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Construction of a Practical Teaching System for Computer Application Technology Specialty Integrating Emerging Productive Forces and Employment Promotion

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Abstract: This article delves into the construction of a practical teaching system for the Computer Application Technology major that integrates new forms of productive forces, aiming to enhance the quality of talent cultivation and promote employment. It analyzes the relationship between new forms of productive forces and computer application technology, proposes the objectives and principles of the practical teaching system, and elaborates on the design of practical teaching content, innovation in teaching modes, and safeguards for conditions. Additionally, the article presents employment promotion strategies, including analysis of employment market demands, enhancement of employability skills, improvement of the employment service system, and integration of entrepreneurship education. Through case studies from Guizhou Business and Trade Vocational College and the School of Computer Science at Huanggang Normal University, the article showcases the effectiveness of the construction of the practical teaching system and its promotion of employment. Finally, the article looks ahead to future research directions, emphasizing the importance of integrating new technologies into the practical teaching system and adapting to changes in the employment market.

Keywords: New forms of productive forces, Computer Application Technology, practical teaching system, employment promotion, school-enterprise cooperation.

1. Introduction

New forms of productive forces represent an innovation and development of Marxist productivity theory, driven by revolutionary technological breakthroughs, innovative allocation of production factors, and deep industrial transformation and upgrading. New forms of productive forces are characterized by the qualitative transformation of laborers, means of labor, objects of labor, and their optimized combination, emphasizing the improvement of total factor productivity. In today's socio-economic development, new forms of productive forces occupy a pivotal position. They are not only a concentrated expression of technological innovation but also a key force driving economic structural optimization, improving economic efficiency, and continuously enhancing the ecological environment. The development of new forms of productive forces contributes to achieving sustainable economic and social development, injecting new vitality and momentum into the global economy.

Constructing a practical teaching system for the Computer Application Technology major that integrates new forms of productive forces is of vital importance for improving the quality of talent cultivation and promoting employment. With the rapid development of technology, new forms of productive forces have become a key driving force for social progress and economic development. As an important component of this, the quality of talent cultivation in Computer Application Technology directly impacts the utilization and application of new forms of productive forces. By constructing a practical teaching system that integrates new forms of productive forces, we can incorporate the latest technological achievements and industry demands into teaching content, enabling students to grasp cutting-edge technologies and practical skills in a timely manner. This teaching system not only focuses on the imparting of theoretical knowledge but also emphasizes the cultivation of practical abilities, thereby nurturing composite talents who possess both a solid theoretical foundation and practical operational skills. At the same time, a practical teaching system that integrates new forms of productive forces also helps to promote students' employment prospects. With the continuous emergence of new forms of productive forces, the market demand for professionals in Computer Application Technology is constantly changing. Through practical teaching, students can better understand industry trends and enterprise needs, enhancing their employability. Furthermore, practical teaching can strengthen cooperation with enterprises, providing students with more internship and employment opportunities, further promoting their employment and development. Therefore, constructing a practical teaching system for the Computer Application Technology major that integrates new forms of productive forces is an important way to improve the quality of talent cultivation and promote employment, and it holds profound significance for driving economic and social development as well as technological progress.

This paper aims to delve into the construction of a practical teaching system for the Computer Application Technology major that integrates new forms of productive forces. In the context of the technological revolution in the new era, we recognize that traditional teaching modes are no longer sufficient to meet the industry's demand for high-quality, innovative talents. Therefore, this paper will focus on

analyzing how to incorporate elements of new forms of productive forces, such as artificial intelligence, big data, cloud computing, and other cutting-edge technologies, into practical teaching. Through innovations in curriculum design, teaching methods, training platforms, and other aspects, we aim to create a practical teaching system that adapts to the needs of future social development. At the same time, this paper will also propose a series of strategies to promote employment. We will explore how to enhance students' employability through the practical teaching system, such as strengthening school-enterprise cooperation, implementing project-based learning, providing career planning guidance, and more. The goal is to help students better adapt to market changes, meet the demand for highly skilled talents in enterprises, and thereby effectively promote high-quality employment for students majoring in Computer Application Technology.

