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Research on the Training Model of New Quality, Numerical Intelligence and Business Talents under the Four Abilities, Four Chains and Four Synergy Mode

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Abstract: *New quality talents are a key element in developing new quality productivity, and cultivating new quality digital intelligent business professionals with professional skills and innovative abilities is an important issue currently facing us. This article elaborates on the necessity of the new quality, quantity, intelligence, and business talent training model under the four abilities, four chains, and four synergies model from five aspects. It proposes five measures, including accurately positioning talent training goals, cross disciplinary integration and reconstruction of professional curriculum systems, deepening cooperation between government, schools, and enterprises, comprehensively evaluating the quality of education, and strengthening the construction of a "dual teacher" teacher team oriented towards new quality productivity. These measures provide reference for relevant talent training.*

Keywords: *New Quality, Numerical Intelligence, Business and Trade Talents, Four Abilities, Four Chains, Four Synergy, Training Mode*

1. Introduction

In September 2023, General Secretary put forward the concept of "new quality productivity" for the first time during the investigation in Heilongjiang. In January 2024, during the 11th collective study of the Political Bureau of the CPC Central Committee, General Secretary further emphasized: "The development of new quality productive forces is the inherent requirement and important focus for promoting high-quality development" and "cultivating urgently needed talents for developing new quality productive forces and promoting high-quality development." New quality talent is the key element of developing new quality productive force. New-quality talents refer to those who have the ability of cross-border innovation and global vision and can make positive contributions to the sustainable development of society. They should have the ability of growth mentality and high-awareness learning characteristics, man-machine symbiotic thinking and AI penetration skills, pioneering spirit and ability of "breaking boundaries" (Zhu Zhiting, Jin Zhijie, Dailing and Jiang Haozhe, 2024) [1]. Under the background of the rapid development of digital economy and artificial intelligence, the number of intelligent commerce has become the key field of enterprise competition and market expansion (Wang Yan, 2023; Wang Xing, 2023) [2][3], which uses the Internet, mobile devices and other digital technologies to promote brands, attract customers and promote sales (Wang Yi, 2024) [4]. Higher vocational colleges, as the important base for cultivating talents of digital intelligence trade, shoulder the responsibility of conveying high-quality digital marketing talents for the society.

It is an important task for Zhejiang Oriental Vocational and Technical College to adapt to the rapid development of new quality productivity and cultivate new prime number talents with professional skills and innovation ability. New-quality professionals are the most active and decisive factors in the development of new-quality productive forces. They are no longer ordinary technical workers who used to focus on simple and repeated labor. They should be new-type laborers who master necessary high-tech knowledge and labor skills, can skillfully use network technology, adapt to high-end intelligent equipment, and have the ability to quickly solve practical problems (Huang Quanzhen et al., 2024) [5]. They are complex high-skill talents who can solve various difficulties and pains in the artificial intelligence era. The new prime number talents are high-quality technical talents with high innovation spirit, solid professional knowledge and updating ability, sharp operation ability, excellent team coordination ability, complex scene with overall planning thinking and green development idea, able to actively adapt to scientific and technological progress and promote industrial upgrading. They

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should have four abilities (Guo Yifeng and Gao Ke, 2024) [6]: Learning ability, overall planning ability, preparation innovation ability and preparation man-machine coordination ability. This study is based on "OECD Learning Compass 2030" (Zang Lingling, 2020; Tang Keli [7][8] To cultivate knowledge, skills, attitude and values, set up a four-chain system of "major-industry chain, course content-occupational standard chain, teaching process-production process chain, vocational certificate-post chain," and form a new mechanism of "political school-enterprise association."

2. The Necessity of New Prime Number Talent Cultivation Model under Four Energy, Four Chain and Four Coordination Model

1) The cultivation of new prime number talents is the need of the development of new quality productive forces. With the rapid development of digital technology, business is undergoing unprecedented changes. The rise of the new-quality productive forces requires not only deep professional knowledge, but also interdisciplinary ability, forward-looking thinking and international perspective. “The "Four Capabilities" covers the four abilities of knowledge, skills, attitude and values in the OECD Learning Compass 2030, and is the key ability to cope with the rapidly changing market environment; The "four chains" cover major-industry chain, course content-occupational standard chain, teaching process-production process chain, vocational certificate-post chain to ensure the efficient operation and sustainable development of business talents; The "four synergies" emphasize the four sides of government, schools, enterprises and councils to work together to educate people, and promote and accelerate the training of new prime number talents. The new prime number talent training mode is just to cultivate high-level talents facing the new quality productivity to meet the new requirements of the new quality productivity in the field of commerce and trade. Through systematic education and training, these talents will become an important force to promote the innovation and development of intelligent commerce and trade, and contribute to the sustained economic growth and social progress.

