

# Educational Assessment Research on the Construction of Professional Clusters in Vocational Colleges and Universities from the Perspective of Reform

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**Keywords:** Educational Assessment Reform, Vocational Colleges, Professional Clusters, Connotation Construction

**Abstract:** The construction of professional clusters has become an important breakthrough in the transformation and development of vocational colleges at the undergraduate level amid the deepening reform of educational assessment in the new era. Problems in the construction of vocational colleges include the separation of industry and education, limited resources and lack of mechanism. There is a need for constant effort and precise measures in the combination of morality and technology, in the integration of industry and education, and in the combination of education and training.

## 1. Introduction

In order to promote the reform and innovation of higher vocational education, and cultivate high-level and high-quality technical and technical personnel to meet the new needs of China's economic and social development, in recent years, the state has issued the National Implementation Plan for Vocational Education Reform, the Action Plan for Improving the Quality and Training of Vocational Education (2020-2023), the Overall Plan for Deepening educational assessment Reform in the New Era, the Administrative Measures for the Establishment of Vocational Education Majors at the Undergraduate Level (Trial), etc., A series of documents and meetings, such as the National Education Conference and the National Vocational Education Conference, It shows the confidence and determination of the country to vigorously develop vocational education. Undergraduate level vocational education is the highest level of the current vocational education, is the embodiment of the overall level of national vocational education, its goal is to cultivate basic theory solid high level, high quality technical skills, is fit our country higher vocational education service economic development of national policy proposition, has the important fundamental, overall and strategic significance.

## 2. The new era educational assessment reform inspires the development of professional clusters in colleges and universities

Under the background of deepening educational assessment reform in the new era, the construction of vocational education clusters at the undergraduate level needs to pay attention to the reform of industrial clusters, reorganize and upgrade the interaction mechanism between talent training objectives, teachers, resources and industrial clusters, so as to realize the coordinated development of professional clusters and industrial clusters.

### 2.1. Educational assessment reform connotation analysis

In October 2020, the state issued an overall plan to deepen the reform of educational assessment in a new era, clarifying that the overall requirements for university evaluation are to promote categorical evaluation, guide different types of universities to achieve scientific positioning, and achieve their characteristics and levels.

Professional clusters of vocational colleges at the undergraduate level should adapt to the development needs of industrial clusters, examine market development trends, and change the

concept of professional construction; adapt to the new teaching requirements, build double-position teachers and structured teacher teaching (scientific research) innovation team; Seize new opportunities for talent training and reform, strengthen experimental practice bases, and cultivate high-level and high-quality technical talent.

To deepen educational assessment reform in the new era, The construction of vocational colleges at the undergraduate level should adhere to the "332" principle of connecting three and three three, "Three high schools": that is, high-level, high-starting point, high-standard construction of a number of key majors and professional groups, Through a long schooling, To provide high-level and high-quality technical and skilled personnel support for industrial transformation and upgrading; "Three cohesion": that is, pay attention to the connection with secondary vocational schools and higher vocational majors, Focus on the connection with the development trend of science and technology and the new demand of industry (post), Pay attention to the connection with the standards of undergraduate vocational schools, the standards of vocational education at undergraduate level and related evaluation programs; "Two unchanged": that is, in the talent training target positioning adhere to the high-level, high-quality technical skills personnel unchanged, In the training mode, adhere to the integration of industry and education, school-enterprise cooperation unchanged.

## **2.2. Analysis of the connotation of professional cluster**

The construction of professional clusters requires the development of relatively focused clusters consisting of new modern industrial clusters with the same technical foundation in the same professional category and with the same basic requirements of professional technology and basic technical ability. The professional cluster is an organic set corresponding to the requirements of the post group on the industrial and innovation chains. It takes the core majors with high correlation degree as the leading group, and is formed by several identical or similar and internally related engineering objects and majors in the technical field<sup>[1]</sup>.

## **2.3. Building a community of a shared future between schools and enterprises**

The new era of undergraduate level vocational education training object is the industry, enterprise urgent needs of high level, high quality technical skills personnel, strengthen the colleges depth fusion culture, gradually implement enterprises as the important dominant, in the colleges and universities, around industry college, professional, experimental training room, practice base, teachers, courses and teaching resources and training resources such as the co-construction and sharing of dual education mode. At the same time, combining with professional characteristics actively explore Combined engineering, university-enterprise cooperation of double main sports, promote industry, industry, enterprise, professional and professional "five industry linkage", form the government, industry, enterprises, vocational colleges and research institutes "five side force", establish "production, study, research, turn, and" as the integration of the collaborative education mechanism, realize the symbiotic interaction and win-win, form the university-enterprise cooperation fate community, for socialist modernization construction to provide professional talents and intellectual support.

## **3. The dilemma of professional cluster construction in vocational colleges and universities**

Professional specialization is the starting point for vocational colleges to highlight school-run characteristics, build high-quality brands, find breakthroughs in transformation and realize promising development. However, due to the traditional school-run philosophy and the path-dependent separation of industry and education in vocational education, some difficulties remain in the construction of vocational clusters.

