

Exploration and Practice of the Model of Integration of Production and Education in Higher Vocational Economics and Management

-- Taking Shanghai Aurora Vocational College as an Example

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Abstract: In view of the problems encountered in the implementation of the integration of production and education, such as "school hot, enterprise cold", "emphasis on education over production", and "school and enterprise two sheets", this paper aims to improve students' practical skills and professional comprehensive literacy through the practice of the "three-three-three" integration of production and education in economic and management majors, cultivate a group of high-quality economic and management technical and technical talents, and serve the high-quality development of local economy.

Keywords: Integration of Production and Education; Vocational Education; Education Mode; Higher Vocational Economy and Management.

1. Introduction

In October 2022, the report of the Party's 20th National Congress proposed to "coordinate the collaborative innovation of vocational education, higher education and continuing education, promote the integration of vocational education, integration of industry and education, integration of science and education, and optimize the type positioning of vocational education." In June 2023, eight departments including the National Development and Reform Commission and the Ministry of Education jointly issued the "Implementation Plan for the Integration of Production and Education in Vocational Education to Enhance the Action", systematically building an action framework for the integration of production and education in vocational education and improving the institutional guarantee. In July 2024, the Decision of the Central Committee of the Communist Party of China on Further Comprehensively Deepening Reform and Promoting Chinese-style Modernization made it clear once again that "we will accelerate the construction of a vocational education system that integrates jobs and industry and education." It can be seen that the importance and urgency of the integration of production and education in vocational education.

With the deepening of the teaching reform of higher vocational education, higher vocational colleges will inevitably face the dilemma of strategic adjustment of the regional economic structure, accelerated upgrading of industries, profound changes in the form of production organization of enterprises, and industrial transformation and upgrading, gradient transfer and sluggish situation in their development. All these put forward an unavoidable question to the professional development of higher vocational colleges, and also put forward higher requirements for the quality of personnel training and technical services. It is true that the integration of production and education in vocational education from the macro level, as the main body of policy, the government and the industry have been standardized from

the aspects of policy, action and guarantee. However, at the micro level, as the implementation of the main body of enterprises, schools, there are still "school hot, enterprise cold", "emphasis on education over production" and "school and enterprise two skins" phenomenon. The Chinese-style modernization drive under the new situation emphasizes the development of new quality productive forces and the optimization of industrial structure. How to establish the consciousness of serving the society, the market and the enterprise, take employment as the orientation, and cultivate high-quality vocational and technical talents in line with the quality and efficiency of the industry is an urgent practical problem to be solved. This paper intends to explore and practice the mode of integrating production and education in the economic management specialty of higher vocational colleges, in order to improve the quality of personnel training and meet the needs of social development.

2. The Main Problems Existing in the Model of Integration of Production and Education in Higher Vocational Economics and Management

Scholars have pointed out that the integration of production and education can accelerate the construction of a diversified educational mechanism for vocational education, organically combine the "educational attributes" and "economic attributes" of vocational education, and improve the quality of vocational education [1]. At the same time, the integration of industry and education is a process of resource exchange and sharing, mutual integration, and collaborative symbiosis between the industrial system and the education system [2].

It can be seen that the integration of production and education has the characteristics of multiple subjects, the characteristics of both education and education, and the characteristics of two systems. These characteristics are exactly the problems that schools and enterprises need to face

together in the implementation of the integration of production and education. Shanghai Z Higher vocational College has a history of more than 40 years and has won the famous trademark of Shanghai. The major of Economic Management has been set up since the establishment of the school. After years of construction, the original three majors of accounting, business enterprise management and international business have developed dynamically into seven majors at the present stage, and formed three major groups with advantages as the guide. In recent years, in the exploration of the model of the integration of production and education, some problems are also encountered because of the characteristics of the integration of production and education.

