On the Optimization and Integration of Computer Science and Technology Teaching in Colleges and Universities

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Abstract: Modern society is an Internet society. The use of computers has become an indispensable part in people's daily life and work. The widespread use of computers is also an important indicator of the progress of modern society. Under the background of such a social environment, the computer science and technology has become more and more popular in colleges and universities. Leaders and teachers in schools have also paid more and more attention to computer science and technology teaching to promote social progress and development. In the teaching of colleges and universities, how to optimize and integrate computer science and technology teaching is an important task at present. This paper mainly discusses the training objectives and requirements of computer science and technology to optimize and integrate computer science and technology teaching in colleges and universities.

Keywords: Colleges, Computer science, Technical teaching, Optimization and integration

Computer is a commonly used teaching tool in the classroom of colleges and universities. With the development of social economy in China, the educational resources of colleges and universities are constantly changing. With the support of various policies, computers and computer networks have become essential teaching resources in teaching in colleges and universities. Teachers and students can use computers and computer networks to find the resources they want and to share resources. The use of computers is not only the exclusive resources of computer students, but computers have been widely used in various fields and fields. Therefore, it is necessary to optimize and integrate computer science and technology teaching, and cultivate talents that can meet the needs of social development.

1. Training Objectives for Setting up Computer Science Courses

Comparing with other sciences, computer science develops very fast, knowledge updates very fast and cycle is very short. The development of computer science changes with the changes of society. Therefore, students of computer science must understand this feature. Only by mastering computer technology quickly and firmly can we better adapt to the needs of social development. Computer science is a highly operational specialty, which requires students to practice in order to truly master. Therefore, the training goal of computer science course is to enable students not only to master the theoretical knowledge of computer science, but also to skillfully disassemble and assemble various parts of computer, and apply the theoretical knowledge to practice. In the practice of computer science, it is necessary to cooperate with groups and have the spirit of cooperation. In the process of practice, we can flexibly use the knowledge we have learnt, cultivate students' professional and moral qualities, expand the knowledge we have learnt into social practice, and make them useful to social development. The goal of training talents in modern universities is to train all-round talents. They are required not only to have a solid theoretical knowledge base, but also to have the ability of practical operation, so that they can become comprehensive talents with strong ability, high quality, moral, intellectual, physical and aesthetic development. In the teaching of computer science, teachers play an important role, which requires teachers to adapt to the new situation of social development and consolidate their professional knowledge. In addition, teachers are required to combine the form of modern social development with the current situation, enrich

teaching content, innovate teaching methods, and regard students as the center of teaching. In the process of teaching, more attention should be paid to the students' learning status, so that students can acquire knowledge and skills.

2. Training Requirements of Computer Science and Technology Teaching in Colleges and Universities

Computer science is a subject with a wide range of applications. It is not only related to computers, but also applied to computer science in our daily life, work and teaching. Moreover, with the rapid development of modern society, computer science and technology are also updated. It is precisely because of the characteristics of computer science and technology that the requirements for teachers of computer teaching are higher in colleges and universities. They should not only have a complete knowledge structure, but also be able to adjust the teaching contents according to the actual needs of students of different majors and make clear the training objectives and requirements to make them more suitable for students' needs. In colleges and universities, computer science and technology are mainly applied in the following fields: Humanities and Social Sciences, Mathematical Physics, Computer Software, Information Technology Application, and Computer Network. It is necessary to learn the knowledge related to these fields, and study the development and application of these fields in depth to improve these skills [2]. Especially for students majoring in computer science and technology, their requirements are higher, which is mainly reflected in the following five aspects:

(1) The most basic requirement is to let students understand and master the relevant basic knowledge and theoretical knowledge, because this is the basis for students to practice and in-depth study;

(2) The study of computer science and technology is inseparable from a variety of software, requiring students to have the ability to analyze system software and design software;

(3) The computer uses the network, so there are certain requirements for the system network, and the students are required to use, manage and maintain the network system;

(4) Mastering the basic knowledge of computers is an indispensable skill for students. So it is necessary for students to master the practical application of computer science and technology, and to exercise students' practical ability. They cannot be the person with "the giant of thought, the dwarf of action";

(5) With the continuous progress and development of society, the demand for computer science and technology is also changing. Therefore, students should pay attention to the development of computer science and technology, understand and grasp its development direction, and follow the pace of social development in the process of learning, so that the knowledge they have learned can be truly applied to social practice.

