
Construction of "Four Crossover and Four Integration" Talent Training Mode in Vocational Education

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To cite this article:

Zhao Yang, Fan Xiaowei. Construction of "Four Crossover and Four Integration" Talent Training Mode in Vocational Education. *Science Journal of Education*. Vol. 10, No. 3, 2022, pp. 87-93. doi: 10.11648/j.sjedu.20221003.11

Received: March 19, 2022; **Accepted:** May 17, 2022; **Published:** May 19, 2022

Abstract: In order to improve the adaptability of vocational education, carry out the "vocational education and general education are two different kinds of education types, has equally important position", this paper from the perspective of vocational education training objectives, function orientation, social demand and implementation path, analyze the characteristics of vocational education, sort out the "subject", "fusion of demand, standard cross-border, technology", "domain, knowledge", "cross-boundary, four fusion" talent training mode. The "three-level" implementation path of "macro planning, mesoscopic strategy, and micro implementation" of the new model of talent training and the "five guarantees" system of "policy research, cooperation model, carrier construction, operation mechanism and evaluation system" are specially designed; the significance of the implementation of the "four cross-border and four integration" talent training model is discussed. In the "four cross-border, four fusion" talent training mode implementation process, closely around the five integrated design ideas, divided into macro planning, medium strategy, micro implementation of three levels, from policy research, cooperation mode, carrier construction, operation mechanism and evaluation system "five guarantees" orderly promote talent training work. From the perspective of talent training model, this paper explores the specific theory and path design of the development of vocational education types, and the landing of vocational education as a type of education is an exploration and practice.

Keywords: Type Education, Cross-Border, Integration, Talent Training, Mode

1. Overview

The National Implementation Plan for National Vocational Education Reform (hereinafter referred to as the Implementation Plan) defines the "type" of vocational education, the unique ways and methods of vocational education, the diversified mode of running schools, and the path of industry-education integration and school-enterprise cooperation. Based on the three characteristics of crossover, integration and reconstruction of vocational education [1], put forward the "four cross-border, four fusion" talent training mode, the mode of vocational education as education type concrete and implementation path, in order to solve the past period of vocational education orientation is not accurate, professional construction "homogeneity", "double division" team construction is not balanced, social service ability is not strong, insufficient management system, talent

training program connotation is single and a series of type characteristics are not obvious problems [2].

2. Background of the "Four Cross-Border and Four Integration" Talent Training Program

2.1. Specific and Special Training Objectives of Vocational Education

In October 2021, the Opinions on Promoting the High-quality Development of Modern Vocational Education stipulates that the goal of training vocational colleges is to "train more high-quality skilled personnel, skilled craftsmen and craftsmen from major countries, and provide strong talents and skill support for the comprehensive construction of a modern socialist country" [3].

The training objectives of vocational education reflect the following three points: first, vocational education has formed the hierarchy of secondary vocational education, higher vocational education and vocational undergraduate education, and the second is compound, the job demand is comprehensive, not the traditional "single major", requires effective training, and development, the industry faces constantly upgrading and skills, so the training objectives change accordingly.

2.2. Vocational Education Has a Special Functional Orientation

Vocational education is an important part of the national education system and human resources development [4] To serve the regional economic development as the goal, and to serve the development of the industry as the purpose, it has the dual tasks of education and vocational skills and skills inheritance.

The function orientation of vocational education is reflected in its unique education, knowledge, occupation and practicality. Education is mainly reflected in vocational education, to cultivate more dedicated and dedicated workers in the industry; knowledge is mainly reflected in the basic knowledge required by the industry field, answer the questions of "why do this", "how to do better"; professionalism is mainly reflected in mastering professional norms, good professional quality, can integrate into the industry production team; practice mainly reflects relevant knowledge based on perceptual practical experience and skills, answer "what, how to do" in the post.