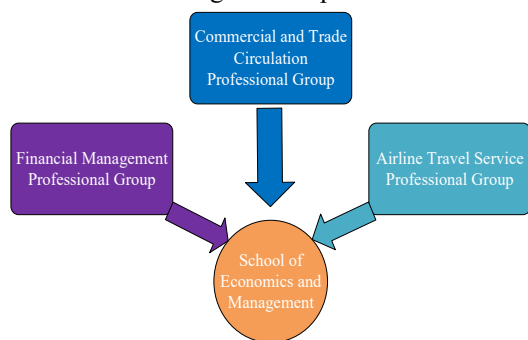


Figure 1. The Three Major Professional Groups of the School of Economics and Management

2.1. Multi-agent Characteristics, Resulting in "Hot School, Cold Enterprise"

The multi-subject of the integration of industry and education is composed of government, industry, enterprise, school and other parties, and each subject has different interests, responsibilities and rights. The government and the industry mainly carry out policy formulation, platform construction and partial fund support, that is, the top-level design. The specific implementation of the integration of production and education needs to be completed jointly by enterprises and schools. Due to the training of professional talents in vocational colleges, it is necessary to meet the needs of social positions. The second is to meet the needs of enterprises and increase the social attraction of professional training talents; The third is to meet the needs of candidates (parents) and improve the quality of professional enrollment. Therefore, as a supplier of talents, schools are more eager to achieve the matching of supply and demand of talents through the integration with enterprises. Enterprises for various reasons, in the process of cooperation with schools, often not very enthusiastic, resulting in "school hot, enterprises cold", such as business circulation group, in recent years, have been negotiating with a number of enterprises (live broadcasting companies, e-commerce companies, retail companies, etc.), but the enterprise has failed to do so.

2.2. Both Educational and Economic Characteristics, Resulting in "Emphasis on Education over Production"

Education is an activity to realize individual development and socialization, and vocational education, as an educational activity, is not only a process to combine the needs of economic and social development with the needs of individual physical and mental development to realize human socialization, but also an educational activity to promote the combination of individuals and the professional world [3]. Vocational education is born with the dual attributes of

"education" and "economy", but vocational education should not only be an economic behavior of material production, as well as the education of knowledge and skills needed for professional life, but also contain extremely rich spiritual development, and it must take promoting human development through occupation as the future goal [4].

As the main channel for the education of professional talents, the fundamental task of vocational colleges is to "cultivate morality and cultivate people", which needs to promote the all-round development of students. In the process of the integration of production and education, there is a phenomenon of "emphasizing education over production". For example, when the School of Economics and Management of Shanghai Zhendan Vocational College cooperates with Jingdong and other enterprises, during the "Double Eleven" period, the enterprises put forward the urgent demand for talents such as e-commerce and logistics. However, in view of the factors such as the foundation of positions provided by enterprises, work intensity and the effectiveness of students' vocational ability improvement after short-term enterprise practice, finally missed the opportunity to cooperate.

2.3. The Characteristics of the Two Systems Lead to "Two Skins for Schools and Enterprises"

The integration of production and education is the integration of industrial system and education system, and the attributes of the two systems determine the problem of "school and enterprise two skins" in the integration. In the education system, vocational schools focus on the teaching of theoretical knowledge and methods, the practical training of vocational skills and the cultivation of students' professional quality, which is not for-profit and has the nature of public welfare. In the industrial system, enterprises are the external expression form or constituent unit of the industry [5]. The nature of enterprises determines that they are profit-oriented. Although they will also undertake some social service functions, most small and micro enterprises will not consider them, except for some state-owned enterprises and large and medium-sized enterprises, which leads to the low compatibility of the two systems in the integration of industry and education. And because the two systems adhere to their own system operation, such as entering the other system, will cost human, financial and material resources, whether it is the school as the main participant of the profession, the teacher, or the department and manager of the enterprise participating in the main body, are reluctant, resulting in a lot of integration of production and education, stay in the list, and a variety of documents and materials, the real integration of the landing less.