2. The Relationship Between New Forms of Productive Forces and Computer Application Technology

(1) The definition and characteristics of new forms of productive forces

New forms of productive forces, relative to traditional productive forces, represent a new stage and form of productivity development. The definition of new forms of productive forces can be summarized as an advanced state of productive forces that is innovation-led, breaks away from traditional economic growth models and productivity development paths, and is characterized by high technology, high efficiency, and high quality, aligning with the new development philosophy. It is driven by revolutionary technological breakthroughs, innovative allocation of production factors, and deep industrial transformation and upgrading.

The characteristics of new forms of productive forces are mainly reflected in the following aspects: **High-tech level**: New forms of productive forces rely on the latest scientific and technological achievements, such as artificial intelligence, big data, cloud computing, and the Internet of Things. The application of these technologies significantly improves production efficiency and quality. **High efficiency and high quality**: New forms of productive forces pursue high-efficiency and high-quality production processes and products, maximizing production benefits by optimizing resource allocation and improving the utilization efficiency of production factors. **Sustainability**: New forms of productive forces emphasize environmental protection and resource conservation in economic development, promote green and low-carbon development, and achieve coordinated economic, social, and environmental development. **Innovation-driven**: The development of new forms of productive forces depends on continuous innovation, including technological innovation, management innovation, and institutional innovation. Innovation becomes the core driving force for productivity development. **Industrial transformation and upgrading**: The development of new forms of productive forces is accompanied by deep industrial transformation and upgrading, with emerging industries and future industries becoming the leading force in driving and shaping new forms of productive forces. New forms of productive forces not only represent a qualitative leap in productivity but also a comprehensive upgrade in the structure and function of productivity, serving as a key force in promoting high-quality economic and social development.

(2) The role of computer application technology in new forms of productive forces

Computer application technology plays a crucial role in new forms of productive forces. It is not only the core driving force for the development of new forms of productive forces but also a key element in promoting economic and social transformation and upgrading. With the widespread application of technologies such as artificial intelligence, big data, and cloud computing, the role of computer application technology in driving the development of new forms of productive forces has become increasingly prominent.

Firstly, the application of artificial intelligence technology has injected new vitality into the development of new forms of productive forces. By simulating, extending, and expanding human intelligence, AI technology enables intelligent control, optimized decision-making, and autonomous operation of complex systems. In the manufacturing industry, AI technology can be applied to intelligent scheduling of production lines, quality control, and fault prediction, significantly improving production efficiency and product quality. In the service industry, AI technology can be used in areas such as intelligent customer service and personalized recommendations, enhancing service quality and user experience. Furthermore, AI technology demonstrates tremendous application potential in various fields such as healthcare, education, and finance, driving the intelligent upgrading of these industries.

Secondly, the application of big data technology provides powerful data support for the development of new forms of productive forces. By collecting, storing, processing, and analyzing massive amounts of data, big data technology uncovers patterns and trends hidden behind the data, providing a scientific basis for decision-making. In the agricultural sector, big data technology can be applied to precision agriculture, enabling precise planting and management of crops through real-time monitoring and analysis of data on weather, soil, and crop growth, thereby improving agricultural production efficiency and yield. In urban management, big data technology can be used in smart city construction, optimizing the allocation of urban resources and improving urban management efficiency through the integration and analysis of data on transportation, energy, and the environment.

Cloud computing technology, as an important component of new forms of productive forces, provides flexible, efficient, and secure computing services for their development. Through technological means such as virtualization, distributed storage, and elastic scaling, cloud computing technology enables on-demand allocation and efficient utilization of computing resources. In the field of innovation and entrepreneurship, cloud computing technology provides low-cost IT infrastructure and rich development tools for startups, lowering the threshold for entrepreneurship and promoting the prosperous development of innovation and entrepreneurship. In the education sector, cloud computing technology can be applied to online education platforms, enabling the sharing and optimal allocation of educational resources, thereby improving education quality and fairness.

