

Research on the Training of Modern Apprenticeship Talents in Computer Application Technology under the Background of School Enterprise Cooperation

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Abstract

With the continuous development of the information society, the contradiction between the training mode of computer application technology professionals in vocational colleges and the demand for talents in enterprises is receiving more and more attention. The modern apprenticeship talent training mode under the background of school enterprise cooperation has become one of the key means to solve this contradiction. On the basis of reviewing the current development status of modern apprenticeship and computer application technology majors, this article analyzes the problems and shortcomings of the current modern apprenticeship training methods for computer technology majors, and proposes corresponding solutions. The core requirement is that enterprises and schools should jointly participate and reasonably divide labor in the talent training process, including clarifying the main responsibilities, integrating enrollment and recruitment Optimize and improve talent training programs, etc.

Keywords

Computer application technology, Modern apprenticeship system, Talent cultivation.

1. Introduction

In recent years, with the continuous development of computer application technology, the characteristics of talent demand in related industries and fields have undergone significant changes, making the improvement of talent models one of the pressing practical issues to be addressed.

Against this backdrop, the modern apprenticeship talent training model has emerged[1], which has been strongly promoted and supported by the Ministry of Education and has become one of the core contents of vocational college teaching reform in the new stage. It has become one of the mainstream models for deepening the integration of industry and education, and enhancing the quality of talent training in computer application technology in vocational colleges[2]. The modern apprenticeship talent training model can optimize and integrate the forces of the government, society, schools, and enterprises, forming a joint force to effectively innovate various talent training processes such as enrollment and recruitment, teaching content, curriculum system, teaching model, and evaluation mechanism, ultimately achieving the goal of comprehensively improving students' comprehensive qualities and social integration capabilities.

However, the application of the modern apprenticeship talent training model in the computer application technology major still has many shortcomings. Based on an in-depth analysis of the development status of the modern apprenticeship training mode in the computer application technology major, this paper discusses the existing problems in the current modern apprenticeship training mode for computer technology majors and proposes corresponding improvement measures, in order to provide theoretical support for the development of the modern apprenticeship training mode in the computer technology major.

2. Overview of School-Enterprise Cooperation and Modern Apprenticeship System

2.1. School-Enterprise Cooperation

The so-called school-enterprise cooperation refers to a collaborative model in vocational education where schools and enterprises, through mutual consultation and with employment as the orientation, focus on the key goals of moral and technical development and comprehensive growth to jointly formulate educational plans. School-enterprise cooperation breaks the situation where schools and enterprises are not connected and act independently, achieving resource interaction and information sharing between schools and enterprises, and strengthening the cultivation of students' practical abilities in enterprises. It has become one of the mainstream educational models in the current education industry, especially in vocational education.

However, current school-enterprise cooperation still faces many obstacles. The first is the "school is enthusiastic, enterprise is indifferent" fireplace phenomenon[3]. Although schools are very enthusiastic about participating in school-enterprise cooperation, enterprises are relatively indifferent. This is due to the subordinate position of enterprises in the process of student cultivation, leading to insufficient leadership, resulting in students graduating with weak professional abilities, poor alignment of learned knowledge with enterprise needs, and lack of professional spirit, making it difficult for enterprises to achieve their expected goals in cooperation, and thus making the cooperation mechanism difficult to sustain. The second is that current school-enterprise cooperation mainly revolves around disciplines and professional knowledge, emphasizing the cultivation of talent skills, but lacking an effective and continuous mechanism for cultivating professional spirit, leading to graduates being unable to adapt to the enterprise work environment and work intensity. Other issues include insufficient policy support and funding, limited school service capabilities, and inadequate practical operation capabilities of teachers[4].