2.3. Vocational Education Has Special Social Needs

The development of vocational education comes from the needs of social development, which determines that the setting, positioning and training content of vocational education should be continuously adjusted dynamically according to the needs of social and economic development. Therefore, vocational education itself is an important part of social development and has obvious sociality [5]. The development of vocational education to better meet the needs of social development, vocational education will integrate the social resources from all walks of life, into the school and enterprise elements, in business professional and industrial development, in the field of teaching and practice, in the identity and teachers and engineers, so vocational education has a typical openness. At the same time, vocational education bears the heavy burden of human resource development, which determines that the object of vocational education is not only for school students, but also for all members of the society. Therefore, vocational education is oriented to the society and has a typical national nature.

2.4. Vocational Education Has a Special Implementation Path

Vocational education is breaking through the traditional school vocational education mode, and realizing the multi-

structure of "school-enterprise-government". Therefore, the integration of industry and education and school-enterprise cooperation are the basic ways to implement vocational education [6].

With the adjustment of China's industrial structure and industrial transformation and upgrading, the mismatch between enterprise job demand and school talent training has become more prominent. Taking the road of industry and education integration and school-enterprise cooperation to cultivate talents is the need of win-win development between school and enterprise, reflecting the integration of vocational education [7].

Vocational education integration in the process of the development, gradually formed industry, enterprise a variety of social capital as the main body of diversified pattern, under this pattern, enterprise engineering and technical personnel cross-border to vocational colleges, school teachers to industry line, appear in the role under the background of vocational education, prompting two-way flow, presents the mobility of vocational education.

3. The Connotation of "Four Cross-Boundary and Four Integration" Talent Training Mode

3.1. Formation of the "Four Cross-Border and Four Integration" Talent Training Mode

According to the characteristics and orientation of vocational education training objectives, functional orientation, social needs and implementation path, vocational colleges should "cross the boundary". Vocational colleges revolve around "the boundaries of cross-industries and education, schools and enterprises, work and learning, cognition and action, teachers and engineers, and students and employees [8]" This requires vocational colleges to carry out "subject crossover", "standard crossover", "field crossover" and "role crossover" in the process of talent training, thus forming the basic logical relationship of "four cross-boundary and four integration" talent training mode, as shown in Figure 1.

3.2. Content of "Four Cross-Boundary and Four Integration" Talent Training Mode

The talent training mode of "four cross-boundary and four integration" (see Figure 2 for the structure) is based on the design idea of "five industries in one", Through the pattern of running schools from a single subject to multiple subjects (government, school, enterprise, industry) crossover, To realize the integration of the industrial needs of social economy and the educational needs of cultivating talents, To realize "subject crossover and demand integration"; by integrating the relevant standards of industry enterprise job employment into talent training programs, subject standards and talent training quality standard evaluation system, To achieve the integration of moral education, knowledge and

skills, To achieve the specific talent training goals in vocational education, So as to achieve "standard cross-border, German and technology integration"; Through cross-border teaching, production, research and other fields, Ultimately, education is closely related to the economy and society, To achieve the vocational education function oriented by promoting employment and adapting to the needs of industrial development, To achieve, "the line is the beginning of knowing, Knowing is the state of doing it", So as to achieve "cross-border field, knowledge and action integration"; Through the mutual employment and mutual

application of college teachers and enterprise engineering and technical personnel to achieve the role crossover, The movement of people brings corporate culture to the campus, Industry culture and school education culture permeate each other and realize cultural integration, So as to achieve the "role crossover, cultural integration". Finally, realize the "five industries" of "industries, enterprises, occupations, majors, employment", achieve the joint goal of "innovation ability, market core competitiveness, high employment rate and high quality employment", and achieve the reform goal of talent training in vocational colleges.