(3) The necessity of integrating new forms of productive forces

The integration of new forms of productive forces is urgently needed and holds profound significance for

computer application technology education.

With the rapid development of technology, new forms of productive forces have become the core driving force for social progress and economic development. Centered on technological innovation and relying on cutting-edge technologies such as artificial intelligence, big data, and cloud computing, new forms of productive forces are profoundly transforming production methods, business models, and social structures across various industries. As an important base for cultivating IT talents, computer application technology education must keep pace with the times and deeply integrate with new forms of productive forces to meet the society's demand for new types of technical talents.

In terms of urgency, the current society's demand for computer application technology professionals is increasingly diversified and high-end. Traditional teaching modes and curriculum settings can no longer meet the requirements of new forms of productive forces for talents. Therefore, computer application technology education must accelerate the pace of reform, incorporating elements of new forms of productive forces into teaching content and practical sessions, in order to cultivate composite talents who not only have a solid theoretical foundation but also possess practical operation skills and innovative thinking.

In terms of significance, the integration of computer application technology education with new forms of productive forces helps improve the quality of talent cultivation and enhances students' employment competitiveness. By introducing the technologies and concepts of new forms of productive forces, students can better understand industry trends and technological frontiers, and grasp the latest skills and knowledge. At the same time, the integration of new forms of productive forces also promotes educational and teaching reforms, facilitates the close integration of industry, academia, research, and application, and improves the quality of education and the level of school running.

3. Construction of a Practical Teaching System for Computer Application Technology Specialty Integrated with New Forms of Productive Forces

(1) Objectives and Principles of the Practical Teaching System

The practical teaching system is an important component of higher education, and its objectives and principles are directly related to the quality of talent cultivation and the degree to which social needs are met. The following is a detailed elaboration on the cultivation objectives and construction principles of the practical teaching system.

Cultivation Objectives of the Practical Teaching System

The core cultivation objective of the practical teaching system is to nurture composite talents with innovative spirit and practical abilities. This objective is embodied in the following aspects: Cultivating Innovative Spirit: Through practical teaching, students' innovative potential is stimulated, and their innovative thinking and capabilities are cultivated. This enables students to continuously explore and identify problems in practice, and attempt to propose new solutions using their acquired knowledge. Enhancing Practical Abilities: The practical teaching system should focus on cultivating students' practical operation skills and problem-solving abilities. Through experiments, internships, training, and other practical activities, students are equipped with certain professional skills and practical application abilities, laying a solid foundation for their future careers. Cultivating Comprehensive Qualities: In addition to professional knowledge and skills, practical teaching should also pay attention to the cultivation of students' comprehensive qualities. This includes moral qualities, cultural qualities, psychological qualities, and other aspects, enabling students to possess comprehensive social adaptability and teamwork spirit. Cultivating Employment Competitiveness: Through practical teaching, students are equipped with strong employment competitiveness, enabling them to better adapt to market demands and career development requirements. This includes enhancing students' professional skills, comprehensive qualities, communication skills, and teamwork abilities, among others.