2.2. Modern Apprenticeship System

In recent years, with the emergence of the modern apprenticeship education model, it has gradually become one of the potential ways to solve many problems in school-enterprise cooperation. The modern apprenticeship system is a form of in-depth collaboration between colleges and enterprises, a cooperative education between teachers and students, and a training teaching model for high-level technical and skilled talents with professional knowledge, professional skills, and creativity. Implementing modern apprenticeship higher education is a way to promote the integration of industry and education, school-enterprise cooperation, and to closely integrate engineering with practice and knowledge with action[5].

At present, China is fully committed to promoting the integration of modern apprenticeship and higher vocational education into the actual management work. We should make full use of national policy benefits, deeply study and promote the reform of modern apprenticeship training models in professional colleges, and further develop the reform of higher education training system to improve the quality of specialized graduates and the level of specialized education. The discipline of computer application technology should also actively explore the modern apprenticeship training model that adapts to the needs of today's social economy and the development of small and medium-sized enterprises, in order to train graduates who meet the required quality standards.

Research shows that most vocational colleges in China have a strong desire to cooperate with enterprises, and cooperation models such as apprenticeship and order training are increasingly accepted by both schools and small and medium-sized enterprises. However, due to the significant differences in the development policies and cooperation objectives of companies

and vocational colleges, the degree of cooperation between the two parties also varies accordingly.

3. Current Status of the Development of Computer Application Technology Major in Vocational Colleges

With the advancement of science and technology and the increasing development of the information age, the demand for computer technology professionals at various levels in all sectors of society has remained high, especially the gap in the training of vocational computer application talents is growing larger[6]. The development of computer application technology majors in vocational colleges across various regions has also ushered in a golden age.

Although the Chinese government has introduced many preferential policies to support the development of computer application technology majors in vocational colleges nationwide, actively guiding local enterprises to integrate with vocational computer application specialty schools, the local talents mainly serve local small and medium-sized enterprises, thereby driving the economic and social development of the locality. However, due to the vigorous development of the current industry, coupled with the continued change of the economic system and the acceleration of industry transformation, local small and medium-sized enterprises have higher and newer demands for computer application professionals. The personnel trained by the original regional vocational talent training model find it difficult to meet, and even exceed, the needs of market enterprise development. The contradiction between the training model, talent cultivation goals, talent cultivation methods, and social needs is becoming increasingly severe, necessitating certain changes and adjustments to the training model of the computer application technology discipline. How to integrate the computer application technology discipline with modern apprenticeship education and how to find the right fit are key to solving the aforementioned problems.

Modern apprenticeship education is a form of industry-education integration implemented within vocational colleges and represents an evolving trend in higher vocational education in China. Attempts and explorations to implement modern apprenticeship training methods for the computer application technology major in vocational colleges can enhance the training capabilities for professional talents in computer application skills. Therefore, this article will study the current state of development of modern apprenticeship training methods in the computer application technology major and discuss existing problems, providing specific measures to deeply explore the practical application of the modern apprenticeship model in the training of computer application skills professionals.

4. Challenges of Modern Apprenticeship in Talent Cultivation for Computer Application Technology Major

4.1. Vague Division of Responsibilities

The modern apprenticeship system aims to achieve a deep integration of teaching and production, but challenges arise in its implementation within the computer application technology major. The main issues include schools taking the lead while enterprises participate insufficiently, leading to unclear division of responsibilities. Vocational colleges often simplify the modern apprenticeship system to "schools provide students, enterprises provide projects," neglecting the collaborative development of teaching and production, resulting in resource wastage. Schools focus on theoretical knowledge and moral cultivation, whereas enterprises value practical operation capabilities and profit creation. This goal disparity makes cooperation unsustainable. Moreover, students spend most of their time studying at school, lacking practical experience in enterprise projects. School teachers lack practical project experience, making it

difficult to provide effective practical teaching, while enterprise mentors have short and discontinuous contact with students, hindering the transfer of practical experience. These factors collectively restrict the effective application and promotion of the modern apprenticeship system.