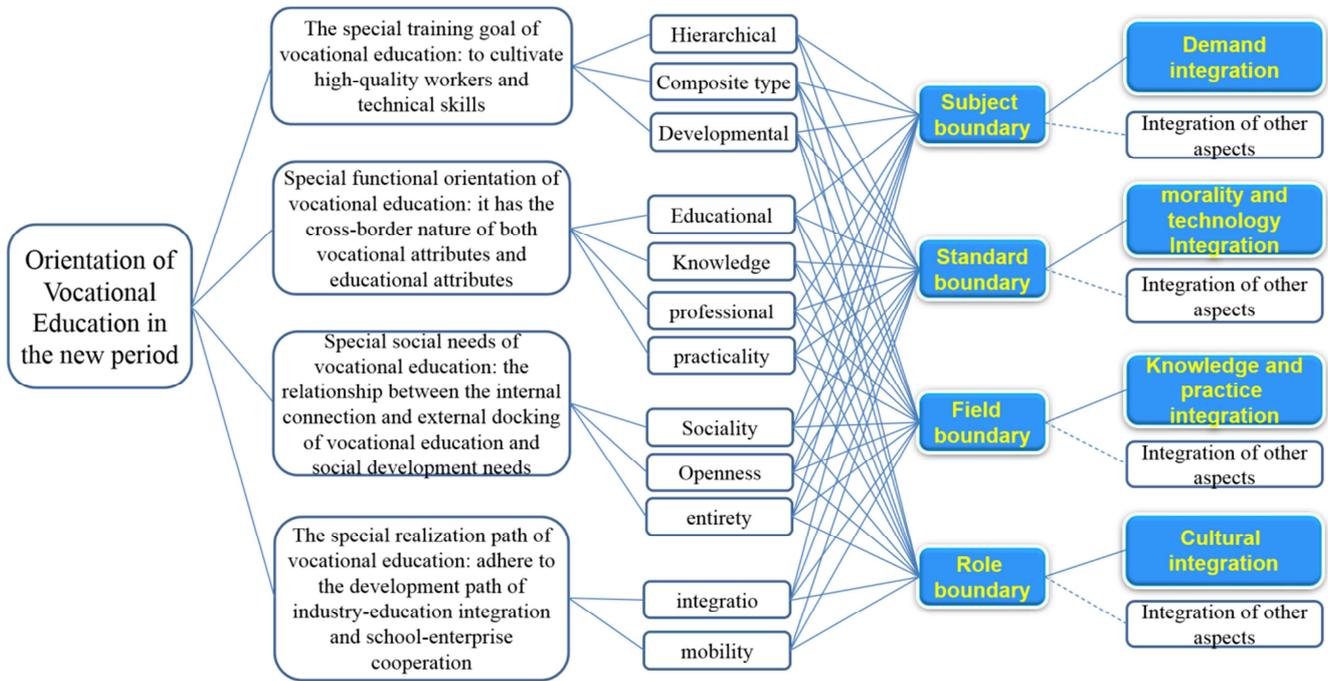


Figure 1. The logical relationship formed by the talent training mode of "four cross-boundary and four integration".