Principles for Constructing the Practical Teaching System

To achieve the aforementioned training objectives, the construction of the practical teaching system should adhere to the following principles: Integration of theory and practice: Theoretical knowledge serves as the foundation for practice, while practice is the sole criterion for testing theory. The practical teaching system should ensure that theoretical and practical teaching reinforce and complement each other, enabling students to deepen their understanding and application of theoretical knowledge through practical activities while mastering it. Integration of industry, research, and application: The practical teaching system should emphasize close integration with industry, research, and application. By collaborating with enterprises, conducting research projects, participating in social practices, and other means, it should provide students with more practical opportunities to enhance their practical and innovative abilities. Combination of systematicness and hierarchy: The practical teaching system should cover multiple links and levels, including basic experiments, professional training, comprehensive practices, innovation, and entrepreneurship. These links and levels should be interconnected and progressively advanced, forming a complete practical teaching system. Combination of openness and flexibility: The practical teaching system should be open and flexible, capable of adapting to changes in social development and market demand. By continuously updating teaching content, improving teaching methods, refining the evaluation system, and other means, it should enhance the adaptability and effectiveness of the practical teaching system. Student-centered approach: The practical teaching system should focus on students' subjectivity and individualized needs. By guiding students to actively participate in practical activities, autonomously choose practical projects, and other means, it should stimulate students' interest and enthusiasm, and improve their autonomous learning and innovative abilities. In summary, the training objective of the practical teaching system is to cultivate composite talents with innovative spirit and practical abilities. The construction principles should revolve around this objective, ensuring the effectiveness and adaptability of the practical teaching system.

(2) Design of practical teaching content

The design of practical teaching content should closely revolve around the demands of emerging productivity, with the core objective of cultivating composite talents who possess innovative spirit and practical abilities. With the rapid

development of technology, emerging fields such as artificial intelligence, big data analysis, and cloud computing have become important forces driving social progress and economic development. Therefore, integrating these cutting-edge technologies into practical teaching content is of great significance for enhancing students' professional competence and practical abilities.

Artificial Intelligence Practical Course

Artificial intelligence, as one of the core driving forces of emerging productivity, should have its practical course cover both fundamental theories and practical applications. The course content can include basic concepts of artificial intelligence, machine learning algorithms, deep learning frameworks, natural language processing, computer vision, and other key technologies. Through project-based learning, students can participate in the development of practical projects such as intelligent customer service, intelligent recommendation systems, and image recognition, thereby deepening their understanding and application of artificial intelligence technologies. In addition, emphasis should be placed on cultivating students' innovative thinking and teamwork skills, encouraging them to explore new application scenarios of artificial intelligence through practice.

Big Data Analytics Practice Course

Big data analysis is an indispensable part of emerging productivity, and its practical course should focus on data collection, processing, analysis, and visualization. The course content can include basic concepts of big data, data preprocessing techniques, statistical analysis methods, data mining algorithms, and the use of common data analysis tools such as Excel, Python, R, and Tableau. Through practical projects, students can be exposed to big data application cases in industries such as finance, healthcare, and e-commerce, learning how to apply big data technologies to solve practical problems. At the same time, emphasis should also be placed on cultivating students' data sensitivity and critical thinking, enabling them to accurately interpret the information behind the data and make reasonable decisions.

Cloud Computing Technology Practice Course

Cloud computing technology is an important support in the new form of productivity, and its practical course should cover basic concepts, core technologies, platform construction, and application development of cloud computing. The course content can include key technologies such as virtualization technology, distributed storage, containerization technology, big data processing, and automated operation and maintenance. Through practical projects, students can participate in the development of real-world projects such as cloud-based online education platforms, intelligent security systems, and big data application platforms, thereby deepening their understanding and application of cloud computing technologies. In addition, emphasis should also be placed on cultivating students' innovative thinking and ability to solve practical problems, encouraging them to explore new application scenarios of cloud computing technologies through practice.

(3) Design Principles and Considerations

When designing practical teaching content, the following principles should be followed: First, combine theory with practice to ensure that students can deepen their understanding through practical activities while mastering theoretical knowledge. Second, integrate industry, academia, research, and application by collaborating with enterprises to carry out practical teaching projects, thereby enhancing students' practical and innovative abilities. Third, combine systematicness with hierarchy to construct a complete practical teaching system and gradually improve students' professional competence and practical abilities. Fourth, combine openness with flexibility to continuously update teaching content and methods in response to changes in social development and market demand. At the same time, attention should also be paid to cultivating students' autonomous learning ability and team collaboration spirit, laying a solid foundation for their future career development.

(4) Innovation in Practical Teaching Modes

The innovation of practical teaching modes is key to adapting to the educational development needs of the new era, and the combined online-offline teaching mode has injected new vitality into practical teaching. The following is a detailed elaboration on several innovative practical teaching modes, including virtual simulation experiments, project-based learning, and university-enterprise cooperation.

