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Development Countermeasures of Computer Education in the Era of "Internet +"

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ABSTRACT. *The advent of the "Internet +" era has increased the demand for computer professionals from all walks of life. Therefore, it is becoming more and more important to set up computer professional courses, cultivate professional and technical personnel, and popularize computer basic knowledge and skills for different learning needs in the current talent training plan. This article first explains the shortcomings and development opportunities of the current computer education model in the context of the "Internet +" era in terms of timeliness of curriculum content, the allocation and optimization of educational resources, and teaching organization and management methods, and then it proposes optimization and improvement strategies one by one, and explores changes of the role of teachers in computer education based on information technology to achieve a fair allocation of teaching resources. It calls for innovating teaching models and methods, and guaranteeing the timeliness of teaching content to ensure that computer education meets the needs of talent training in the era of "Internet +".*

KEYWORDS: *Computer education, Development opportunities, Strategies and methods, "internet +"*

1. Introduction

The use of computer technology has almost become an essential skill for everyone in the "Internet +" era. Therefore, various computer courses and majors have been set up from general education, vocational education to higher education to meets the needs of students' learning and future professional development, aiming to make students master basic computer application technology or become an applied and innovative talent in a professional technology field. Students' basics and their requirements for learning resources and teaching methods have different tendency with the technology, theory and innovation concepts related to computer majors evolving faster and faster in the "Internet +" era. So it is necessary to ensure the timeliness and practicability of relevant curriculum content, and to improve the efficiency of the development and utilization of computer education resources.

2. Insufficiency of Computer Education and Its Opportunities for the Development of the Times

With the support of modern technologies such as the Internet of Things in the "Internet +" era, the development direction, model and format of various fields and industries are showing subversive changes, and there is no exception to the field of education. From the online real-time teaching to the development of various shared educational resources, the application of information technology, digital teaching tools and mobile communication equipment has spawn more and more online commercial training institutions, educational resource development and service platforms, and it has also promoted schools reform and innovation of educational concepts and methods. Computer education has always been constrained by the uneven distribution of educational resources across regions, and the teaching content has not kept pace with the rapid evolution of computer technology, which has caused troubles for the popularization of computer technology and the cultivation of professional and technical personnel. In the era of "Internet +", however, the development and successful application of information technology has brought opportunities to solve these problems.

2.1 Timeliness of Teaching Content

Computer application technology and related theories are the main content of current computer education courses, designed to cultivate applied and innovative professional technical personnel, or to enable students in ordinary schools to have the requisite computer operation skills and to use relevant application software masterly to solve problems in study or life. So practicality is one of the characteristics of computer education courses. As

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computer technology has the characteristics of short upgrade cycles, high frequency of new technologies and new theories, and this feature becomes more prominent in the "Internet +" era, therefore, how much the practical value of application of computer education has depends on whether the design and update of the curriculum system can keep up with the evolution of computer technology [1]. At present, most of curriculum settings of educational schools of vocation, to varying degrees, has the problem that teaching content lags behind the development of computer technology, and "Internet +" brings a situation of highly open information resources, creating conditions for real-time updating of the curriculum system.

2.2 Utilization of Computer Education Resources

The teaching of computer majors requires students to practice on the computer and get real-time guidance from teachers so as to guarantee students' operating skills and the ability to use various theoretical knowledge to be substantially improved. Therefore, schools are traditionally required to deploy a sufficient number of professional teachers and facilities such as computers, application software, and computer rooms. In view of the large gap in the teaching level of computer professional teachers and the relatively high cost of purchasing and maintaining related equipment, the regional distribution and configuration of computer education resources are extremely uneven [2]. It is reflected in the shortage of teachers in most regions and a low utilization rate of high-quality teachers in regions with good economy and environment. Hence, it is necessary to explore the use of "Internet +" education model to improve the utilization rate of high-quality teachers of computer education.

