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Research on the Teaching Mode Innovation of Computer Majors Under the Background of Industry and Education Integration

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Abstract: With the rapid development of the times, the continuous innovation of teaching concepts, and the deficiency of the traditional computer teaching mode, the rapid development of computer technology has put forward higher requirements of the teaching mode, so it is imperative to carry on the innovation of teaching mode for computer majors. Combined with the development needs of computer technology in today's society, this paper combs the shortcomings of the existing teaching mode. Under the background of the integration of industry and education, this paper puts forward the tripartite cooperation mode with students as the core, schools as the bridge, and enterprises as the support, and establishes a new mechanism of the teaching mode of computer majors under the background of the integration of industry and education. This way of learning theory on campus and practicing in society will supplement and strengthen students' professional ability needs in the environment of the rapid development of computers in the future.

Keywords: Integration of industry and education; Computer teaching; Teaching and practice

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1. Introduction

Under the background of the rapid development of the times, society has higher and higher expectations for professional and technical personnel. Optimizing the teaching mode has become the top priority in the development of secondary vocational colleges. In the context of the integration of industry and education, the deep cooperation teaching between schools and enterprises is undoubtedly the optimal solution for the new teaching mode. It not only meets the expectations of society for professional talents, but also provides a steady stream of power for the future development of the enterprise, and provides a guarantee for students in the face of the rapid development of the times [1].

2. The shortage of the teaching mode of the traditional computer major

In the face of the rapid development of the times, computer technology is also constantly innovative, traditional

computer teaching has been unable to meet the requirements of all social enterprises for the new era of computer talents. As a new course in the 20th century, computer teaching is undoubtedly the top priority in the development of the new era. However, with the innovation of technology, the traditional teaching mode is inadequate to support students to face the challenges in the future society. The outdated concept of computer teaching, the backward knowledge of computer professional courses, and the bias of computer performance audit mechanisms all lead to the problem of computer education at the present stage—emphasizing theory and neglecting practice. There is nothing wrong with paying attention to the learning of theoretical knowledge, but once separated from practice, all the results will appear pale. Computer teachers have a weak concept of the integration of industry and education. They focus on students laying a solid foundation of theoretical knowledge during school, and they believe that it is not too late for social practice after graduation. They have not kept up with the pace of the computer development era. Five years ago, the teaching content of computer major courses was still enough to cope with the market demand, but with the rapid development of new media technology, it has been unable to meet the expectations of society for computer talents.

At the same time, due to the varying computer foundations of different students, the backwardness of the teaching content of computer majors leads to students staying at the same level, unable to achieve teaching in accordance with their aptitude. Lastly, the bias of the computer education audit mechanism leads students to focus on their immediate achievements and the study of theoretical knowledge and put aside their thinking about the development direction of future talent development. The bias of the computer education audit mechanism weakens students' desire to learn computer technology and hinders the progress of computer technology.

3. Requirements for the teaching of computer majors under the background of the integration of industry and education

3.1. Requirements of teaching concept

Under the background of the integration of industry and education, the teaching concept has changed from the traditional focus on graduating talents to cultivating talents that meet the needs of society [2]. In the future, graduate talents are difficult to help the rapid development of society, and even become a part of the social stagnation, which is not beneficial to personal development and social progress. The educational concept should be forward-looking, oriented by future social development, and put forward secondary vocational requirements for computer technology talents. Although this poses a huge challenge to the current personnel, it is undoubtedly harmless for social development. The change of teaching concept can fundamentally change the attitude of all personnel to the future, provide a practical practice for the direction of campus education, and provide a steady stream of development power for social development and progress.

3.2. Requirements of participants

Under the needs of the era of integration of industry and education, the participants of computer teaching are no longer limited to campus, all kinds of social personnel should participate in it, and different types of enterprises and units should actively participate in computer teaching. The teaching of computer majors is no longer a subject or skill, but an effort of people from all aspects of society for the rapid development of society in the future. In computer professional teaching with students as the main body, it cannot be limited to examinations and graduation, because with the goal of future social development, one must take one's own responsibilities in advance. While mastering computer knowledge, we actively cooperate with teachers, schools, and enterprises to embark on a new era of teaching and provide reference value for future teaching models. As an important part of the teaching of the computer science major, the school, while giving full play to the high-quality teaching resources, immediately praises

the actively participating students, and increases students' passion for the cooperation of the new teaching mode. As an enterprise that cannot be missing in computer teaching, it should actively provide teaching practice opportunities for the school, so that students with outstanding ability can get better guidance, and students with insufficient ability can immediately realize their defects, so as to accurately find the learning direction in future learning. This is also a favorable investment for enterprises, so that students can timely connect with social resources, exercise their ability on the campus, and seamlessly connect with enterprises in the future.

