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The Construction and Practice of Digital Economy Talents Training System Driven by the Combination of Disciplines and the Diversified Cooperation between Schools and Enterprises

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Abstract

The rapid development of digital economy, which combines information technology with economy, puts forward higher requirements for the training system of digital economy professionals. Therefore, interdisciplinary integration and multiple cooperation between schools and enterprises have become the new trend and feature of innovative digital economy talents training system. For this reason, this paper first discusses the construction of digital economy talents training system driven by the cross integration of digital disciplines and the multiple cooperation between schools and enterprises from the perspective of training objectives, training methods, education platforms and teaching systems; Secondly, from the perspective of interdisciplinary integration and multiple cooperation between schools and enterprises, it gives a multi module curriculum system for the training of digital economy professionals and a characteristic practical teaching system for the training of digital economy professionals; Finally, in order to better innovate the talent training system of digital economy specialty, we should improve the curriculum system of digital economy specialty; Deepen the cooperation between schools and enterprises; Strengthen the infrastructure construction of digital resource platform; The countermeasures and suggestions are put forward in four aspects of building a high-quality teaching team.

Keywords

Interdisciplinary Integration; New Liberal Arts; Diversified Cooperation between Schools and Enterprises; Talent Training System; Digital Economy.

1. New Trends and Characteristics of Digital Economy Talents Training under the Background of New Liberal Arts

The new liberal arts development strategy proposed by the Ministry of Education in 2018 has higher requirements on the theoretical and practical abilities of digital economy professionals. Since then, its talent training system has shown two major development trends: on the one hand, it considers the improvement of comprehensive theoretical ability, pays attention to the deep integration of mathematics, economics and information technology, and highlights the requirements for students to learn interdisciplinary knowledge in mathematics, economics, data analysis, management, etc; On the other hand, it strengthened the cultivation of practical ability, explored new ideas for digital economy professional development such as social services, school enterprise cooperation, etc., in order to serve the national and social needs.

1.1. Interdisciplinary Integration

In terms of training emphasis, digital economy professionals emphasize the integration of economics, data science and modern information technology for comprehensive interdisciplinary courses. More backbone courses have been expanded in the current

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professional curriculum planning to require students to have the skills of economic data statistics and analysis, application analysis, industrial digital planning and construction, and make full use of modern information technology and quantitative analysis methods such as the Internet, big data, cloud computing. For example, in the digital technology module, courses such as *Blockchain Principles and Applications*, *Python Programming*, *Internet plus Operation Management* are added, and the application practice module is added: social and economic investigation training, blockchain finance training, digital marketing experiment and other practical activities. Innovate comprehensive cross learning of multiple types and courses to improve students' comprehensive quality and promote students to systematically and comprehensively discover, analyze and effectively solve practical economic problems.

1.2. Diversified Cooperation between Schools and Enterprises

As a major with strong applicability and practicality, the digital economy major is expected by existing enterprises to cultivate application-oriented talents with strong innovation and practical ability to inject a steady stream of fresh blood into the next development of enterprises [1] [2]. Therefore, relevant national departments are paying more attention to the further integration of enterprises and education, and deepening the relationship between enterprises and education. In recent years, on the basis of making full use of their own resources, higher vocational colleges have established a "dual education" model with enterprises, promoted the integration of production and education, and jointly trained applied digital economy professionals with enterprises. The common mode of school enterprise cooperation is that students go to relevant enterprises for practical training. For example, in the past two years, Anhui University of Finance and Economics, Kingdee Software, Heli Co., Ltd. and other companies have integrated the superior resources of both schools and enterprises to promote the joint education of schools and enterprises. School enterprise cooperation provides an opportunity for the combination of theoretical knowledge and practical knowledge to effectively solve the contradiction between traditional theory and practice. On the one hand, colleges and universities can make full use of the characteristics of the enterprise market, which are sensitive and quick to respond, to provide support for the rapid updating of the professional knowledge of digital economy in colleges and universities; On the other hand, students majoring in digital economy are more likely to enter the enterprise practice, or guide students to participate in the enterprise project implementation process as early as possible. These practical activities play a prominent role in students' planning ability and ability to solve practical problems, so as to improve the talent's practical ability and cultivate more digital economy professionals who can adapt to the needs of the workplace [3].

