to the improvement of students' comprehensive ability. However, for a long time, due to the influence of traditional teaching habits and concepts, the university computer experiment course has not received very good attention. Therefore, students' innovative and practical abilities have not been improved very well, and the corresponding teaching effect of teachers has not been guaranteed. Therefore, it is very necessary to reform the computer teaching in universities, which is not only related to the improvement of its teaching quality. Computer has been gradually applied in human society and work. People began to infiltrate all levels of society, which had an important impact on human daily life. Therefore, it is necessary to reform the computer courses in universities[1].

For a country, the competition of comprehensive national strength is essentially the competition of talents. The quality of talents has an important influence on the promotion of comprehensive national
strength. University computer curriculum reform is not only an important way for schools to improve teaching effect, but also an important guarantee for training talents in China. For university computer courses, teachers should strive to improve their teaching level. By changing the previous teaching concepts, schools can improve students' theoretical and operational abilities, which will enhance students' comprehensive and practical abilities.

2. Problems in computer course experiment teaching in higher vocational colleges

A total of 1000 questionnaires were issued, and 961 questionnaires were valid, with an effective rate of 96.1%. The specific analysis is as follows.

2.1. The teaching mode of experiment course is unreasonable

In the current network environment, the computer course experiment teaching still adopts the teaching mode of "explanation - arrangement - collection". This traditional teaching mode is mainly the following. First, the teacher introduces the experiment content and operation skills for the students. Secondly, the teacher guides the students to operate on the computer according to the explanatory content. This kind of teaching mode can't stimulate students' creative potential at all. When students encounter problems in class, they can only take the form of self-study to deal with them. However, because the basic knowledge of students is not perfect, so they do not have a clear goal and method of self-study[2]. It is precisely because they simply cannot effectively deal with the difficult problems in learning, which leads to the gradual loss of interest in computer learning. In this paper, a questionnaire survey was conducted among students. Among them, 61.08% of the students thought that the experimental teaching mode was very unreasonable, only 12.8% of the students thought it was reasonable. The results are shown in Figure 1.

![Pie chart showing the results of the questionnaire survey](image)

**Figure 1.** Unreasonable teaching mode of experiment course.

2.2. The content of the course is out of the teaching reality

Teachers should pay attention to students' practice when carrying out experimental teaching of computer courses. Through practice, we can give full play to the practicality and practicality of teaching. Practical operation will help to deepen students' mastery of computer operation skills, which will improve their operation skills. However, in the experimental teaching of computer courses, teachers still occupy a dominant position, and computer basic theory courses still occupy a large proportion[3].

The practical operability and practicability of computer course content can not be reflected at all, which seriously affects the development of computer course experimental teaching. The survey results show that the students most lack of practical laboratory and divorce from reality, 76.6% and 73.9% respectively. The results are shown in Figure 2.

![Figure 2. The content of the course is out of the teaching reality.](image)

2.3. The teaching model is relatively single

The computer course experiment classroom mainly adopts teacher-led teaching and student-centered teaching mode, and the traditional teaching mode is the mainstream. The results show that the traditional experimental teaching mode is "cramming" teaching, with task-based teaching accounting for 53.7% and task-based teaching accounting for 16.1%. Other teaching modes account for only 30.3%. The results are shown in Figure 3.

![Figure 3. The proportion of computer course experiment teaching model.](image)

3. Reform measures of computer course experiment teaching

3.1. Diversification of internet-based teaching contents and teaching methods

In the context of “Internet +”, the complexity of knowledge has a great influence on modern teaching. First of all, colleges and universities must establish correct teaching objectives. Only by realizing the diversification of teaching contents can colleges and universities ensure the consistency of teaching
contents and teaching needs. Teachers should reform teaching contents and methods, make full use of multimedia, microteaching, multimedia teaching methods. Colleges and universities must integrate various contents in the teaching of computer experiment courses\(^5\). Only in this way can students absorb knowledge smoothly. Secondly, colleges and universities should carry out practical teaching. Only by carrying out practice teaching many times can the progress of theory and practice be guaranteed. Thirdly, through the establishment of professional teaching team, improve the teaching content of experimental courses. Fourthly, under the network environment, experimental teaching teachers should learn more advanced and excellent educational concepts and methods, such as reasoning guidance method, practical practice method, inspiration infection method, comparative identification method, self-education method, etc. These teaching methods will promote the continuous innovation of educational methods, only in this way can we adapt to the requirements of the network era\(^5\).

3.2. Reforming the experimental teaching model of computer course

In the network era, teachers can more easily deal with students' error-prone and difficult to understand problems through the network. Only in this way can schools improve their teaching effect. Colleges and universities should completely abandon the previous teacher-led teaching model and construct a student-centered teaching model. While teaching students in different classes, we should also construct computer network teaching tutorial classes. Firstly, in the development of network teaching, teachers should arrange some research topics about computers according to their own teaching progress and students' acceptance. Then, in the form of group discussion, teachers can guide students to learn and experiment. Thirdly, students can interact with teachers in various forms of network after class, such as e-mail, QQ or message board. Teachers should record students' feedback carefully. At the same time, teachers can ask students to discuss those questions in class.

4. Conclusion

The experiment teaching of computer course in university plays an important role. Through the actual experimental operation, students can use the theoretical knowledge they have mastered. This can better train and exercise students' computer practice ability and operation level. University computer teachers must change the traditional concept of experimental teaching. Through the reform of experimental teaching methods, teaching and the development of computer networks to adapt. Only in this way can we comprehensively promote the comprehensive ability of computer majors\(^6\).

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