3. The Path Practice of the Model of Integration of Production and Education in Higher Vocational Economics and Management

In the January 2024 work report of the Shanghai Municipal Government, the main tasks in 2024 include further accelerating the construction of "five centers" (international economic center, international financial center, international trade center, international shipping center, international science and technology innovation center). Accelerate the construction of a "(2+2) + (3+6) + (4+5)" modern industrial

system, and vigorously develop new quality productive forces... We will deepen the integration of modern service industries with advanced manufacturing. The construction of three professional groups (financial management, commercial circulation, navigation and travel services) of the School of Economics and Management of Shanghai Zhendan Vocational College, corresponding to the fields of economy, trade and shipping, to train technical talents to meet the needs of modern service industries, in line with the positioning of local economic development, through the construction of the school's "major connotation" project and the construction of the "Three-year Action Plan for Innovation" project, etc. No matter from the number of full-time and part-time teachers, the number of students in school, professional training area, professional training rooms with different attributes (supporting practical training software and hardware) and many other aspects, have begun to take shape, and as many as 20 enterprises have signed school-enterprise cooperation agreements, actively explore the integration of production and education.

In the exploration of the integration of production and education in the major of economy and management, although there are problems such as "school hot, enterprise cold", "emphasis on education and light production", "school and enterprise two skins" and so on. However, under the guidance of the national policy on the integration of production and education, the 14th Five-Year Plan and new infrastructure construction of "hardware", the school draws on the network school platform of "Industrial University" in the UK and the concept of "teaching Factory" flexible teaching system of Nanyang Polytechnic in Singapore, and innovatively proposes "integrated teaching", that is, on the premise of ensuring the independent and efficient operation of the two systems, Vocational colleges can select school-enterprise cooperation objects according to their own basic conditions, and different enterprises can enter the school talent training link at an appropriate time, so as to achieve a

win-win situation of enterprise "economy" while ensuring the "education" of vocational colleges, and build a flexible production-education integration teaching system suitable for their own characteristics and in line with social needs. After years of practical exploration, the "three-three-three" model of integration of production and education in economic management has been initially established. That is, to create a "three-level" teaching integration platform, innovate the "three-level" talent training mechanism, and create a "three-level" production-education integration curriculum system.

3.1. Implementation Path of "Three Steps" Teaching Integration Platform

In July 2020, the General Office of the Ministry of Education and other departments issued the Guide to the Construction of Modern Industrial College (Trial), which clearly stated that "the training base, as the core infrastructure of school-enterprise construction, is also the main support carrier for the operation of industrial college." In September 2020, the Ministry of Education and other departments issued the Action Plan for Improving the quality of Vocational Education (2020-2023), pointing out that "to promote the construction of 300 high-level professional industry-education integration training bases with radiation and leading role", the construction of industry-education integration training bases has been widely valued. The model of integration of production and education in economic management majors will follow the functional principle of integration of production and education training bases, co-construction and sharing of key schools and enterprises (going out and introducing), further aggregation of subjects, overall planning of resources, optimization of governance, and joint play of multiple functions, promote the deepening development of integration of production and education in both internal and external training bases, and achieve the function of "three steps" integrated teaching platform.