2) The cultivation of new prime number talents is the demand of industrial chain resilience and security. Under the background of globalization, the complexity and uncertainty of supply chain and industrial chain are increasing day by day. Therefore, it is very important to cultivate new prime-number talents with four abilities of knowledge, skill, attitude and value to enhance the resilience and security of supply chain. “The docking of specialty and industry chain in the four-chain system ensures that students can deeply understand the industry development trend and supply chain operation mechanism, so that they can quickly adapt to and meet various challenges in practical work. The docking of course content and occupational standard chain enables students to master the skills and knowledge that meet the industry standard, and provide powerful guarantee for the stable operation of supply chain industry chain. The docking of teaching process and production process chain enables students to master operation skills and management methods in practice and improve their actual combat ability in supply chain industry chain. The docking of vocational certificate and post chain provides students with clear career development direction and certification standard, and further enhances the reliability and security of supply chain industry chain. In addition, the implementation of the "four synergies" mechanism has promoted close cooperation among the government, schools, enterprises and social organizations and contributed to the security and stability of the industrial chain of the supply chain. This multi-party cooperative education mode not only helps to train more high-quality talents who meet the market demand, but also promotes resource sharing, information exchange and win-win cooperation, and further improves the resilience and security of the supply chain industry chain.

3) The cultivation of new prime number talents is the need to develop low-altitude economy and other future industries. With the booming development of low-altitude economy and other future industries, it is very important to emphasize the cultivation of new prime number talents of four-energy four-chain four-association. From four aspects, the rich knowledge enables the talents to have a comprehensive and in-depth understanding of various fields of future industries, such as low-altitude economy. Exquisite skills enable them to efficiently perform various tasks, such as business operations, data analysis, etc., to ensure the smooth development of low-altitude economic activities. The positive attitude gave them the impetus of tenacity and continuous exploration in the face of challenges, and the courage to open up in the new blue ocean of low-altitude economy. Correct values guide them to take economic, social and environmental benefits into account and promote the sustainable development of low-altitude economy. The close combination of the four chains creates a systematic and efficient training architecture. The professional industry chain provides a clear direction and path for talent training, allowing them to define their position and responsibilities in the low-altitude economy. The professional standard chain of course contents ensures that the education received by the talents is

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highly consistent with the actual professional demand, and the trained talents can adapt to the position quickly. The production process chain of teaching process realizes the seamless connection between theory and practice, so that talents can accumulate rich practical experience in learning. The job chain of vocational certificate provides visual proof for talents' ability and increases their employment competitiveness. And the fourth synergy is to inject strong impetus for talent cultivation. The government creates a good environment for low-altitude economy and talent cultivation through policy guidance and resource allocation. Enterprises provide practice platform and real cases, so that talents can grow in practice. Schools give full play to the advantages of educational resources, impart knowledge and cultivate abilities. Industry associations play a key role in standard setting and information sharing. “The new prime number talent training mode of "four-energy, four-chain and four-coordination" adapts to the development needs of low-altitude economy and other future industries, and provides a solid talent guarantee for the development of low-altitude economy and other future industries, which will strongly promote low-altitude economy and other future industries to move towards a more brilliant future.

4) The cultivation of new prime number talents is the need of the cultivation of new quality technology talents. First of all, with the rapid development of science and technology and the rise of digital economy, the field of commerce and trade is undergoing an unprecedented transformation, which requires that commercial and trade talents must have higher technical skills and innovative ability. Therefore, the cultivation of new prime number talents with knowledge, skills, attitudes and values has become an urgent need to meet the development of industry in the new era. Secondly, the construction of "four chains" system aims to realize the organic connection of specialty-industry chain, course content-occupational standard chain, teaching process-production process chain and vocational certificate-post chain. Through the docking of professional and industrial chain, to ensure that the talent training and industrial development direction is consistent; Through the link between curriculum content and professional standard chain, the educational content is closer to professional demand. Through the link between teaching process and production process, the deep integration of school education and enterprise practice is realized. Through the docking of career certificate and post chain, it provides clear career development direction and certification standard for talents. This comprehensive docking and integration will help to cultivate high-quality talents who meet the needs of the market. Finally, the establishment of the "four synergies" mechanism emphasizes the synergy of government, schools, enterprises and social organizations in talent cultivation. The cooperation of the four parties in educating people not only brings together the resources of all parties and forms a joint force, but also promotes the development and innovation of several intelligent commerce and trade industries. This multi-party model of education helps to build an open, shared and win-win talent cultivation ecology, and provides a broader stage and stronger support for the growth of new prime-number talents.

