Application of Computer Science and Technology in Computer Education

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Abstract:*The computer has become an indispensable and important tool in people's daily life and work. It brings more convenience to people and provides important conditions for human survival and development. Therefore, the application of computer science and technology to computer education can enable students to have a correct understanding of computer application concepts and practical operations, thereby improving the level of computer education. This article mainly analyzes the advantages and significance of the application of computer science and technology in computer education, and proposes the measures to be used, hoping to provide certain references and suggestions for the cultivation of computer talents.*

Keywords:*Computer Science, Technology, Computer Education, Application, Concepts.*

The rise of information technology or IT has profoundly affected modern society. Consequently, computers have become devices of daily use. In this paper, the need of computer science education will be reflected on. The analysis will focus on the current situation of today's society, where IT and telecommunications are playing a crucial role. World Wide Web and advanced IT tools have created new opportunities before computer science. So computers can be considered as intricately interacting with human social processes, where learning needs are diversifying every day. However, in a greater social context of general education, understanding the special needs of computer science education is not easy. Conventionally, educational processes are oriented toward an instructions-based approach (Computer Science Education in the 21st Century, 2012). However, in the case of computer science, only instructions alone cannot suffice the purposes of the course. Laboratory-based exercises are necessary, and the student has to practically handle the computing device.Computers are being used ubiquitously in different organizations including universities, hospitals, businesses, etc. Wireless technologies, coupled with Internet and mobile devices, are continuously expanding the scope of computer science. So, if somebody does not have the capability of operating computer systems, then life will become considerably difficult for them. For example, daily activities like online shopping, email communication, word processing, etc. are not possible without using computers. Consequently, knowledge of computer science has become a must. Computers have been incorporated in every sphere of one's social life.

Knowledge of computer is becoming a must in today's social environment. However, there are numerous questions regarding the quality of this knowledge. Firstly, at what level should this knowledge about computers be provided? Secondly, is superficial knowledge just about working with computing devices enough? Thirdly, if the students do not get to know the scientific approach about computers, then what is the use of their knowledge? There are still other open questions about computer education, where the topic of computer science education is still highly debated. However, social significance of computer science as a distinct subject is undeniable. Lessons in computer science can be helpful in creating holistic knowledge about computers. Not only that, topics like word processing, Web designing, Internet technologies, and IT tools can be incorporated at various levels of the academic curricula concerned. Due to the rapid expansion of broadband connectivity and

advanced software, various kinds of computing devices are becoming increasingly popular every day. In such a state of affair, taking a course in computer science can be deemed as a critical necessity of modern education. Every educational institution must have suitable infrastructure for teaching and studying at least the fundamentals of computer science. Constructing knowledge on operating computers is thus the fundamental starting point of computer science learning. The use of computer science and technology in computer education can not only help students have a correct understanding of computer education, but also help improve the level of computer education, thereby training more computer professionals for the society. At present, computer science and technology have been integrated with computer education, which has helped the smooth development of computer education. Its application in computer education mainly has the following three aspects [1]. First, the application of computer science and technology ensures the smooth development of basic computer education. It can be used as an auxiliary tool to help solve various technical problems in basic computer education, and to visually display computer professional knowledge for students, so as to ensure the smooth development of basic education. Second, the application of computer science and technology can help improve students' learning efficiency. Students can use computer science technology to study and practice professional knowledge in their spare time. Computer science technology increases the opportunities for students to learn about computer expertise, guarantees students' study time, and improves the efficiency of computer learning. Third, the application of computer science and technology has improved students' learning ability. Students can use computer science and technology to consolidate their learning content in their spare time, and continue to understand the application process and production process of the computer through the actual operation of the computer. Computer science and technology have improved students' learning efficiency and provided more guarantees for the smooth development of computer education.

Advantages of using computer science and technology in computer education

Computer education has become one of the important subjects of college education in our country. Through the teaching of theoretical knowledge and practical knowledge, it can continuously improve students' computer operation ability and provide guarantee for students to participate in work after graduation. However, in the actual education process, improper communication between teachers and students will affect the smooth development of computer education and is not conducive to students' learning and mastering professional knowledge. The application of computer science and technology provides more ways for teachers and students to communicate. It breaks the limitations of communication between teachers and students, not only provides more convenience for students to learn professional knowledge, but also helps to ease the relationship between teachers and students, thereby improving the effect of computer education [2]. The application of computer science and technology in computer education has broken the traditional model of computer education, innovated the content and form of computer education, and stimulated students' interest in computer learning. Teachers can continuously guide students to develop good habits of independent learning by expanding teaching content, thereby laying a good foundation for students to learn and use computer knowledge.

