

Research and Analysis on the Precise Connection of Highly Skilled Personnel Training and Ningbo Strategic Emerging Industries

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Abstract

Industrial transformation and upgrading has become the main theme of social and economic development, which has an important impact on the development of vocational education. Accelerating the supply-side reform of highly skilled personnel training is an inevitable choice to adapt to the development of regional strategic emerging industries. At present, the structural contradiction between the supply of highly skilled talents and industrial transformation and upgrading is obvious, which is reflected in the different degrees of deviation between the hierarchical structure of vocational education, professional settings, talent training standards, curriculum system schooling mode and industrial development demands. Therefore, it is necessary to connect with the development of strategic emerging industries, build a professional system connected with the industrial chain and job chain, optimize the regional layout, innovate the form structure of talent supply, and build a diversified school mode to meet the precise connection between strategic emerging industries and highly skilled personnel training.

Keywords

Strategic emerging industries; Vocational education; Precise connection.

1. Introduction

Strategic emerging industries are based on major technological breakthroughs and major development needs, with a significant leading role in the overall economic and social development and long-term development, which are knowledge-intensive and technology-intensive, consume fewer material resources, have high growth potential and good overall benefits.

2. Current Situation of the Development of Strategic Emerging Industries in Ningbo

As a developed area on the eastern coast and a key region in the Yangtze River Delta economic area, Ningbo Municipal Party Committee and Municipal Government attach great importance to accelerating the cultivation of strategic emerging industries. In recent years, Ningbo City has successively issued documents such as "Guiding Opinions on Seizing Opportunities to Accelerate the Development of Emerging Industries in Key Areas" (No. 9 [2020]), "Ten Policy Initiatives to Accelerate the Development of Emerging Industries in Key Areas in Ningbo City" (Yongzhengbanfa No. 53 [2020]), "Implementation Opinions on Promoting the Multiplying Development of Strategic Emerging Industries" (Yongzhengbanfa No. 75 [2017]), etc. to accelerate the key areas of emerging industries and the development of strategic emerging industries. In 2020, Ningbo's strategic emerging industries are developing rapidly. New materials, high-end equipment (including new energy vehicles) and a new generation of information technology three strategic leading industries continue to support the overall development of the industry, respectively, to achieve an output value of 156 billion yuan, 158.9

billion yuan and 84.8 billion yuan. The production value of the scale accounted for 76% of the total industry, and the trend of new industrial momentum to regurgitation feeding gradually emerged.

3. Analysis of the Demand for Highly Skilled Talents in the Development of Strategic Emerging Industries in Ningbo

With Ningbo's industrial transformation and upgrading and structural optimization, the rapid development of strategic emerging industries represented by new materials, high-end equipment, the new generation of information technology industries, as well as the demand for various types of talents has continued to grow. In 2020, the average value of the Ningbo talent demand index is 52.9, and the overall talent demand scale of manufacturing-related industries remains at a high level. High-end equipment, new materials, automotive and parts, software and science and technology services and other four industry talent demand index reached more than 60, and the contradiction between supply and demand is more obvious. The development of strategic emerging industries is gaining momentum, and the expansion of new businesses and scale of enterprises has driven the demand for talents in related fields. From the current situation, the problem of insufficient supply of highly skilled talents and difficulty in recruitment in strategic emerging key industries will continue to exist for a longer period of time. The relationship between industrial structure and talent demand structure is interdependent and mutually reinforcing. With the acceleration of industrial upgrading, the adjustment of technical structure and the adjustment of talent demand structure are coordinated, so more diversified requirements are put forward for the hierarchical structure of highly skilled talents, professional settings, talent training standards, curriculum system and school mode.

4. Higher Vocational Education and Cultivation of Highly Skilled Talents in Strategic Emerging Industries in Ningbo

The development of strategic emerging industries needs to cultivate highly skilled vocational talents, and the three main sources of highly skilled talents are enterprises' own cultivation, vocational colleges' cultivation and talent flow from other provinces. Vocational colleges and universities have become an important training ground for the inter-disciplinary highly skilled talents required for the development of Ningbo's strategic emerging industries. During the "13th Five-Year Plan" period, Ningbo has 7 colleges and universities in Ningbo, which have trained a large number of highly skilled talents for the society. The talent cultivation of vocational colleges and universities relies heavily on the construction of high-level colleges and universities. The construction of high-level colleges and universities is important to promote the development of new dynamic energy and industrial upgrading, drive the expansion of employment and poverty alleviation, and promote the economy to maintain medium and high speed growth. The construction of higher vocational colleges should serve the strategy of "a strong manufacturing country", adhere to the innovation drive, build the highland of technical skill talents training, scientific and technological innovation, professional construction and industrial integration development, and support the development of regional emerging industries.