5) The cultivation of new prime number talents is the need of realizing students' full employment with high quality. In today's fast-developing digital economy era, the trade industry needs more and more diversified and specialized talents. Through the cultivation of "four energies" -knowledge, skills, attitude and values, students can stand out in the fierce employment market, quickly adapt to industry changes and meet the needs of enterprises. At the same time, the construction of the "four chains" system ensures that the students' knowledge is closely connected with the actual industry demand, the course content is consistent with the professional standard, the teaching process is integrated with the production process, and the vocational certificate is matched with the post demand, thus providing the students with clear career development direction and path. The implementation of the "four synergies" mechanism provides students with a broader practice platform, richer employment resources and more accurate employment guidance through the coordination and cooperation of the government, schools, enterprises and social organizations, so that students can exercise their abilities in practice, broaden their vision in cooperation and achieve full employment with high quality in competition. Therefore, the implementation of the new prime number talent training mode of "four-energy, four-chain and four-association" not only accords with the current development trend of the number of intelligence trade industry, but also is the inevitable requirement and important guarantee to realize the students' full employment with high quality.

3. Construction Path of New Prime Number Talent Cultivation Mode under Four Energy Four Chain Four Coordination Mode

1) Accurately position the target of talent cultivation. The goal of training talents for new quality productive forces is to cultivate talents for new age. 《The core of OECD Learning Compass 2030 is to

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construct students' subjectivity and realize self-navigation of life, emphasizing that the connotation of ability is not only the acquisition of knowledge and skills, but also the full use of knowledge, skills, attitude and values to meet complex needs. According to the demand of OECD Learning Compass 2030 and the new quality productivity, the new prime number talents should not only master solid basic knowledge and professional skills, but also have the ability of innovative thinking, practical ability, teamwork and communication ability. Specifically, the talents expected to be trained have the following characteristics: (1) a solid basis for commerce and trade: A deep understanding and understanding of the field of commerce and trade, and the ability to use the knowledge learned to solve practical problems. Innovation ability: Innovative thinking and innovation ability, able to constantly explore new business models and solutions. (3) Practical ability: It can combine theoretical knowledge with practical operation and has the ability to solve practical problems. <unk> Team cooperation and man-machine cooperation ability: Good team cooperation spirit, effective communication and cooperation with people from different backgrounds; At the same time, the human-machine coordination required by the new-quality productivity means that the relationship between man and machine is no longer simple substitution or complementarity, but emphasizes the establishment of a human-dominated, machine-aided decision-making, human-machine cooperation and linkage, forming a faster decision-making speed, more accurate decision-making data and more optimized resource allocation. The essence of human-machine collaboration is the reciprocal symbiosis of human and machine. Man-machine coordination is widely used in strategic emerging industries and future industries. For example, in the field of medical diagnosis, workers should first put forward an algorithm model for medical diagnosis, and then let the machine to read and analyze a large amount of medical data to train it, during which the rules are continuously summarized and the algorithm is adjusted, so as to achieve the goal of accomplishing the disease-assisted diagnosis with the machine. In this scenario, the human-computer coordination capability of workers is the core of applying artificial intelligence (AI) to medical diagnosis. Leadership: Able to lead the team to complete complex tasks. At present, the target orientation of the college's number of intelligence trade specialty does not reflect the demand standard of new quality productivity for talents, for example, it cannot meet the requirements of artificial intelligence and digital economy development logarithmic intelligence trade core post capability, and the talent training target does not meet the demand of future industry development and digital transformation of traditional industry. Therefore, according to the development and change of the demand for talents in the industry, we must define the goal and direction of talent training, construct the "four chains" of the teaching of the number of intelligent trade majors, and realize the organic combination and seamless docking of the specialty-industry chain, course content-occupational standard chain, teaching process-production process chain, and vocational certificate-post chain.