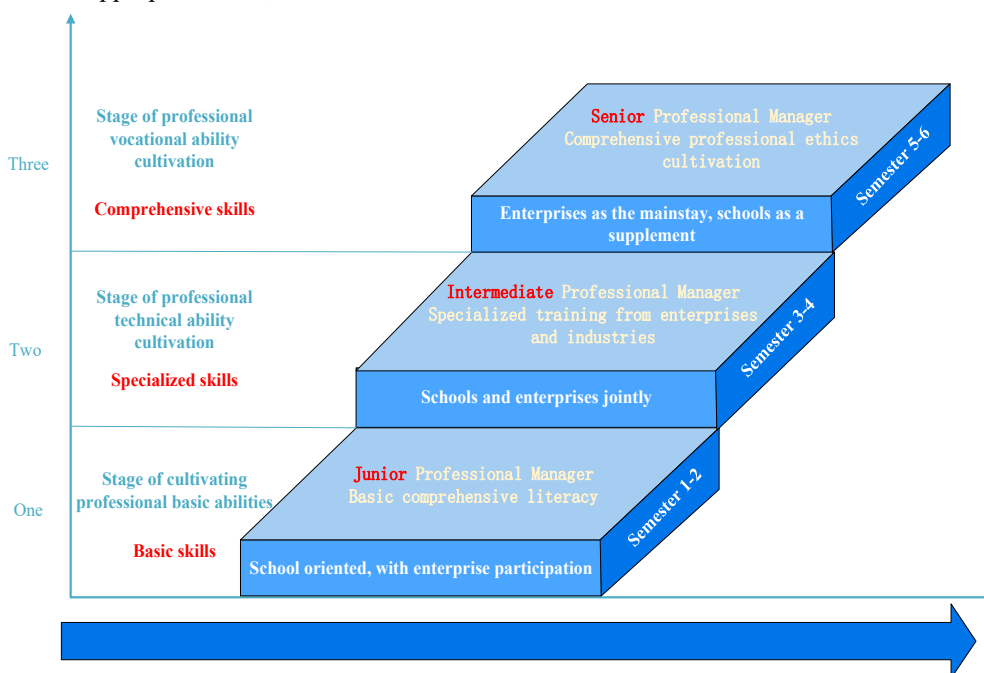


Figure 2. Implementation Road Map of the "Three Steps" Industry Education Integration Teaching Platform

The "three-step" production and education integration teaching platform forms a three-stage progressive system. The first stage, Semester 1-2, freshmen, mainly study public

courses (thinking, mathematics, English, information technology, etc.) and professional basic courses (marketing, management, etc.). In this stage, the school will be the main

one and enterprises will participate, and enterprise experts will be introduced to jointly develop school courses and teaching materials (such as e-commerce major, offering e-commerce introduction course) with teachers in the school, so as to cultivate students' basic professional ability, that is, basic comprehensive quality of the position, and professional ability of junior professional managers. In the second stage, semester 3-4, sophomore year, students have adapted to campus life, mastered basic mathematical and logical thinking ability, English listening, speaking, reading and writing ability, ideological and political accomplishment, etc., and have mastered professional basic courses related professional abilities. At this time, public courses offer career planning, innovation and entrepreneurship, and professional core courses are offered in professional courses, which are jointly undertaken by schools and enterprises. Learn theoretical knowledge in school, practice training base in school, basic skills training and simulation, enterprise cognition practice and special training in off-campus enterprise base, master professional and technical ability, and have the professional ability of intermediate professional managers; The third stage, the 5th to 6th semester, the students have grown into quasi-social people, at this time, the enterprise is the main, the school assisted. Students enter the enterprise and practice in the corresponding post (with the post) to cultivate students' comprehensive professional quality and possess the ability of senior professional managers.

The "three-step" production and education integration teaching platform can be smoothly developed between schools and enterprises, relying on the construction of practical training and internship platforms inside and outside the school. In the sophomore year, the training base inside and outside the school expanded the practical operation skills of enterprises. The training base in the school introduced the new technologies, new processes, new norms of the industry

and enterprises, as well as the real production (service) projects or typical production (service) cases into the practical teaching process; Off-campus training base, students conduct enterprise cognition practice, experience enterprise positions, learn professional technical skills; In the third year, the off-campus practice base will carry out the actual post internship in the enterprise. The students will enter the enterprise as quasi-employees and do the post internship to learn the comprehensive vocational ability of the post.