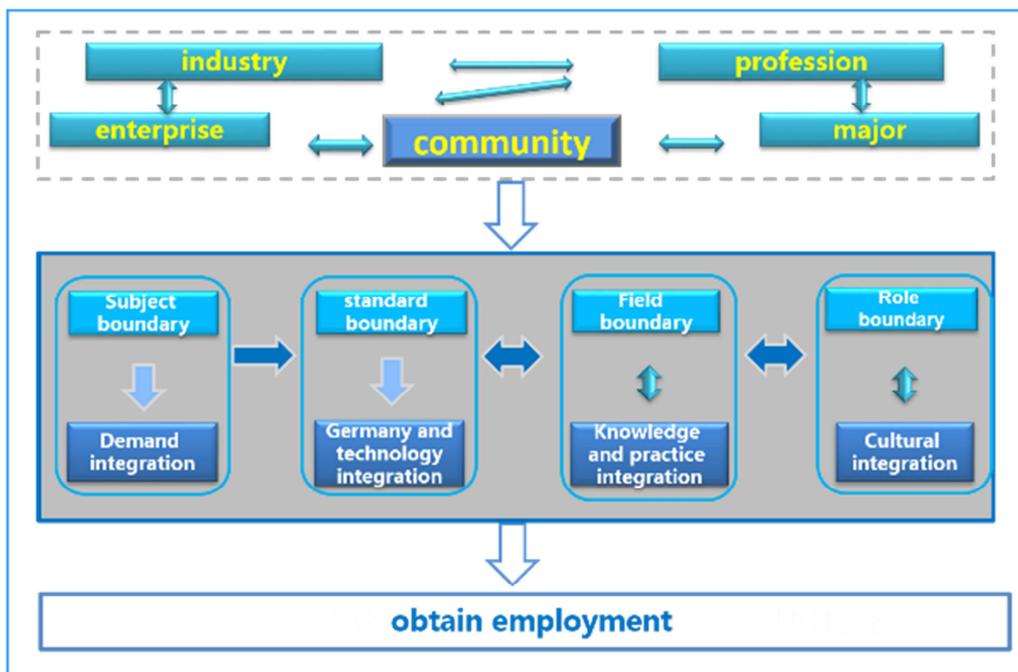


Figure 2. Logic diagram of "Four cross-boundary and four integration" talent training mode.

3.3. Logic of “Four Cross-Boundary and Four Integration” Talent Training Mode

In the talent training mode of "four cross-boundary and four integration", "subject crossover and demand integration" is the foundation and premise, "standard crossover and German and technology integration" is the goal and guarantee, "field cross-boundary, knowledge and practice integration" and "role cross-boundary and cultural integration" are the two perspectives of implementation. The four transboundary are the implementation point and external performance of the scheme, and the four integration are the driving force and internal goal.

In the "four cross-border and four integration" talent training mode, Centering on the internal relationship of "industry-enterprise, occupation-major-employment", On the basis of the same direction of demand, carry out multi-subject cross-border cooperation of "government- -industry- -enterprise- -school", Establish vocational education groups, industrial colleges and other platforms; Carry out the field of production, learning, research, application and service and the role of double-qualified teaching teams hired by teachers and enterprise engineering and technical personnel, On the basis of equal demand, To promote the integration of

standards, talents, technology, culture and other resources and elements, complementary integration of industry and education, and cultural integration, To promote professional education, cultural education, ideological and political education; Integrating needs, Germany and technology, knowledge and action, and culture, To realize the "five-industry cycle promotion" mode of industry guidance, career integration, enterprise integration, professional integration and employment connectin.

4. The Implementation Path of the “Four Cross-Boundary and Four Integration” Talent Training Mode

In the "four cross-border, four fusion" talent training mode implementation process, closely around the five integrated design ideas, divided into macro planning, medium strategy, micro implementation of three levels, from policy research, cooperation mode, carrier construction, operation mechanism and evaluation system "five guarantees" orderly promote talent training work, figure 3 "four cross-border, four fusion" talent training mode implementation path flow chart.