The application of computer science and technology in computer education has innovated the model of computer education, combining practical teaching with theoretical teaching. On the basis of students learning computer theory knowledge, lead students to practice theoretical knowledge. This not only improves students' understanding and application ability of knowledge, but also helps students gain in-depth understanding of computer science and technology and helps students expand their professional

knowledge. The application of computer science education contributes to the diversified development of computer education. Teachers can use computer science and technology to transform the teaching form of professional knowledge. This can not only enhance the interest of professional teaching and stimulate the enthusiasm of students to learn professional knowledge, but also change the form of assessment. For example, the online assessment method is used to conduct computer professional assessment. This can save educational costs and improve the efficiency of the use of educational resources.

Specific measures to use computer science and technology in computer education

Colleges and universities can combine the needs of computer education to innovate technology application models. Improving the computer education system is conducive to the continuous improvement of computer professional education. In the process of using computer science and technology, teachers can combine the needs of professional teaching to improve the content and form of professional education. On the one hand, teachers can make online courseware to provide more learning resources for students to learn professional knowledge, increase students' learning channels, and improve students' learning effects. On the other hand, teachers can combine the needs of computer education and computer science and technology to enrich educational content and increase the interest of professional teaching. This can not only stimulate students' interest in learning computers, but also help students learn professional knowledge in depth and continuously improve their computer skills. Computer education is different from the education of other subjects. It needs to use teaching facilities to carry out the actual test of theoretical teaching so as to improve students' computer operation level. Therefore, the application of computer science and technology can help improve teaching facilities and provide more guarantees for the smooth development of computer education [3]. On the one hand, computer science and technology can be used to analyze the problems in computer practice education, provide basic guarantee for students to perform computer practice operations, and contribute to the continuous improvement of computer education. On the other hand, computer science and technology can assist teachers in comprehensively analyzing students' professional learning conditions, summarizing students' problems in computer professional learning, and doing a good job of data recording. It can provide more accurate data for teachers to make professional evaluation of students. Computer science and technology can not only help students fully grasp their own problems in professional learning, provide guidance and suggestions for students, but also provide guarantee for teaching auxiliary work, thereby improving the teaching level of computer majors.

The application of computer science and technology in computer education provides more ways to enrich teaching methods, helps the scientific use of teaching resources, and improves the teaching level of computer majors. On the one hand, teachers can adopt interactive teaching methods and use computer science technology to rationally apply teaching resources. In the teaching of computer majors, computer science and technology can continuously deepen students' cognition and mastery of computer professional knowledge and help improve students' computer professional level. On the other hand, the interactive teaching method is proposed to achieve a perfect integration of theoretical teaching and practical teaching. The interactive teaching method can guide students to conduct practical operation tests on the basis of improving the students' theoretical knowledge of computer science, improve their mastery of computer knowledge, and provide assistance for students to study computer knowledge in depth. It helps the smooth development of computer education. The application of computer science and technology has increased the ways of computer education. Long-distance education provides a platform for students to learn computer expertise, breaks the limitations of learning, and helps students improve their professional learning level. For example,

teachers can design distance education courseware based on the needs of computer majors, center on the knowledge in computer textbooks, and use online teaching resources to use pictures, videos, audio, etc. to make fun design of distance education content. This allows students to learn professional knowledge through distance education courseware and improve their learning efficiency. At the same time, teachers can also use distance education to design students' after-school learning content and plan key knowledge for students. This can not only help students organize the review content scientifically, but also help students improve their computer knowledge system and improve their computer professional level.

With the continuous integration of computer science technology and computer education, in the actual teaching process, teachers can combine professional teaching needs and students' learning needs to innovate in teaching methods. On the basis of ensuring the professional teaching level, continue to guide students to learn computer knowledge in depth. This will not only increase the students' computer professional knowledge reserves, but also provide more support for students to use computers for operation and design. For example, teachers can build hypermedia classrooms with the help of computer science technology. It perfectly integrates computer professional teaching knowledge and network teaching information, and improves the vividness of computer classroom education. Hypermedia classrooms display computer expertise in a dynamic way to help students understand computer expertise in depth. This will not only help increase students' computer knowledge reserves, but also help create a good classroom teaching atmosphere, guide students to explore professional knowledge and develop good study habits. The proposal and application of hypermedia classrooms have changed the learning status of students in traditional computer classroom teaching, played the guiding and educational role of the classroom, and contributed to the continuous improvement of students' professional knowledge and professional ability [4]. To sum up, the application of computer science and technology in computer education helps to improve the application technology, teaching facilities and educational methods of computer education. On the basis of improving the teaching level of computer science, it mobilizes students' interest in computer learning. Improved students' professional knowledge level and professional ability, so that students become high-quality talents with both knowledge and ability.

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