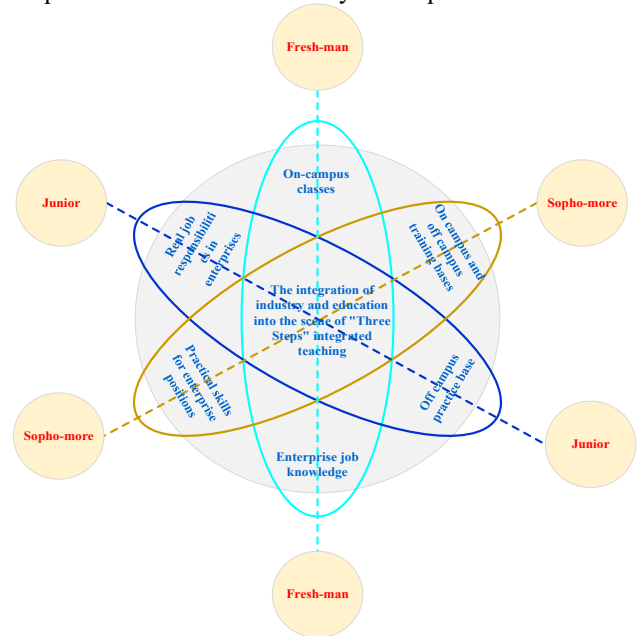


Figure 3. Scene Diagram of the Integration of "Three Steps" Industry Education Integration Teaching

3.2. Implementation Path of the "Three Integration" Talent Training Mechanism

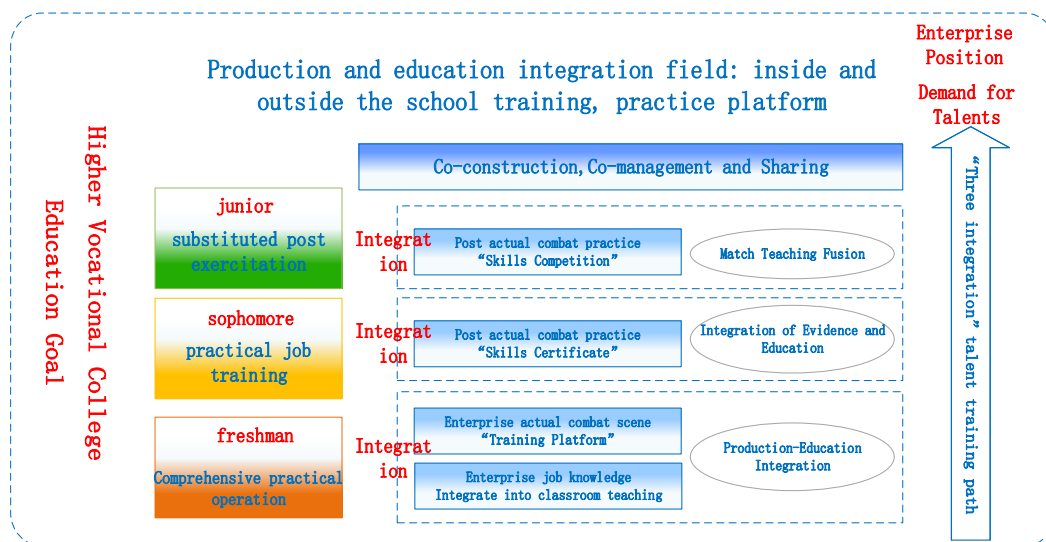


Figure 4. The Talent Cultivation Path Map of "Three Integrations"

In June 2023, the National Development and Reform Commission, the Ministry of Education, the Ministry of Human Resources and Social Security and other eight departments jointly issued the "Implementation Plan for the integration of Vocational education and Production and Education to Enhance the Action (2023-2025)". To promote the needs of enterprises into all aspects of talent training." Under the "integration" education reform model, the

realization of "three integration", that is, the scene of enterprise actual combat "practical training platform", the standard "skill certificate" of post skills, and the practice of post actual combat "skill competition" are integrated into the practice teaching of higher vocational colleges, and the innovation talent training mechanism.