Virtual Simulation Experiment

Virtual simulation experiments are a practical teaching mode that utilizes modern information technology to simulate real experimental environments. By constructing a virtual laboratory, students can perform various experimental operations on computers without being limited by the time, space, and resource constraints of a physical laboratory. This mode not only improves the feasibility and safety of experiments but also significantly reduces experimental costs. For example, in science courses such as chemistry and physics, some dangerous or high-cost experiments can be conducted using virtual simulation technology, allowing students to experience the experimental process in a safe environment and deepen their understanding of theoretical knowledge.

Project-Based Learning (PBL)

Project-based learning is a student-centered approach to teaching and learning where students complete specific projects to achieve educational goals. In the combined online-offline teaching mode, project-based learning can fully leverage the advantages of online resources, allowing students to autonomously choose projects of interest and collaborate across regions and disciplines. Teachers provide guidance and support online, while students complete projects through a combination of online discussions and offline practice. This mode not only enhances students' practical and teamwork skills but also stimulates their innovative thinking and problem-solving abilities.

University-Enterprise Cooperation

University-enterprise cooperation is a crucial component of practical teaching modes, which closely integrates school educational resources with actual enterprise needs, providing students with real professional environments and practical opportunities. In the combined online-offline teaching mode, university-enterprise cooperation can be conducted through online lectures, remote internships, online vocational training, and other forms. Enterprise experts can share industry-leading knowledge and practical experience online, while students can participate in actual enterprise projects through online platforms and even complete some work tasks from home. This mode not only enhances students' professional competitiveness but also promotes in-depth cooperation between schools and enterprises, achieving a win-win situation.

(5) The Significance of Innovative Practical Teaching Modes

The innovative practical teaching mode that combines online and offline elements has broken the spatiotemporal limitations of traditional teaching, enhancing the flexibility and efficiency of education. It not only meets the needs of personalized learning for students but also better cultivates their practical abilities and innovative thinking. At the same time, this teaching mode promotes the optimal allocation and sharing of educational resources, providing strong support for the construction of a lifelong learning system. In the future, with the continuous development of information technology, the innovative practical teaching mode that combines online and offline elements will become more prevalent and refined, making greater contributions to cultivating more high-quality talents with practical abilities and innovative spirits.

(6) Safeguards for Practical Teaching Conditions

Safeguards for practical teaching conditions are the foundation for ensuring the quality and effectiveness of practical teaching. They involve multiple aspects such as hardware facilities, software resources, and teaching staff. The following is a detailed elaboration on these safeguard measures:

Hardware Facilities Safeguards

Practical teaching requires a series of well-equipped hardware facilities as support. Firstly, advanced experimental equipment and instruments must be provided, such as various testing instruments, computers, network devices, etc., in laboratories to ensure that students can carry out experimental operations and skill training. These devices should be regularly updated and maintained to keep pace with technological development. Secondly, sufficient practical venues, such as laboratories, workshops, and training bases, need to be provided to offer students a good practical environment. These venues should be reasonably laid out and well-equipped to meet the needs of different types of practical teaching.

Software Resources Safeguards

In addition to hardware facilities, software resources are also an indispensable part of practical teaching. This includes various practical teaching software, simulation systems, online learning platforms, etc. Practical teaching software can simulate real work scenarios and operational procedures, helping students better understand and master practical skills. Simulation systems can provide virtual practical environments, allowing students to perform practical operations under safe conditions. Online learning platforms provide students with abundant learning resources and communication spaces, facilitating autonomous and collaborative learning.

Teaching Staff Safeguards

The teaching staff is key to the quality of practical teaching. A high-quality, professional practical teaching faculty should be established, with members possessing rich practical and teaching experience and proficiency in practical teaching methods and techniques. At the same time, training and improvement for teachers should be strengthened, with regular organization of teachers to participate in various training and learning activities to update their knowledge and skills and enhance their teaching level and practical abilities. Additionally, enterprise experts, industry leaders, etc., can be invited as guest professors or practical mentors to provide students with broader perspectives and practical opportunities.