2. Construction of Talent Training System Driven by Interdisciplinary Integration and Diversified Cooperation between Schools and Enterprises

2.1. Talent Training Objectives

The training goal of digital economy professionals under the dual promotion of interdisciplinary integration and school enterprise cooperation is to cultivate and practice the socialist core values, adhere to the cultivation of morality and talents, adhere to the comprehensive development of morality, intelligence, physical, beauty and labor, be full of integrity and moral integrity and sense of social responsibility, skillfully use modern information technology, master the basic theoretical knowledge of economics, big data science, computer science, artificial intelligence and blockchain, High level applied professionals who have mastered the basic methods of modern economics, are familiar with the operation rules and reform practice of China's digital economy, have solid foundation, strong ability, high

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quality, innovative spirit, entrepreneurial awareness, and adapt to the needs of economic and social development in the new era.

2.2. Innovative Talent Training Methods

Innovate the teaching content, teaching methods, teaching methods and teaching means of digital economy specialty, and put the four innovation education through the teaching link of digital economy specialty. In terms of teaching content, we should abandon the teaching content that only taught theoretical knowledge in the past, give full play to the practical advantages of professional characteristics, mobilize students to actively participate in the "Internet plus" innovation and entrepreneurship competition jointly organized by schools and enterprises, encourage them to participate in innovation and entrepreneurship and scientific research innovation projects, and focus on cultivating their digital thinking, practical operation and management capabilities. In terms of teaching methods, it breaks the single mode of previous teaching, actively explores the innovative and diversified mode of jointly cultivating talents between colleges and universities, enterprises and institutions, government agencies, industry associations, etc., and provides more employment opportunities and unlimited development space for digital economy talents under the continuous emergence of new economy, new models, and new business types [4]. The teaching methodology of "learning by doing" is adopted in the teaching method. By implementing the case teaching method, the enthusiasm of students to invest in scenes with practical application background is increased, and students are guided to analyze and solve practical problems through communication and cooperation, so that students can experience and master the application of digital skills in the digital transformation of various industries in the process of "learning by doing". In terms of teaching means, we will actively adopt online and offline hybrid teaching means of "learning through" or "rain" classroom, combine more online course resources with traditional course teaching, and improve the teaching effect of the course.

2.3. Education Resource Platform Integrating Discipline Advantages

Digital economy is the product of the combination of software, information communication and computer technology. It can promote the free flow of resource elements, accelerate the integration of market players and restructure the organizational model, and fully grasp the trend of market changes. To cultivate digital economy professionals, we must make full use of big data and information technology to build a digital teaching information platform, absorb the innovative concept and idea of "Big Data + Education", and rationally apply the latest educational technology and teaching achievements. According to the current business content, the educational resource platform of digital economy specialty can be divided into three types: scientific research data platform, management data platform, and teaching data platform, which will eventually be built into a digital teaching resource sharing platform. Make use of the three resource platforms to build a professional curriculum system and practical teaching system, and organically and deeply integrate the characteristics of digital economy and talent training mode.

2.4. Characteristic Teaching System based on the Demand of High-Level Application-Oriented Talents of "New Economy and Management"

Grasp the opportunity of "new economy and management" construction, adhere to interdisciplinary infiltration, two-way teaching of theory and practice, improve students' basic theoretical ability, practical ability, comprehensive ability and innovation ability, and a characteristic practical teaching system with the goal of achieving the common development of moral, intellectual, physical, aesthetic and labor of digital economy professionals. On the one hand, build a multi module curriculum system based on economics and integrating mathematics, computer science, management and other cross disciplines. On the other hand,

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through communication with enterprises, we can understand the work content and employment needs of relevant enterprises, and become more specific and targeted in the development direction of digital economy courses, that is, we can really deepen the integration of industry and education, science and education, and school enterprise cooperation, cultivate students' practical ability, and reflect the characteristics of the school's application-oriented education [5].

3. Multi Module Curriculum System for Training Digital Economy Professionals with Interdisciplinary Integration

Digital economy is characterized by cross-border integration, which requires digital economy professionals to have a complex knowledge structure [6]. Under the background of new liberal arts, relying on the school's big data analysis and economic advantages, we adhere to the training idea of "interdisciplinary, technical integration, and equal emphasis on theory and practice". The optimized design of the digital economy professional curriculum forms a multi module curriculum system based on economics, which integrates mathematics, computer science, management and other cross disciplines on the premise of good political and moral literacy. The purpose is to study the operation law of the digital economy, measure the scale of the digital economy, plan the development of the digital economy, promote the development of digital industrialization and industrial digitalization, and realize digital technology and industry, agriculture the deep integration of services and other industries.