4.2. Insufficient Social Recognition

Understanding and grasping the modern apprenticeship system is crucial for talent cultivation in the computer application technology major. Currently, there is a lack of understanding among schools, enterprises, and students, limiting its role in talent cultivation. Schools simplify it to "schools provide students, enterprises provide projects," failing to fully utilize enterprise practice to enhance students' professional capabilities and professional spirit. Enterprises regard the apprenticeship system merely as a means to provide internships, failing to invest sufficient resources and energy in training interns, leading to subpar practical results. Students lack basic understanding of the modern apprenticeship system. Surveys show that 61.03% of students are unfamiliar with this model, but 80.01% wish to learn more, and 69.07% support the modern apprenticeship system under school-enterprise cooperation, demonstrating a positive attitude towards enterprise involvement in education. Enhancing the understanding of all parties about the modern apprenticeship system is key to improving its effectiveness in talent cultivation for the computer application technology major.

4.3. Emphasis on Theory Over Practice

The computer application technology major emphasizes practical capabilities, but vocational college teaching still focuses primarily on theory, with practice as a supplement, leading to a deficiency in students' practical abilities. Reasons include: (1) The traditional teaching model is deeply rooted, with classes as the unit, focusing on theoretical knowledge transmission and lacking individualization and practical teaching; (2) Teachers lack the awareness to cultivate students' practical abilities, and rote teaching leads to a decline in students' interest and enthusiasm for learning; (3) Schools lack real project production environments, with scientific research projects being disconnected from practical needs, making it difficult for students to experience the complete process of project development, affecting teaching quality. To improve this situation, teaching models need reform, practical teaching should be increased, teachers' awareness of practical teaching should be raised, and real projects should be introduced to enhance students' practical abilities and teaching quality.

4.4. Inadequate Implementation of Enterprise Courses

In the modern apprenticeship system, enterprise courses and school courses are complementary and mutually promoting. However, the implementation of enterprise courses is weakened in the current modern apprenticeship system. The reasons for this issue are multifaceted, including: (1) Enterprise mentors, due to their heavy workload and work pressure, cannot allocate sufficient time and energy to provide detailed practical guidance for students. On the other hand, some enterprise mentors, despite their rich practical experience and professional skills, are not adept at imparting knowledge and practical guidance, resulting in low teaching levels; (2) School teachers, due to their heavy teaching content, cannot take on the implementation of enterprise courses. Some teachers focus mainly on scientific research and lack sufficient understanding of enterprise operation mechanisms and project progression, making it difficult for them to provide effective and reliable guidance for students.

5. Strategies for Cultivating Modern Apprenticeship in Computer Application Technology Major under School-Enterprise Cooperation Background

5.1. Clarify Responsibility Allocation

To address the issue of vague division of responsibilities, it is essential to establish a coordination mechanism involving multiple parties, including schools, enterprises, students, and potentially relevant government departments. The purpose of this mechanism is to ensure that each party is clear about their roles and responsibilities. Schools should be responsible for providing basic theoretical knowledge education and basic skills training, while enterprises should take on the responsibility of providing practical work experience and professional skills training. In addition, both parties should jointly participate in the assessment and feedback process for students to ensure they meet the expectations of both sides. To achieve this, detailed cooperation agreements can be established to clarify the specific responsibilities and expected outcomes of both parties in the student training process. Regular meetings and assessments can also be used to monitor the progress of cooperation and adjust strategies in a timely manner. This clear division of responsibilities helps to improve cooperation efficiency, ensure students can achieve a balance between theory and practice, and ultimately reach the training goals.

5.2. Enhance Social Recognition

Raising social awareness of the modern apprenticeship system is key to promoting the system. Promotion can be carried out through various channels, including social media, school websites, and corporate promotional materials. Schools and enterprises can jointly hold open day events, inviting students, parents, and educators to visit enterprises to understand the actual operation of the apprenticeship system. In addition, videos, articles, and case studies can be produced and published to showcase successful stories of the modern apprenticeship system and students' career development paths. Educational departments can also provide support at the policy level, guiding and financially supporting more schools and enterprises to participate in the modern apprenticeship system. At the same time, schools and enterprises should regularly organize seminars and workshops to discuss best practices and improvements for the modern apprenticeship system. Through these activities, public awareness of the modern apprenticeship system can be increased, enhancing its appeal and encouraging more students and enterprises to participate.