2) Cross-border integration, reconstruction of professional curriculum system. The course system is the core and carrier of the new prime number talent training of "four energies, four chains and four synergies," and the center of gravity of the whole professional talent training. In the course design, it is necessary to integrate and reconstruct the course system of "four chains." First, professional and industrial chain docking. In cooperation with the backbone enterprises of Sima, Zhengtai, Jingdong and the Economic Development Zone, order classes are set up to meet the needs of enterprises. This cooperation mode not only provides us with abundant practical teaching resources, but also enables us to grasp the industry development trend and market demand more accurately, so as to realize the seamless docking between talent training and enterprise demand, and cultivate high-quality talents more in line with the market demand. Secondly, insisting on the integration of curriculum standard and vocational skill standard, and promoting the integration of 1+X certificate into the course, this teaching method provides students with a more comprehensive and systematic learning path, and the combination of educational background and vocational skill training, so that students can obtain professional skill certificates closely related to the future occupation while completing their studies. This not only improves the employment competitiveness of students, but also provides more explicit reference standards for enterprises to select talents. Thirdly, the typical tasks of key posts in marketing, logistics and e-commerce enterprises are integrated into practical training and teaching projects. Fourthly, in the teaching practice, the tutors from inside and outside the school participate in the education and teaching work together, obtain the corresponding qualification certificate through the 1+X training, and take the post with the certificate. The 1+X certificate system helps strengthen the cooperation between schools and enterprises, and promotes the integration of production and education. Through the introduction of industry standards and vocational skills evaluation requirements, schools can more accurately meet the needs of the industry, to train more in line with the needs of the market professionals. This system also helps to cultivate students' practical ability and innovative spirit. By participating in practical projects and practices, students can better master relevant skills and learn and grow constantly in practice.

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3) We will continue to deepen the cooperation between the government, schools and enterprises to achieve cooperative education. Deepening the cooperation of the government school-enterprise association and realizing the cooperative education are the support of promoting the reform of the new prime number talents training mode of intelligence commerce. First, policy guidance and resource integration. The government plays an important role in guiding and regulating people's education. The government should make clear the goal, direction and focus of talent cultivation by formulating relevant policies and regulations, and provide institutional guarantee for cooperative education. Governments should actively integrate resources, including funds, sites, equipment, etc., to provide the necessary material support for co-educating people. In addition, the government should establish an effective incentive mechanism to encourage schools, enterprises and trade associations to actively participate in cooperative education and form a joint force. Second, the school is the main body of education and talent training base. As the main position of talent training, the school undertakes the core task in the cooperative education. The school shall, in accordance with the needs of the society and enterprises, work out the talent training plan together with enterprises and industry associations to ensure the pertinence and effectiveness of talent training. The school should strengthen cooperation with enterprises and trade associations, carry out practical teaching, scientific research and innovation activities, and improve students' practical ability and innovation spirit. At the same time, the school should strengthen the construction of the teaching staff, invite the enterprise experts and industry associations to serve as part-time teachers or tutors, to provide students with more professional guidance and support. Third, enterprises provide practice platform and career development orientation. Enterprises play an important role in the practice of cooperative education. Enterprises should actively cooperate with schools to provide practical opportunities for students to learn and grow in practice. At the same time, enterprises can participate in the school curriculum and teaching reform, the actual work content and cases into the teaching, teaching more close to the reality. Enterprises can provide vocational planning and employment guidance for students, help students understand the development trend of the industry and the situation of the employment market, and guide students to establish a correct concept of occupation and employment. In addition, enterprises can carry out scientific research projects and technological innovation activities jointly with schools to promote in-depth integration of production, learning and research. Fourth, industry associations play the role of industry guidance and resource integration in cooperative education. Industry associations should develop industry standards and professional norms to provide clear industry orientation for talent development. At the same time, industry associations can organize enterprises and schools to participate in the formulation of talent training programs and teaching plans to ensure that talent training is in line with industry needs. Industry associations can integrate industry resources, including enterprises, experts, equipment, etc., to provide necessary support for cooperative education. In addition, industry associations can organize and carry out communication activities and training programs in the industry to promote talent cultivation and development in the industry.