3.3. Requirements of the audit mechanism

Under the premise of the integration of industry and education, the audit mechanism of computer major teaching needs to be flexible. Although the rigid and single audit mechanism ensures the fairness of the audit results in some aspects, in the long run, the disadvantages outweigh the advantages, and to a large extent suppress students' enthusiasm for computer technology innovation. With the rapid change in society, the single demand for computer science majors has gradually developed into diversity. Different industries in society have different demands for computer talents, so it also requires that students cannot be trained with a single requirement in computer education. Therefore, in the final computer audit mechanism, we should present a flexible way, and cannot use fixed standards to test students' learning results. The school should not be the only judge of the audit mechanism, because social enterprises should actively participate in the audit mechanism and provide more comprehensive assessment opinions. In addition to the diverse participants of the assessment mechanism, the standards of the assessment mechanism should also be diverse. The assessment standards of mixed mode are more conducive to students to play their creativity in computer learning, so that students can conduct in-depth research in the direction of the computer they are interested in and students' enthusiasm for learning can be fully released.

4. Innovation mechanism of the teaching mode of computer majors from the perspective of industry and education integration

An in-depth exploration of the computer major teaching model is the focus of future education reform. The establishment of an effective computer major teaching model is of epoch-making significance for the future development direction of education. From the perspective of the integration of industry and education, the school, as the backbone of promoting the computer teaching mode, must strengthen contact with social enterprises and create a good teaching environment for computer majors [3]. By integrating excellent educational resources from all parties and actively participating in corporate social practices, a new line of school-enterprise cooperation has been developed. With market development as the guidance, school education resources as the driving force, and enterprise practice as the boost, we will create a new route of computer professional teaching, industry, education, and research, and form a new computer teaching mechanism.

4.1. Integrating professional education resources and creating diversified teaching modes

As a new discipline in the 20th century, computer education plays an important role in promoting social development. The rapid development of multimedia technology has provided a steady stream of resources for the innovation of the teaching mode of computer majors integrating industry and education. In the context of the integration of industry and education, the school should constantly integrate excellent educational resources, break the limitations of traditional teaching mode, guide social development and base the actual needs of enterprises, and create a diversified teaching mode of computer majors [4].

(1) Clear course direction: Different from the teaching modes of other majors, the teaching direction of the computer major has a great leapfrog, has a unique demand for teaching equipment and practice sites, and

has a strong professional practice. In the teaching of computer majors, the school should actively enter the enterprises, understand the development direction of computer talent for enterprises in the future, and subdivide professional courses, so as to facilitate students' professional research in the direction they are interested in [2]. The school should accurately divide the skills according to the needs of talents in the position, and then sort out the course direction and content, so as to facilitate students to clarify their future development direction and clearly understand the specific content of the position. Through this process, the computer ability required by students in the job is transformed into the knowledge course needed for daily learning, and the ultimate learning goal of combining theory and practice is realized [5].

(2) School-enterprise mixed teaching: The integration of computer professional knowledge requires a lot of practical opportunities and has high requirements for the teaching environment. The school should actively guide professional talents into the classroom and timely share the practical needs of the current society for professional talents, so that knowledge in books and theory can be turned into practice. The school should actively invite professional talents to undertake professional teaching tasks, make more refined explanations of computer knowledge from the perspective of social needs, and discuss computer knowledge in different dimensions, so as to improve students' cognition of computer knowledge and deepen students' understanding of computer major [6], as well as to better realize the perfect combination of students' computer professional knowledge and practical operation skills. At the same time, the school should also actively guide students to enter the enterprise and the internship position, so that students can timely find their own deficiencies in ability, and quickly learn practice skills in the internship process, so as to learn targeted professional knowledge when returning to the campus [6].