The basic courses for digital economy majors are mostly economics courses, such as *Microeconomics*, *Macroeconomics*, *Political Economics*, *Corporate Economics*, *Marketing*, etc. Under the trend of interdisciplinary learning brought about by the changes in the economic development environment, the courses of digital economy specialty are integrated with other disciplines to promote the cultivation of all-round talents. First, integrate ideological quality courses, such as *Introduction to the Basic Principles of Marxism*, *Mao Zedong Thought* and the *Theoretical System of Socialism with Chinese Characteristics*, as well as *Ideological and Moral Cultivation and Legal Basis*. The professional basic courses and ideological and political theory courses go hand in hand, quietly integrate ideological and political education into life and learning, achieve the ideological and political effect of the courses, and form a synergistic effect, Accelerate the realization of the fundamental task of "establishing morality and cultivating people". Second, integrate the economics course with the computer science course. For example, *Blockchain and Electronic Currency*, *Big Data Analysis and Application, Introduction to the Internet of Things, Cloud Computing and Big Data*, etc. The cultivation of digital economy professionals must understand the market frontier information, and computer science and technology has brought favorable data analysis tools. Third, integrate mathematics courses into economics, computer science and other courses, such as *Mathematical Statistics*, *Linear Algebra* and other courses, accelerate the use of mathematics and mathematical statistics as basic analysis tools, so as to better learn other courses with this tool, and combine theoretical analysis models with empirical testing methods through econometric analysis to form a comprehensive thinking. Fourth, integrated management courses, such as *Marketing*, *Financial Management*, *Operations Research*, etc., provide help for future digital economy professionals on how to reasonably arrange and plan their own lives, and how to allocate human, material, financial and other resources when they become managers.

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4. Characteristic Practical Teaching System of Digital Economy Professional Talents Training with Diversified Cooperation between Schools and Enterprises

Herman Schneider believes that the essential characteristics of education are three effective connections, namely, the connection between learning and work, theory and practice, and school and society, so as to improve the quality of the talent training process [7]. The cultivation of the digital economy specialty requires the construction of a hierarchical, multi module, and relatively independent practical teaching system, which is guided by the "four natures" of autonomy, openness, practicality and innovation, knowledge and practice, on campus and off campus, in class and out of class, virtual and practical training, and teaching and research. In terms of the requirements of the original practice teaching in the school, the cooperation between the school and the enterprise is more prominent. The diversified cooperation between the school and the enterprise requires the enterprise to carry out in-depth cooperation with the university on curriculum resources, training system, practice and employment, skill certification, teacher training, social services, etc. in terms of jointly building the teaching system, jointly cultivating practical talents, serving regional industries, etc. In this regard, the basic framework of the school's practical teaching system can be divided into six modules: (1) Enterprise cognitive practice module: strengthen students' professional awareness and cultivate students' cognitive ability to professional posts. (2) Social practice module: deepen students' understanding of society and enterprises, and cultivate students' social understanding, social adaptability and comprehensive quality. (3) Course practice module: consolidate and strengthen students' professional knowledge and expand their professional vision. (4) Practical training and experimental teaching modules: introduce enterprise business cases into the course teaching, and encourage students to participate in activities such as Internet plus Undergraduate Innovation and Entrepreneurship Contest, entrepreneurial management practice, enterprise operation simulation training and marketing simulation held with the support of relevant enterprises to improve students' professional practice ability and innovation spirit. (5) Comprehensive and graduation practice module: guide students to enter relevant cooperative enterprises for practice, and cultivate students' ability to comprehensively use knowledge, analyze and solve problems. (6) Scientific research training module: through scientific research lectures, enterprises' comprehensive access to project teaching, graduation design and defense, career planning and other teaching links, students' ability to carry out innovative thinking and practical research is cultivated.

In view of the current situation that the training objectives of students' application ability are not clear in all majors, the demand of enterprises for the application ability of graduates majoring in digital economy is carefully studied, and a training objective system for improving students' application ability is proposed. Freshmen and sophomores mainly understand relevant enterprises, and carry out cognitive practice and social practice activities to improve students' social thinking ability; The junior students improve their professional ability by participating in relevant enterprise practice (practical training) and social practice activities; Through scientific research training, graduation practice and graduation design, senior students can improve their comprehensive application ability of posing, analyzing and solving problems. By implementing separate goals in separate academic years, applied talents can effectively achieve dual mastery of theoretical knowledge and practical ability.