5. Countermeasures for Highly Skilled Personnel Cultivation and Precise Supply of Strategic Emerging Industries

5.1. Build An Ecological Optimization Model for Cultivating Highly Skilled Talents

By constructing a six-axis linked ecological model of cultivating high-skilled talents with the main body of school, government supervision, industry leading, industry guiding, enterprise participation and assistance from scientific research institutions, the roles are clearly positioned and all subjects in the system collaborate and communicate with each other to form a certain behavior pattern, promote the virtuous cycle of highly skilled talents cultivation within the ecosystem, highlight the cultivation of students' professional skills, and make the higher vocational colleges and universities become the incubation place for talent cultivation. At the same time, the industry, enterprises, vocational qualification institutions, school-enterprise cooperation platforms, etc. are vigorously developed to promote the development of a close network of relationships between enterprises. Through innovative and benign operation mechanism, the school constructs the vocational quality model of highly skilled talents according to the demand of regional industries, and reflects the teaching reform in the whole process of cultivating highly skilled talents, in order to effectively meet the demand of regional strategic emerging industries for talents, promote the sustainable development of regional industries, and promote the precise supply of highly skilled inter-disciplinary talents and strategic emerging industries.

5.2. Strengthen the Functional Role of the Government and Ensure the Dominance of Talent Cultivation

We will precisely implement policies to create policy advantages in attracting talents and enhance the effect of attracting high-skilled talents. We will guarantee the implementation of talent policies, improve the scientific assessment mechanism for the introduction of high-skilled talents, improve the market supply and professional structure of skilled talents, promote the cultivation norms of highly skilled talents, improve the reward mechanism of talent policies, increase the financial investment for the cultivation of highly skilled talents, create a high-quality environment for the introduction of highly skilled talents, create a good social atmosphere for highly skilled talents, and form a diversified highly skilled talent attraction and retention.

5.3. Accelerate the Teaching Reform of Institutions and Promote Talent Cultivation Forward-looking

We will strengthen the cooperation between schools and enterprises, and optimize the reform of talent training mode. Relying on industry enterprises, we will improve collaborative education, and cooperate with industry enterprises to connect curriculum content with vocational standards, teaching methods with production reality, quality education with vocational literacy, and talent assessment with enterprise needs.

5.4. Give Full Play to the Participation of Enterprises and Enhance the Enthusiasm of Talent Cultivation

We will give full play to the role of school-enterprise double subjects, integrate school-enterprise resources, ensure the orderly development of collaborative education, realize the symbiotic and win-win situation of enterprises, schools and students, and promote the in-depth cooperation and sustainable development of schools and enterprises. With the purpose of creating value for enterprises and development space for students, connecting real projects of enterprises with the teaching process, we will establish systems and processes that match the operation of the projects to fully mobilize the enthusiasm of enterprises.

5.5. Establish A Framework for Skills Education Qualifications in Ningbo and Build A Society of Lifelong Learning

We will build a framework for skills education qualifications to improve the continuity of talent training. Using the distributed ledger technology of blockchain, we will build an education and learning certificate certification system to realize a complete vocational life learning record throughout life. Using the asymmetric encryption algorithm of blockchain, we explore the establishment of a large database of lifelong vocational education credits and a lifelong vocational education credit accumulation database, so as to form an interrelated and inseparable whole of various vocational education participated in the professional life. Using the consensus mechanism of block chain, we will build a vocational education resource database that is open, shared and dynamically updated to meet the personalized needs of various types of learners in terms of the learning system, content, mode, time and location, so as to stimulate learning initiative and continuity to the greatest extent. Using the traceable and verifiable characteristics of block chain, we explore the construction of online learning communities based on “knowledge coins” and smart contracts to realize the diversification of teaching subjects.

6. Conclusion

In a word, to practice the concept of deep integration of industry and education in vocational education, we will design the collaborative education mode of the combination of the “government, industry, school and enterprise”, cultivate talents suitable for the development of emerging industries in multiple channels, meet the needs of enterprises, realize precise docking and precise education, cultivate highly skilled and inter-disciplinary talents to serve industries, promote regional industrial upgrading and structural adjustment, and thus promote the development of the region's economy and society.

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