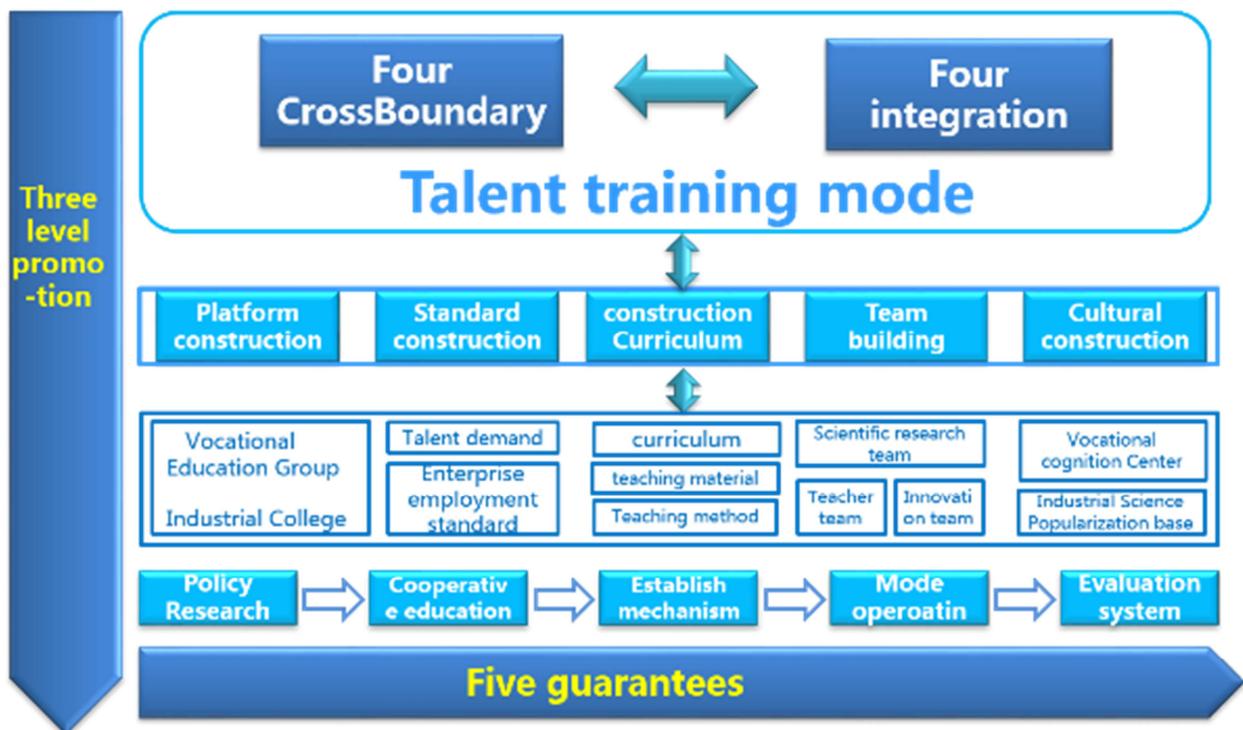


Figure 3. Implementation path model of “Four cross-boundary and four Integration” talent training mode.

4.1. The “Three Levels” Promotion of Talent Training Mode

First, implement the macro strategy of "cross-border four boundaries and four integration" talent training mode. Implement the "government-school-enterprise" multi-subject

cooperation in running schools, To realize the crossover of the school-running pattern from "single subject to multiple subjects", To realize the integration of the industrial needs of social economy and the educational needs of cultivating talents, To achieve the purpose of "subject cross-boundary, demand integration"; Implement the integration of talent evaluation standards in enterprises and vocational colleges,

Build a talent evaluation system for vocational positions, By building a vocational post-oriented talent training program, To achieve the integration of moral education, knowledge and skills, Implement "standard cross-border, German and technology integration"; Implementing the diversification of cooperation areas under multiple subjects, To realize the crossover from knowledge transmission and acquisition of a single education field to a variety of work fields of industry, university, university and research, To achieve the vocational education function oriented by promoting employment and adapting to the needs of industrial development, To achieve, "the line is the beginning of knowing, Knowing is the state of doing it", Implement "cross-border field, knowledge and practice integration"; Through the construction of a double-qualified teaching team of "role crossover", College teachers and enterprise engineering and technical personnel to hire and use each other, Accelerating the integration of corporate culture and campus in the process of personnel flow, To achieve "role crossover, cultural integration".

Secondly, the medium-view strategy of "four cross-boundary and four integration" talent training mode is implemented. According to the "four cross-border, four fusion" talent training mode of macro planning, form the development pattern of vocational education and industrial integration must be "crossover, fusion" as the basic idea, respectively, standard subject crossover, crossover and role, so as to realize the demand fusion, technology fusion, knowledge fusion and cultural fusion. On this basis, the "five major construction projects", such as platform construction, standard construction, curriculum construction, team construction and cultural construction, will be explored and implemented.