The content system of practical teaching sets up four major teaching contents, namely basic practical teaching, professional practical teaching, comprehensive practical teaching and innovative practical teaching. Basic practical teaching focuses on cultivating students' ideological quality, basic skills of basic courses in computer, economics and other related disciplines and their ability to recognize the society. It mainly offers courses such as *Practice*

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Course of Ideological and Political Theory Course, *Introduction and Practice of College Students' Entrepreneurship*, *Theory and Practice of Network Entrepreneurship*, and *Company Law*; Professional practice courses mainly improve students' professional practice skills and have the ability to apply professional knowledge. This part consists of professional courses with practical operation contents, such as Digital Technology Courses such as *Database Application, Python Language* and *Big Data Analysis and Application*; Comprehensive practical teaching aims to cultivate students' ability to comprehensively use the knowledge they have learned to analyze and solve practical problems, such as the courses of Comprehensive Experiment of Economics and Comprehensive Training of ERP; Innovation practice is mainly an extension of the first classroom and a social practice activity to guide students' personality development. It mainly improves innovation ability by participating in subject competitions, extracurricular scientific and technological activities, innovative topics, scientific research training, etc. sponsored by relevant enterprises, such as encouraging participation in Internet plus College Students' Innovation and Entrepreneurship Competition, entrepreneurial management practice, enterprise operation simulation training, marketing simulation and other activities.

5. The Realization Path and Innovation of the "Double Push" Digital Economy Professional Talent Training System

5.1. Building a Professional Curriculum System

Facing the national digital economy strategy and the background of digital transformation, the digital economy major must cultivate broad caliber talents who are familiar with the operation rules and reform practices of China's digital economy, and who can engage in emerging fields such as blockchain, artificial intelligence, e-commerce, etc. in the future. Seize the opportunity of new economic and management construction, optimize the talent training program and all links of education, highlight the characteristics of engineering education, carry out the construction of new engineering and new liberal arts, explore cross disciplinary integration, and cultivate interdisciplinary, interdisciplinary and interdisciplinary talents. We should encourage cooperation between disciplines and colleges to cultivate talents, increase innovation in enrollment and training models, optimize the dual degree training program, increase the integration of undergraduate, postgraduate and doctoral training in digital economy, achieve cross cutting to integration, and cultivate a large number of qualified application-oriented talents.

5.2. Deepen School Enterprise Collaboration and Innovation

The expansion of students' professional ability and the cultivation of their core quality can not be separated from the influence of practical teaching, nor from the guidance of "vocational tutors". The EU advocates that enterprise practice is as important as college teaching in digital talent training. Both schools and enterprises and industry associations should jointly formulate training plans and implement teaching [8]. At present, most teachers of digital economy major have master's and doctoral degrees and solid theoretical knowledge, but their work backgrounds are single and they lack practical work experience, so the practicality of students' practical teaching cannot be guaranteed. Therefore, the school has strengthened cooperation and exchange with enterprises, carried out standard construction such as production and teaching cooperation projects, post practice, talent training, and practice base construction, actively mobilized students to participate in the "Internet plus" innovation and entrepreneurship competition in cooperation with enterprises, promoted talent training reform and collaborative education and innovation between schools and enterprises, and improved students' practical ability and theoretical knowledge application ability, To provide

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effective experience and help for students to engage in digital economy related work in the future.

5.3. Improve the Construction of Digital Resource Platform

In the context of digital economy, the rapid development of technology makes the application of knowledge and skills continuously optimized. The traditional way and method of training talents in digital economy can no longer meet the needs of current social development. Therefore, colleges and universities must carry out targeted curriculum and teaching reform according to the needs of enterprises. It is the key link of cultivating the core competence of new liberal arts talents to strengthen the integration of digital technology into professional courses. Schools should increase the construction of digital resource platforms, fully integrate new media and new technologies, and adopt new teaching models that meet the needs of students' quality and ability development. For example, using the online and offline teaching mode, using online learning to teach new knowledge and new technology, combining cutting-edge knowledge and technology with teaching to optimize the teaching content of professional courses, and improving the training quality of digital economy professionals.

5.4. Strengthen the Construction of Teaching Staff

Driven by the digital economy, the knowledge and skills imparted by teachers are often disconnected from social employment needs. Therefore, colleges and universities should pay attention to two points when building the teaching staff. First, when introducing foreign teachers, we should focus on introducing double qualified talents who have both theoretical teaching ability and practical experience, such as mathematics, computer science, data science and other majors of undergraduate or master's degree, and economics majors of master's or doctor's degree. Because of their good foundation, such teachers can quickly integrate into the digital economy profession. The second is internal training, which encourages existing teachers to actively participate in training related to the digital economy specialty through various ways, encourages professional teachers to focus on training teachers' informatization ability, actively goes deep into relevant positions of cooperative enterprises, and uses spare time to learn experience to ensure that teachers' professional skills training in the digital economy meets the social employment needs [9].

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