2.3 Diversity of Teaching Modes

The teaching of knowledge and skills is essentially a process of information interaction between people, and traditional computer education adopts the same centralized teaching mode as other disciplines, and mainly relies on teachers' oral and demonstration to transfer information. The characteristics of computer science itself determine its learning requirements that only by providing students with the conditions for practical operation and the use of computer application technology to solve problems can they guarantee teaching efficiency and quality. Therefore, the single and solid computer teaching model needs to be changed urgently. In addition, the popularity of internet has significantly differentiated students' computer professional skills and understanding of basic theories, which requires institutions and teachers engaged in computer education to provide students with personalized teaching resources based on diverse teaching models. Therefore, it is necessary to take advantage of the development opportunities of the "Internet +" era to innovate computer education concepts.

3. The "Internet +" Era Optimization and Innovative Strategies for Computer Education

3.1 Change the Role of Teachers and Innovate the Concept of Computer Education

Based on the application of information technology and the Internet, integrating existing entity education resources and high-quality teachers to realize the in-depth development and sharing of computer education resources is an effective way to solve the imbalance of regional education resources. Therefore, we must first innovate the concept of computer education, reposition the role of computer teachers, and make it play a more constructive role in the development of teaching resources, the construction of curriculum system and online teaching platform. Hence, various schools should encourage computer professional teachers to learn the latest educational theories, master online teaching with information technology, learn to use informationized teaching tools, so that it can change the traditional computer professional teaching model that relies on classroom instruction.

3.2 Realize the Collaborative Development of Teaching Resources and Promote the Fair Allocation of Educational Resources

In the "Internet +" era, people can freely communicate and collaborate with each other regardless of time and space, creating conditions to solve the problem of imbalance in computer education resources. First of all, teachers of various majors in computer science, on the basis of top-level design and policy support, can achieve extensive collaboration and communication, jointly develop teaching resources and share results, so as to realize the potential of high-quality teachers and benefit all teachers and students within the reach of the Internet [3]. Then, based on online education resource sharing, computer education integrates resources, explores the

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cooperation between commercial training institutions and schools, and uses the former's advantages in computer education concepts, curriculum system construction and promotion, and technical resources to improve computer education teaching level and effectiveness.

3.3 Promote the Diversity of Computer Teaching Methods

In view of the fact that students have different choices in the way of information interaction in the “Internet” era, computer education should use information technology, digital teaching tools and the Internet to promote the diversification of computer teaching methods, so as to provide students with teaching resources that meet their needs. First, based on the making and sharing of high-quality online courseware, computer teaching allows students to apply smart mobile terminals, personal computers and other devices to choose learning methods according to their interests and practical needs [4]. Next, online platform provides courses of computer professional star teachers, and allows teachers and students to interact extensively to promote the optimal utilization of computer education resources. In addition, computer education classes in various schools should also introduce modern education concepts and use diverse methods to teach, and make students to have a stronger motivation to explore computer technology through the use of digital teaching tools and teaching methods.

3.4 Improve the Timeliness of Teaching Content

The fundamental purpose of implementing computer education is to export professional and technical talents that meet the development needs of various industries, and to allow the ordinary to master the necessary computer technology to meet the requirements of the “Internet +” era. Therefore, in order to ensure that the relevant knowledge system keeps up with the evolution of computer technology and has practical value in terms of curriculum setting and teaching content arrangement, professional teaching and research institutions should first follow up on technological innovation in related fields and also popularize their achievements, so as to updated and restructured necessarily the existing curriculum system in computer education. Second, schools engaged in computer professional technical personnel training should continuously update the teaching content of computer specialty on the basis of the tracking and analysis of students’ future employment direction, so that it always meets the students' practical needs.

4. Conclusion

The “Internet +” era not only requires more applied and innovative technical computer-based talents, but also requires the ordinary to have the ability to apply computer technology. Also, with the continuous innovation and high-speed evolution of basic theories and applied skills in computer science, it is vital to explore the shortcomings in the current field of computer education and clarify its development direction.

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