Finally, practice the micro implementation of "four cross-boundary and four integration" talent training mode. For the platform construction, The main construction of "industrial college", "engineering technology center", "collaborative innovation center" and other "main cross-boundary" platforms; For the standard construction, Mainly to realize the unification of school training standards and post talent demand standards, So as to formulate the talent training program recognized by both the school and the enterprise, Ensure the quality of talent training; For the curriculum construction, Mainly sorting out the ability needs of industrial or professional positions, To implement the national "three religious reforms", School-enterprise cooperation jointly build, jointly compile teaching materials, jointly build and share practical training bases, and jointly cultivate and share professional talents; For the team building, Mainly explore the two-way flow mechanism of mutual employment and mutual talents, Jointly establish a double-qualified innovation team, scientific research team, innovation team, Realize the connection between professional setting and industrial demand, curriculum content and professional standards, teaching process and production process; For cultural construction, Mainly through the construction of vocational cognition experience center, science popularization base, production safety

experience center and other carrier construction, Cultural construction that forms industrial characteristics, Highlight the characteristics of the craftsman spirit and the craftsman culture.

4.2. The "Five Guarantees" for the Implementation of the Talent Training Mode

In order to ensure the implementation of the project, the work is carried out from the "five guarantees" of policy research, cooperation mode, carrier construction, operation mechanism and evaluation system.

Firstly, the policy research on talent training mode, mainly from the aspects of professional orientation, ability requirements, supply and demand requirements, training specifications, summarize the status of industry talents and enterprise cooperation, analyze the pain points and constraints of the proposal and provide the basis for policy formulation for relevant departments.

Secondly, to carry out the research on the cooperation mode of talent training mode. Through collaborative innovation, deep integration with the industry and enterprises, carry out the construction of "community of shared future", provide effective human and intellectual support for the development of enterprises in the industry, train technical and skilled personnel who meet the needs of the job, and take "outcome effect" as the driving, to explore more cooperation modes.

Third, carry out the research on the operation carrier of talent training mode. Docking with the technology development trend of the industry, with the accumulation of technical skills as the link, the construction integrates talent training, team building and technical services [9]. To build a community of talent training and technology innovation community with resource sharing, flexible mechanism and efficient output composed of the government, industry, research institutes, vocational colleges, enterprises and other subjects, and realize the purpose of collaborative scientific and technological innovation, collaborative technology transformation and collaborative education.

Fourth, carry out the research on the operation mechanism of talent training mode. On the basis of platform construction, the reasonable choice of cooperative operation mechanism is the key to the success of professional joint construction [10]. Through the establishment of resource sharing mechanism, capital integration mechanism, joint research mechanism, achievement sharing mechanism, benefit distribution mechanism, risk sharing mechanism and other mechanisms, long-term professional collaborative innovation can be realized [11].

Finally, the research on the evaluation system of talent training mode is carried out. In order to ensure the "result output" of professional joint construction, it is necessary to formulate the education and teaching quality monitoring system, and establish and improve the quality assurance system of joint participation, joint control and joint management among all subjects [12].

5. The Implementation Significance of the "Four Cross and Four Integration" Talent Training Mode

In order to accelerate the development of type education, build a modern vocational education system [13], and build a "skilled society" in an all-round way, it has the following positive significance:

5.1. The New Talent Training Mode Is a Theoretical Inquiry into the Implementation of Vocational Education as a Type of Education

"Four cross, four fusion" talent training mode as a whole "industry, enterprise, occupation, professional, employment" five elements, build "five" development framework, the system across the object, fusion content, promote hierarchy, construction platform and carrier, security mechanism, the system of education, education function, value orientation, education mode and education standard type education research [14], vocational education as a type of education is a beneficial theoretical exploration.

5.2. The New Talent Training Mode Is a Way to Explore the Implementation of Vocational Education as a Type of Education

The "Four cross-boundary, four integration" talent training mode is based on the overall design idea of "five industries integrated", With "four cross-border and four integration" as the macro planning, Macro-planning, meso strategy, micro-implementation of the "three levels" to carry out talent training mode reform, The "five guarantees", including mechanism and policy research, platform construction, cooperation mode, operation mechanism and evaluation system, provide a guarantee for the reform of talent training mode, The talent training program is cross-border in terms of school subject, learning field, personnel role and training standards, Bold innovation, According to the integration of needs, explore mixed ownership, industrial college, industry-university-research community and other forms to achieve the leap of school subjects, Construction of industry and education integration carrier construction, Explore the school-enterprise cooperation mechanism of "horizontal joint innovation and vertical integration education", The implementation of vocational education as a type of education is a path of exploration.