The "three integration" helps build a systematic support platform for talent training with the form, attributes and

functions of a modern integrated ecological structure. The training base, as an operation field environment jointly built by multiple funds, provides a carrier support for sustainable operation for professional groups to implement collaborative education under the framework of the school-enterprise system; The practice of exploring the mode of multi-alliance education can realize the multi-education of co-construction, co-management and sharing. At the same time, the use of high-quality social resources, "certification teaching, competition teaching integration" innovation, enrich the "three steps" post skills integration teaching function.

3.3. Implementation Path of the "Three-Level" Production-Education Integration Curriculum System

Scholars point out the connotation of the relationship between industry and university, the relationship between supply and demand of talents with enterprise as the center -- perfect school-enterprise joint talent training plan; Educational competitiveness reflected by enterprises' recruitment to higher vocational colleges: Graduates'

excellent development ability and innovation potential based on job requirements [6]. On the basis of this theory, the model of integrating economy, management, production and education, accurately docking the job needs, organizing enterprise tutors and school teachers to investigate and reconstruct the curriculum system. Following the principle of "same professional background, mutual professional direction and integrated ability", three modules of general ability, professional ability and comprehensive ability are set up. General ability is to cultivate students' professional general ability. At this time, new technology, new technology and new standard are integrated into the curriculum system through textbook cases and real cases of enterprises. Professional ability, that is, to cultivate students' professional orientation skills, integrate job-oriented skills into the curriculum system by introducing enterprise tutors, enterprise practical platforms, competitions, certificates, etc. Comprehensive ability refers to the cultivation of students' comprehensive post vocational ability. When students enter enterprises, they will integrate their innovation and entrepreneurship practice ability and post comprehensive ability into the curriculum system through post practical training (take business circulation Group as an example).

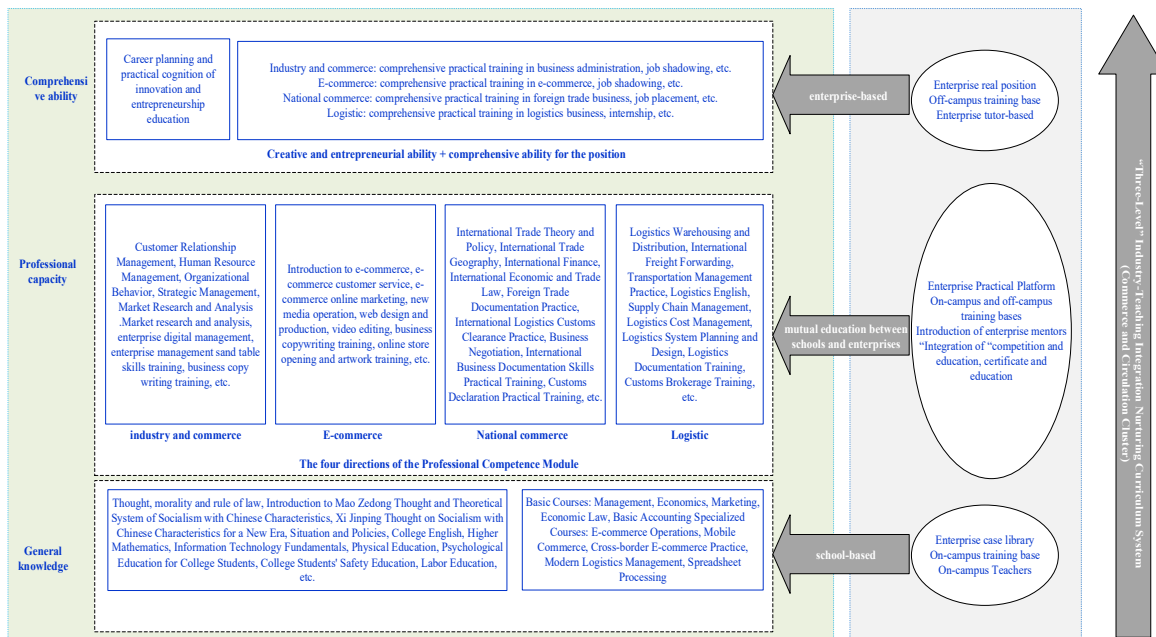


Figure 5. Curriculum System Diagram for the Integration of Industry and Education at Three Levels (Commercial Circulation Group)