(3) Professional teaching: Students have the right to know the current social demand for professional talents. Under the premise that the teaching content of the general direction of computer science remains unchanged, students are given sufficient power to make independent choices through their practical skills and talents in subdivided directions. Teachers and enterprise professional talents should objectively analyze the needs of the current society for computer professionals, and give students certain references and suggestions so that students can give full play to their subjective initiative and think positively about their future development direction. On the premise of independent choice, students can give full play to their subjective thinking, actively feel the requirements of society and enterprises for professional talents, and then face up to the shortcomings of their own ability and focus on learning. More targeted learning can also enable students to better adapt to the future working state, and help them to achieve better growth.

4.2. Deepening the cooperation between schools and enterprises and creating a new route of school-enterprise cooperation

Computer professional education should be market-oriented, the significance of school teaching lies in strengthening the basic quality of students' computer profession, and the joining of enterprises can help students in some fields of computer major. Theoretical knowledge should not only exist in the classroom, and practical skills cannot be completely exercised by the jobs provided by enterprises. The cooperation between the school and enterprises should be strengthened, so that the theoretical knowledge that students learn in school can be practiced at work.

The school should provide appropriate additional positions for the excellent technical talents of enterprises, so that the technical talents of enterprises can go to the lecture hall to explain computer knowledge in the dimension of operating practical cases, so as to break the traditional dimension of students' thinking about computer knowledge [7]. Through communication with professional talents, students can better understand the

actual project, how to break the situation, and form their own logical thinking [8]. Schools should also actively encourage teachers to study in enterprises, so that teachers can think about the learning confusion of learning computer professional knowledge from the perspective of students, which will help teachers to form a more comprehensive teaching thinking and understand the demand direction of the current society for computer professionals. Enterprises should also assume their due social responsibility, welcome students to the enterprise internship, and help students with theoretical knowledge in the classroom [9].

Students with outstanding abilities can not only become the focus of the enterprise but also expand the influence of the enterprise in the professional field in the future. In the face of outstanding students, the enterprise can have more advantages to attract the company after graduation, but also remove the running-in period with the company and reduce the cost of seeking talents. In the face of students with general ability, enterprises can timely help them, point out their shortcomings, and become the talent reserve of enterprises [10]. With the deepening of school-enterprise cooperation, students will undoubtedly become the biggest beneficiaries. They can not only avoid the loss of seeking jobs after graduation but also maximize their value and contribute their own strength to the rapid development of society.

4.3. Optimizing the education audit mechanism and building a characteristic teaching system

Unlike in other industries, the biggest result of learning computer expertise lies in its practicality. In this regard, the audit mechanism of computer courses should not be too rigid and should form a multi-dimensional curriculum assessment standard. Under the premise of computer basic course assessment, more attention should be paid to the assessment of subdivided courses. With the computer knowledge of subdivided courses as the core and the basic course knowledge as the auxiliary, we can achieve the diversified development of professional talents [11]. The flexible computer course assessment standard is a necessary link to realize the integration of industry and education. Schools should take a comprehensive account of specific basic courses, subdivided courses, and enterprise practice, and should not deny students' efforts just because of the substandard in one aspect. For the review, the school cannot become the only existence and should actively invite enterprises to participate in the comprehensive assessment of students. After all, no matter how high the theoretical knowledge is, the lack of hands-on practical skills is also in vain. No matter how strong the practical skills are, students cannot form their own thinking system with the lack of theoretical knowledge support. A good education audit mechanism can stimulate students' enthusiasm for learning, and help to cultivate students who are willing to explore, dare to practice, and actively innovate.

5. Conclusion

To sum up, the innovation of the teaching mode of computer majors under the background of the integration of industry and education is a direct and effective way for students to improve their own abilities, enterprises to seek excellent reserve talents, and schools to improve the education system. The tripartite cooperation mode led by students, with schools as the bridge and supported by enterprises should be discussed gradually, and must not be superficial. Only when schools and enterprises are deeply aware of the educational significance of industry and education integration, strengthen cooperation, judge the future development trend of the computer industry together, and integrate excellent educational resources, can they effectively provide a steady stream of power for social development [12]. Only by actively cooperating with the innovative education mode under the integration of industry and education can students adapt to the competition of society and realize their self-value. Fundamentally speaking, promoting the innovation of the teaching mode of computer majors under the integration of industry

and education is to realize the combination of theory and practice through various ways, to help students better understand the market demand for professional talents, and to improve their own ability and cognition [13].

Disclosure statement

The author declares no conflict of interest.

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