Other Safeguard Measures

Apart from the above three aspects, it is also necessary to strengthen the management and system construction of practical teaching to ensure the standardization and orderliness of practical teaching. A complete practical teaching management system should be established, with clear goals and requirements for practical teaching, and detailed practical teaching plans and schemes formulated. At the same time, supervision and evaluation of practical teaching should be strengthened to promptly identify and address problems and deficiencies in practical teaching.

4. Employment Promotion Strategies for Computer Application Technology Major Integrating New Forms of Productivity

(1) Analysis of Employment Market Demand

Driven by new forms of productivity, the employment market demand for the computer application technology major is booming. With the rise of emerging technologies such as artificial intelligence, big data, and cloud computing, the employment fields for this major continue to expand. The artificial intelligence field sees a continuous increase in demand for positions such as algorithm engineers and machine learning engineers; big data technology has given rise to numerous data analysts and data mining engineers; and cloud computing technology provides efficient computing and storage solutions for enterprises, leading to a growing demand for cloud computing talents. At the same time, there has been a significant change in enterprises' demand for talents, with increasing emphasis on graduates' interdisciplinary capabilities, practical experience, and continuous learning ability. Therefore, students majoring in computer application technology need to keep up with industry development trends, continuously improve their skills and practical abilities, in order to stand out in the increasingly fierce competition and adapt to changes in market demand.

(2) Enhancement of Employment Competency Cultivation

In the context of new forms of productivity, the employment market's requirements for computer application technology professionals are increasingly high, emphasizing not only solid professional skills but also comprehensive qualities such as innovation awareness and team collaboration abilities. Therefore, it is particularly important to establish a comprehensive practical teaching system. This system should focus on improving students' professional skills by setting up practice courses closely related to the industry, introducing the latest technologies and tools, and adopting project-based learning, internships, and practical training, so that students can master professional knowledge and skills through practice. At the same time, the system should enhance students' innovation awareness, encourage them to participate in scientific research projects, innovation competitions, and other activities, and cultivate their innovative thinking and challenging spirit. In addition, attention should be paid to cultivating team collaboration abilities, through team projects, group cooperation, and other means, so that students can learn communication, coordination, and cooperation in practice. At the same time, emphasis should be placed on improving

students' comprehensive qualities, such as communication skills, stress resistance, and professional ethics, to enhance their professional literacy and employment competitiveness. This requires joint efforts from schools, enterprises, and society to cultivate computer application technology professionals who not only have solid professional skills but also possess comprehensive qualities, in order to meet the employment market demand in the context of new forms of productivity.

(3) Improvement of Employment Service System

In the context of new forms of productivity, improving the employment service system is crucial for enhancing the employment quality of computer application technology graduates and promoting the effective allocation of human resources. To this end, multiple aspects need to be addressed: schools should establish close cooperation mechanisms with enterprises, jointly formulate talent training programs, set up internship and training bases, and achieve effective connection between the education chain and the industry chain; provide personalized career planning guidance to help students clarify their career goals and enhance their employment competitiveness; build a fully functional employment information platform to timely release job information and intelligently match student and enterprise needs; strengthen the construction of the employment service team, selecting and training personnel with rich experience and professional qualities; at the same time, innovate the employment service model, using modern information technology means to improve the intelligence level of employment services, such as conducting online job fairs and providing remote interviews. Through these measures, we can better meet market demand and student development, and improve the employment quality and competitiveness of graduates.