4. The Implementation Effect of the Model of Integration of Production and Education in Higher Vocational Economics and Management

Through the exploration and practice of the model of integrating production and education, the major of economy and management has achieved certain results in cultivating high-quality technical and skilled talents in line with local economic development. In the past three years, 10 on-campus training rooms (including simulation) have been built successively (to improve quality), and "skill certificates" of post skill standards have been built, with 1 graduation certificate + at least 1 skill certificate for each major to achieve "course certificate" integration. Multiple "1+X" skill level certificate test centers organized and implemented by

the college have been rated as demonstration (excellent) test centers. In the past three years, all majors of the college have achieved excellent results in the skills competition, achieving the integration of "competition and teaching" (see Table 1). The employment rate and the higher education rate of the college have increased year by year, and the employers have given good feedback.

In the future, the School of Economics and Management will continue to deepen the mode of integrating production and education, increase the innovation of technology update and teaching content, strengthen the construction of "double teachers" team through the reform of "teaching, teaching methods and teaching materials", constantly improve the depth of integration of production and education in various majors, and cultivate high-quality technical and technical talents to meet the socialist modernization construction.

Table 1. Award Winning Situation of the School of Economics and Management in Recent Years in Competitions at or above the Municipal Level (Partial)

Year of award	Students' Specialities	Competition	Prize
2021	Logistics Engineering	The third "Long wind Rally"	National First, Second and Third Prizes
2021	E-commerce, business and industry, etc.	The 4th National Vocational College Cross-border E-commerce Skills Competition	National First, Second and Third Prizes
2022	Accounting, Business and Industry	Enterprise Management Simulation Sand Table Skills Competition	First prize at municipal level
2022	E-commerce, business, accounting (Including five-year consistent e-commerce programme)	The 5th "National Cross-border E-commerce Vocational Skills Competition"	National first, second and third prizes
2022	Logistics Engineering	The 2nd National Student Purchasing Practice Competition	National Second Prize and Award of Excellence
2022	airline stewardess programme	"The 8th Yangtze River Delta Air Service Etiquette Competition"	Third prize for the Yangtze River Delta team
2023	E-commerce, business, accounting (Including five-year consistent E-commerce programme)	The 6th "National Cross-border E-commerce Vocational Skills Competition"	National First, Second and Third Prizes
2023	Logistics Engineering	National Standardised Olympiad for University Students	National Third Prize (Higher Education Track)
2023	Logistics Engineering	The 2nd Shanghai Green Supply Chain and Reverse Logistics Design Competition	Two national third prizes
2023	Flight attendant specialty	"The 9th Yangtze River Delta Air Service Etiquette Competition"	Third Prize for Yangtze River Delta Team, Students Honored as "Goodwill Stars"
2024	E-commerce, business, accounting, hotel including five-year programme	The 7th "National Cross-border E-commerce Vocational Skills Competition".	National First, Second and Third Prizes
2024	Business, Accounting	Enterprise Management Simulation Sand Table Competition	Municipal second and third prizes
2024	Specialisation in E-commerce, Logistics, Business and Industry	Cross-border E-commerce Project of Shanghai Vocational Skills Competition for Higher Vocational Colleges and Universities	Municipal Group Third Prize
2024	Accounting	Accounting Practice Project of Shanghai Vocational Skills Competition for Higher Vocational Colleges and Universities	Municipal Group Third Prize

innovation special plan.

Acknowledgments

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