6. The Conclusion

As a type of education, vocational education has distinctive training objectives, functional orientation, social needs and implementation path [15], which determines that vocational education should "cross the boundary", and systematically construct the integration ideas of "industrial chain and education chain", "innovation chain and talent chain", and "enterprise value chain and campus value chain". "Four cross-border, four fusion" talent training mode

in the perspective of teaching mode respectively in the theoretical development, implementation path, security system dimension of "vocational education is a type of education" innovation, for the comprehensive construction "secondary vocational-subject-undergraduate-master" modern vocational education system training mode of exploration [16], to speed up the formation of vocational education talent growth path to practice.

Fund Project

Research and Practice Project of Higher Education Teaching Reform in Henan Province (2021SJGLX881).

Henan soft science research program (222400410055).

Henan Educational Science Planning Project (2021YB0561).

References

- [1] Jiang Dayuan, Why Emphasizing Vocational Education as a Type of Education, Guangming Daily, 2019-03-12.
- [2] Li Yujing. Vocational education as a type of education: Basic characteristics [J]. Vocational and Technical Education, 2019, 40 (01): 1.
- [3] The General Office of the CPC Central Committee The General Office of The State Council issued the Opinions on Promoting the High-quality Development of Modern Vocational Education [J]. China Human Resources and Social Security, 2021 (11): 4.
- [4] Meng Qingnan. An Analysis of Xi Jinping's Thought on Vocational Education Development [J]. Liaoning Higher Vocational Journal, 2021, 23 (10): 1-4.
- [5] Xu Ye. Exploration on the structure and function of the "type education" ecosystem in vocational education [J]. Education Journal of Renmin University of China, 2021 (01): 127-134.
- [6] Wanda, Du Yiping, Wu Jing, Li Xiaohua, Li Hai. On the basic characteristics of vocational education as a type of education [J]. Vocational and Technical Education in China, 2019 (28): 11-15.
- [7] The "crossover" exploration of vocational education. China Education News, 2017. 04. 11.
- [8] Li Xiaojing. Research on Engineering Experience Education Model [D]. Zhejiang University, 2019. DOI: 10.27461/d.cnki.gzjdx.2019.000560.
- [9] Opinions of the Ministry of Education and the Ministry of Finance on Implementing the Construction Plan of High-level Higher Vocational Schools and Majors with Chinese Characteristics [J]. Forum on Educational Science, 2019 (15): 6-9.
- [10] Xiao Jiuling. Problems and countermeasures existing in the operation mechanism of industry-university-research cooperation [J]. Northern Economic and Trade, 2002 (12): 126-127.
- [11] Zhao Zhe, Dong Xinwei.—— takes local universities in Liaoning province as an example [J]. Higher Agricultural Education, 2013 (08): 16-19. DOI: 10.13839/j.cnki.hae.2013.08.006.

- [12] Xu Guoqing. Establishing the type attribute of vocational education is the fundamental need of the construction of modern vocational education system [J]. Journal of East China Normal University (Education Science edition), 2020, 38 (01): 1-11..
- [13] vocational education in China has entered a new stage of high-quality development. People's Daily, 2020. 12. 09.
- [14] Maluting. The high-quality development of vocational education must firmly grasp the type characteristics [J]. Vocational and Technical Education in China, 2021 (03): 5-11 + 18.
- [15] Zhao Wei, Sun Ying. The Type Theory of Vocational Education [J]. Chinese Higher Education Research, 2020 (11): 98-103.
- [16] Comprehensively constructs the growth path of vocational education talents of "secondary vocational-junior college-undergraduate-master" and even doctoral education. National Vocational Education, 2020.