4) School-enterprise comprehensive evaluation, comprehensive evaluation of the quality of education. The systematic evaluation and analysis of teaching process and learning results for the new quality productivity can understand the students' learning situation and teaching effect, and provide teachers with the basis and decision-making to improve teaching. The comprehensive evaluation of schools and enterprises focuses on the combination of school education and the actual needs of enterprises, and emphasizes the deep integration of theory and practice. Through school-enterprise cooperation, the school can more accurately grasp the development trend of the industry and the need for talents, and integrate the latest knowledge and skills into the teaching content, so as to ensure that the students can work seamlessly with the actual work. In the process of evaluation, both the school and enterprise participated in the establishment of evaluation standards and methods to ensure the objectivity and impartiality of evaluation. Through classroom observation, practical operation, project assessment and other ways, to fully understand the students' learning and mastery. At the same time, in combination with the feedback of enterprises and market demand, comprehensive evaluation of students' learning results, to provide strong support for students' future career development. School-enterprise comprehensive evaluation not only pays attention to students' learning results, but also evaluates students' learning process and learning attitude. In addition, the comprehensive evaluation of schools and enterprises can also promote deep cooperation and exchange between schools and enterprises. By participating in the evaluation process, schools and enterprises can understand each other's needs and expectations more deeply and lay a solid foundation for future cooperation. At the same time, the evaluation results can also provide a reference for enterprises to recruit and cultivate talents, and help enterprises to select and cultivate talents more in line with the actual needs.

5) We should strengthen the construction of the "double-teacher" teacher team facing the new

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quality productive forces. Higher vocational teachers are not only the transmitters of knowledge, but also the guides and growth partners of students. “The reform of the new prime number talent training model of "four energies, four chains and four synergies" has put forward new requirements for professional teachers. The new-quality productive force requires the education and training of talents not only have a solid theoretical basis, but also have the ability of practical operation and innovation. First of all, facing the new quality productive forces of higher vocational double-teacher team construction, should be clear construction objectives. This includes cultivating teachers with solid professional theoretical knowledge and rich practical experience, proficient in the use of modern teaching methods, and a sense of innovation and teamwork. At the same time, we should pay attention to the construction of teachers' morality and style to ensure that teachers can set an example for students. Secondly, in order to achieve the construction goal, it is necessary to strengthen the higher vocational teachers' teacher training. In addition, it is also possible to invite business experts and industry elites to teach or give lectures to provide teachers with cutting-edge knowledge and technology in line with the industry. Thirdly, optimizing the structure of teachers is the key to construct the double-teacher team in higher vocational colleges. Strengthening school-enterprise cooperation is an important way to build a double-teacher team in higher vocational colleges. Through school-enterprise cooperation, we can realize resource sharing, complementary advantages and mutual benefit. The school can cooperate with enterprises to carry out practical teaching, curriculum development, technical research and development activities, and provide practical training and innovation opportunities for teachers. At the same time, enterprises can also provide practical training places, teaching equipment, industry information and other resources for schools to promote the quality of school education and teaching.

4. Conclusion

The new prime number talent training mode of "four-energy four-chain four-coordination" is a talent training mode to meet the needs of the times. By improving students' "four abilities" (professional ability, innovation ability, practical ability and social adaptability), they have laid a solid foundation for their development in the field of intelligence trade. Knowledge, skills, attitude and values are the four abilities of the new prime number intelligence trade talents, to enhance the resilience and security of the supply chain industry chain is crucial; "Four chains" system runs through the whole process of talent cultivation; In addition, the implementation of the "four synergies" mechanism has promoted close cooperation among the government, schools, enterprises and social organizations and contributed to the security and stability of the industrial chain of the supply chain. However, we also clearly recognize that talent development is an ongoing process. With the rapid development of science and technology and the constant change of trade industry, we need to constantly adjust and optimize this mode. In the future, we should further strengthen the innovation of the curriculum system, introduce more cutting-edge digital intelligence technology and business concepts, and ensure that students learn closely with the needs of the industry. At the same time, we should deepen cooperation with enterprises, expand practice teaching base, and provide more internship and employment opportunities for students. In addition, we should pay attention to the construction of teachers, and cultivate a number of teachers who have both profound theoretical knowledge and rich practical experience, so as to provide strong support for the cultivation of talents. In the future, the model of "four-energy, four-chain and four-coordination" will be constantly perfected, which will play a greater role in the cultivation of new prime number talents and contribute more wisdom and strength to the innovation and development of China's trade industry.

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