3. The strategy analysis of the integration and optimization of computer science and technology teaching in colleges and universities

3.1 Determining the Correct Way of Education

The integration and optimization of computer science and technology teaching must be to clarify the positioning analysis of computer science and technology, and determine the correct way of education. Computer science and technology teaching has certain requirements for students in terms of practical operation ability and overall quality, and the training objectives should be made clear to better optimize and integrate. Solid theoretical knowledge and skills, as well as the ability to apply the knowledge to the social practice, and the comprehensive quality of talent are the ultimate goal of computer science and technology teaching in colleges and universities [3].

After clarifying the positioning analysis of both computer science and technology, the construction of its curriculum system is also very important. Although the teaching has a fixed outline, it does not mean that the teacher can only teach the content required in the outline, but

should pay attention to the characteristics of the subject and the actual needs of the students as well as their own teaching characteristics, and comprehensively find a teaching model suitable for themselves and suitable for the students to stimulate students' enthusiasm for learning and develop their practical ability. All in all, the optimization and integration of computer science and technology teaching is not only to improve students' practical ability, but also to lay the foundation for students to enter the society, and to improve the overall education level of the school [4].

3.2 Improving the Teaching Content

The content of computer science and technology teaching in colleges and universities should be combined with the demand for talents in the social development in the new era. There are also different teaching requirements for different majors. Therefore, when teachers integrate computer science and technology teaching, they need to analyze the actual needs of students' majors and formulate pertinent plans. The teaching plan, on the premise of fulfilling the established teaching objectives, broadens students' horizons and expands students' abilities. That is to say, the basic courses of computer science and technology teaching can be integrated and optimized, but the problems related to professional differences need to enrich and improve the teaching content to make the teaching content more diversified. In order to improve students' practical ability, teachers can lead students to visit and study in different fields when teaching conditions permit, so that students can have a deeper understanding of the practical application of their majors in social enterprises, so that students can have a more targeted learning in the future and their learning efficiency can be improved [5].

3.3 Openness of Higher Education

Computer science and technology is a highly practical specialty. Colleges and universities should pay attention to openness when carrying out education and teaching, cooperate with enterprises as much as possible, and carry out two-way communication. As far as the teaching situation of colleges and universities in our country is concerned, the cooperation between many colleges and universities and social enterprises is not very much, and students lack certain social practice experience, which will not be an advantage for students to enter the society and work in enterprises in the future, but will become an obstacle for students to enter enterprises. And it will also not be conducive to the cultivation of students' innovative thinking. Therefore, the optimization and integration of computer science and technology teaching should pay attention to the communication and cooperation with enterprises, set up some practical courses, provide more business practice opportunities for students, improve the quality of students' practice, and enable students to better grasp and use computer skills. In fact, school-enterprise cooperation is a win-win way, which not only provides fresh blood for enterprises, but also provides opportunities for students to exercise, grow and progress together [6].

4. Conclusion

The optimization and integration of computer science and technology teaching in colleges and universities can not only improve students' mastery of computer theoretical knowledge, but also improve students' practical ability and provide more useful talents for social development. It is a beneficial thing for small and medium-sized development and social development. In order to better promote the optimization and integration of computer science and technology teaching, schools and teachers should design more scientific and reasonable teaching models according to actual needs, strengthen cooperation with enterprises, and cultivate applied talents.

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