(4) Integration of Entrepreneurship Education

Integrating entrepreneurship education into the practical teaching system of the computer application technology major is an important measure for higher education in the new era to adapt to social development needs and broaden students' employment channels. Schools should increase entrepreneurship education content through curriculum settings, offer entrepreneurship training courses, and provide a broad platform for entrepreneurship education; at the same time, encourage students to participate in innovation and entrepreneurship practical activities, such as innovation and entrepreneurship competitions, off-campus entrepreneurship practices, etc., so that they can experience the entrepreneurship process in practice. In addition, entrepreneurship education should be combined with other aspects of the practical teaching system, such as internships, practical training, and graduation design, so that the entrepreneurship concept is integrated into professional learning. Schools should also strengthen the construction of the teaching staff, cultivate dual-qualified teachers with entrepreneurship experience and teaching ability, and provide entrepreneurship guidance and support for students. This can not only stimulate students' enthusiasm for innovation and entrepreneurship, cultivate their practical abilities and team collaboration spirit, but also broaden their employment channels, lay a solid foundation for their future career, and cultivate more high-quality talents with innovation and entrepreneurship spirit for the country and society.

5. Case Study

(1) Introduction of Successful Cases

Guizhou Vocational College of Industry and Commerce has achieved remarkable results in constructing a practical teaching system and promoting employment for its Computer Application Technology major. The college actively responds to the call for industry-education integration and school-enterprise cooperation, establishing in-depth partnerships with nearly 100 leading companies such as Huawei, JD.com, and Alibaba. By establishing 15 specialized training rooms and 2 training bases (including the Big Data Industry-Education Integration Training Base jointly built with Huawei as Huawei Cloud Academy), and leveraging Huawei's industry-education integration cloud platform resources, the college adopts a project-based teaching approach to provide students with a learning environment close to actual work scenarios. Additionally, the college integrates emerging productive forces into the curriculum system, introduces Huawei's big data and cloud computing resources, and adopts modern teaching methods to enhance students' interest in learning and practical abilities. In terms of employment promotion, the college cooperates deeply with well-known enterprises to provide internship and employment opportunities. The placement rate of graduates has reached 98% for consecutive years, ranking among the top in Southwest China, receiving high praise from enterprises and high satisfaction from students.

Huanggang Normal University's School of Computer Science has conducted in-depth cooperation with Lanqiao Software Institute since 2012 to jointly build an innovative and applied talent training model. The school has signed an internship and practice base agreement with Lanqiao and selects students annually for professional internships, enhancing their practical abilities under the guidance of Lanqiao mentors. Meanwhile, the school opens specialized classes based on industry development needs, incorporates Lanqiao algorithm courses, and offers a "Professional Comprehensive Practice Month" practical course to improve students' project development and comprehensive practical abilities. In terms of employment promotion, the school invites Lanqiao mentors to participate in revising the talent training program, organizes students to participate in various competitions to enhance their innovative qualities, and jointly opens the "Lanqiao Order Class" with Lanqiao to provide graduates with integrated "internship + employment" services. Over the past five years, a large number of graduates have entered large enterprises and achieved high-quality employment.

These two cases fully demonstrate the successful experience of constructing a practical teaching system and promoting employment for the Computer Application Technology major by integrating emerging productive forces, providing useful references and inspirations for other higher vocational colleges.

(2) Case Analysis and Insights

The successful experience of Guizhou Vocational College of Industry and Commerce and Huanggang Normal University's School of Computer Science lies in their deep promotion of school-enterprise cooperation, integration of industrial resources into the practical teaching system, innovation of teaching modes through specialized classes, practical courses, project-based learning, and other forms, and the establishment of a comprehensive employment service

system to provide students with market-oriented employment guidance and internship and employment opportunities, effectively enhancing students' practical and employment competitiveness. These successful cases enlighten us that the Computer Application Technology major in colleges and universities should actively respond to market demands, strengthen cooperation with enterprises, continuously update teaching content and methods, focus on cultivating students' practical and innovative abilities, and build a comprehensive employment service system to provide strong support for students' career development, in order to adapt to the new requirements for talent cultivation brought by emerging productive forces.