5.3. Strengthen Practical Teaching

To address the issue of emphasizing theory over practice, schools and enterprises need to redesign courses and teaching methods to ensure students can gain sufficient practical experience. Schools should reduce the proportion of pure theory courses and increase practical courses and project work. For example, laboratory courses, workshops, and simulated projects can be set up to allow students to apply their knowledge in simulated or actual work environments. Enterprises should provide internship opportunities, allowing students to participate in real projects to gain valuable work experience. In addition, teaching models such as flipped classrooms can be adopted, encouraging students to self-study theoretical knowledge before class, and focusing on discussion, practice, and problem-solving in class. Teachers should become guides and coordinators, rather than mere transmitters of knowledge. In this way, students can learn through practice, improving their problem-solving abilities and innovative thinking.

5.4. Ensure Implementation of Enterprise Courses

To ensure the effective implementation of enterprise courses, it is necessary to strengthen cooperation between enterprises and schools. Enterprises should invest more resources and energy to ensure the success of the apprenticeship system. First, enterprises can assign dedicated mentors or trainers responsible for student practical guidance and training. These mentors should have rich industry experience and teaching abilities, able to closely integrate theoretical knowledge with actual work. Second, enterprises should provide real work environments and projects, allowing students to participate in real work processes. This not only improves students' practical skills but also helps them better understand industry demands and work culture. In addition, schools and enterprises should jointly develop courses to ensure teaching content matches the actual needs of enterprises. Regular course reviews and updates can be conducted to ensure the timeliness and relevance of the course content. Finally, schools and enterprises should establish an effective communication mechanism to regularly assess and feedback on students' learning progress and project outcomes, in order to adjust teaching strategies and curriculum content in a timely manner. Through these measures, the quality and effectiveness of enterprise courses can be improved, ensuring that students receive comprehensive education and training.

6. Summary

Under the modern apprenticeship talent training model, the computer application technology major faces challenges such as vague division of responsibilities, insufficient social cognition, imbalance between theory and practice, and inadequate implementation of enterprise courses. These dilemmas not only affect the quality and efficiency of talent cultivation but also limit the development and enhancement of students' comprehensive vocational abilities.

To address these challenges, we have proposed a series of strategies. First, by establishing a coordination mechanism involving multiple parties and signing detailed cooperation agreements, the responsibilities and obligations of schools and enterprises in talent cultivation are clarified, which helps to achieve an organic combination of teaching and production, improving cooperation efficiency. Second, through multi-channel publicity and educational activities, the social cognition of the modern apprenticeship system is enhanced, increasing its appeal and encouraging more students and enterprises to participate. Additionally, practical teaching is strengthened by redesigning courses and teaching methods, increasing practical courses and project work, adopting teaching models such as flipped classrooms, and encouraging students to learn through practice, thereby improving their problem-solving abilities and innovative thinking. Lastly, ensuring the effective implementation of enterprise courses involves investing more resources and energy, assigning dedicated mentors or trainers, providing real work environments and projects, jointly developing courses, and establishing effective communication mechanisms to improve the quality and effectiveness of enterprise courses.

The implementation of these strategies requires the joint efforts and collaboration of schools, enterprises, and relevant government departments. Through these measures, we can expect the modern apprenticeship system to play a greater role in the talent cultivation of the computer application technology major, training more high-quality technical and skilled talents that meet market demands. This not only enhances students' employability but also helps enterprises obtain the professional talents they need, thereby promoting the healthy development of the entire industry. In summary, by solving the dilemmas in the modern apprenticeship system, we can provide students in the computer application technology major with more comprehensive and higher-quality education, laying a solid foundation for their future careers.

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