6. Conclusion and Outlook

The construction of a practical teaching system for the Computer Application Technology major that integrates emerging productive forces and promotes employment is a crucial approach for current higher education to adapt to industry development trends and cultivate high-quality, application-oriented talents. By deepening school-enterprise cooperation, universities can introduce cutting-edge industry technologies and actual enterprise projects, closely aligning teaching content with industry development and enhancing students' market adaptability and employment competitiveness. At the same time, innovating practical teaching modes, such as establishing specialized classes, practical courses, and project-based learning, can stimulate students' innovative thinking and cultivate their practical and teamwork skills, laying a solid foundation for their future careers. Furthermore, strengthening the cultivation of students' practical and innovative abilities not only helps improve their overall quality but also meets enterprises' demand for innovative talents. Lastly, building a comprehensive employment service system that provides students with career guidance, internship opportunities, and employment information can help them better plan their careers and achieve high-quality employment. In summary, the construction of a practical teaching system for the Computer Application Technology major that integrates emerging productive forces and promotes employment is of great significance for cultivating high-quality talents who meet the demands of the times and promoting the deep integration of higher education and industry development.

Looking ahead, with the continuous emergence of new technologies such as artificial intelligence, cloud computing, big data, and the Internet of Things, the practical teaching system for the Computer Application Technology major will undergo profound transformations. These new technologies will drive practical teaching towards a more intelligent, personalized, and efficient direction, requiring universities to constantly update teaching content and methods, strengthen cooperation with enterprises, introduce cutting-edge technologies and actual projects, and cultivate students' innovative thinking and practical abilities. At the same time, the employment market will also change with technological advancements and industrial restructuring, and the demand for high-quality, innovative, and interdisciplinary Computer Application Technology talents will continue to grow. Therefore, future research should focus on how to better integrate new technologies into the practical teaching system and how to adapt to changes in the employment market to cultivate high-quality Computer Application Technology talents with an international perspective, innovative spirit, and practical abilities.

References

[1] Zeng Youru; Xie Hongying.Strategies for Constructing a 1+X Certificate System for Logistics Majors in Higher Vocational Colleges from the Perspective of New-quality Productive Forces. China Shipping Gazette, 2025(01): 153-155.

[2] Li Yunmei; Wu Qingling. New Thoughts on Employment and Entrepreneurship Education in Higher Vocational Colleges from the Perspective of New-quality Productive Forces. China Training, 2024(10): 74-77.

[3] He Huiqun.Reflections on High-quality Employment and Entrepreneurship in Higher Vocational Colleges from the Perspective of New-quality Productive Forces. Society and Public Welfare, 2024(11): 103-105.

[4] Sun Jialu. Research on Cultivating Talents through Industry-Education Integration from the Perspective of New-quality Productive Forces: A Case Study of the Modern Logistics Management Major in Higher Vocational Colleges.China Logistics & Purchasing, 2024(20): 97-98.

[5] Zhang Zuoben; Wang Hao.Better Leveraging the Demonstration and Leading Role of State-owned and Central Enterprises in Accelerating the Cultivation of New-quality Productive Forces in Agriculture. China Farmers' Cooperatives, 2024(12): 66-68.

[6] Li Yang. The Coupled Development of New-quality Productive Forces and Modern Vocational Education.Science, Education, and Culture Journal, 2025(01): 3.

[7] Wang Zishen. Thoughts on the Development Direction of Vocational Colleges from the Perspective of New-quality Productive Forces. Vocation, 2024(23): 94-96.

[8] Chen Chuansheng.Exploration of Pathways for High-quality Development of the Teaching Staff in Vocational Colleges from the Perspective of New-quality Productive Forces. Vocation, 2024(24): 85-87.

[9] Nie Xiao; Suo Hui. Organizational Methods and Optimization Strategies for Higher Vocational Industry Colleges under New-quality Productive Forces. Vocational Education, 2024(34): 18-21.

[10] Fostering and Developing New-quality Productive Forces to Stimulate New Drivers for High-quality Development. Commentator of this Journal.Party Branch Construction, 2024(35): 1.