### **3.1. Separation of industry and education, and a single school-enterprise cooperation mode**

Even though the state has corresponding guidelines and principles for school-enterprise cooperation and Combined engineering, there is a lack of practical and operational policies and regulations. Detailed rules and regulations, School-enterprise cooperation does not clarify the

responsibilities, rights and interests of both sides, often appear the phenomenon of enthusiasm in vocational universities, and enterprises lack the binding force and driving force to participate in vocational education at the undergraduate level. The overall layout of school-enterprise cooperation lacks overall planning, and the scattered mode of cooperation is usually adopted, which is not conducive to giving full play to the role of school-enterprise cooperation in the construction of professional clusters and talent training.

### **3.2. Resources are limited, and the professional construction is relatively backward**

Local industrial structure by the market economy adjustment volatility, undergraduate level vocational colleges in professional setting and adjustment lags behind the pace of industry development and needs, affect the building of the fusion platform, affect the quality of vocational education personnel training, is not conducive to reasonable and effective configuration and utilization of existing resources, is not conducive to the dynamic adjustment of the construction of professional cluster<sup>[2]</sup>, Make it difficult for the talents needed by the innovation industry chain to get strong professional support.

### **3.3. The absence of the mechanism, the professional cluster governance is powerless**

The lack of in-depth understanding and communication between schools and enterprises, as well as differences between systems and mechanisms, restrict accurate localization of the foothold and power points of professional cluster governance. The construction of professional clusters involves operational mechanisms for resource allocation, multi-party coordination, evaluation, and feedback, which are directly related to the innovation, execution, and rationality of professional cluster construction. Undergraduate level vocational colleges is still in the preliminary exploration stage of the construction of professional cluster, not yet in the professional cluster and industrial cluster docking degree, applied talents training specifications and the matching degree of industrial cluster, professional cluster service strength, research integration of the core link, important areas to establish perfect operation mechanism.

## **4. The implementation path of the connotation promotion of the professional cluster construction in vocational colleges and universities**

The construction of professional clusters is the entry point to enhance the core competitiveness of vocational colleges at undergraduate level, so it is especially necessary for vocational colleges to enhance the connotation of professional cluster construction at undergraduate level.

### **4.1. Pay attention to both reform and upgrading**

Deepen the reform of educational assessment and the transformation and upgrading of vocational specialty cluster, adhere to the market-oriented, service development, employment promotion, promote the combination of moral technology, education and training, and documentary certificate integration, explore and implement the implementation of the comprehensive education mode reform of "post course and certificate"; We will promote the upgrading of specialized specialties to the undergraduate level in vocational education clusters, reset professional training objectives, deepen the construction of professional connotations, guarantee teaching conditions, and continuously deepen the integration of ethical technology and combined engineering.

### **4.2. Pay equal attention to inheritance and development**

Adhere to the vocational education type attribute, explore the implementation of vocational education training mode reform, adhere to the goal orientation and problem oriented, with difference planning as an opportunity to mark the table to determine the professional construction goals and tasks, further analyze the problems restricting the development of professional cluster construction and reasons, aiming at the pain points of professional cluster construction, innovative working methods, promote the development of reform, to speed up the pace of upgrading.

### **4.3. Pay attention to integration and innovation**

Aiming at the needs of new industries, new forms of business, new technologies and new models, we adhere to school-enterprise cooperation and integration of industry and education, embed professional groups into the industrial chain, curriculum standard production links, classroom work situation, teaching methods and working methods, and further promote combined engineering and the integration of knowledge and action<sup>[3]</sup>.

Through refined Liberal Arts Education, optimization of professional education, strengthening vocational education, deepen the quality education, highlight the core quality, highlight the professional characteristics, industry skills, outstanding ability orientation, strengthen job requirements and training target, strengthening training objectives and graduation requirements corresponding, strengthening graduation requirements and corresponding curriculum system, strengthening curriculum objectives and teaching content corresponding, strengthening curriculum objectives and curriculum evaluation, build university-enterprise cooperation fate community.

Create lasting fusion in line with the law of long-term development of professional cluster, adhere to the market demand as the guidance, with entrepreneur concept of choose and employ persons to cultivate talents, adhere to the integration, interaction, the development of collaborative education, around the enterprise technology plugging point and management difficult problem, please engineers when teachers, let teachers to participate in enterprise project research and development, with real project for students to do training.

## **5. Sustainable development strategy of professional cluster construction in vocational colleges and universities**

The professional setting of "nuclear construction group" proves that the professional setting should be adjusted in time according to the changes of industry and post, and actively open new and high-end majors and new directions in the industrial value chain; We will link higher-level vocational programs with undergraduate and secondary vocational programs, open up channels for the growth of skilled and skilled people, and build a vocational education system.

### **5.1. Build group with chain, repair morality and technology**

Vocational undergraduate course colleges and universities stance higher, should be based on the new period, new goals, new journey, grasp the key points, support, focus, explore university-enterprise cooperation, collaborative education talent training mechanism, through the docking industry demand, service regional development, reflect school characteristics, promote the connotation construction, improve the evaluation system, optimize the teaching team, to carry out the undergraduate level vocational education professional cluster construction, improve support industrial upgrading, technological progress and innovation management service ability. According to the working idea of "overall planning, step by step implementation, key breakthrough, characteristic development", reflect The Times, grasp the regularity, full of creativity.

We will build a professional system that interacts with the local economy, has a reasonable structure and distinctive features, and implement reforms in the professional undergraduate personnel training model and the modular curriculum teaching system. Focusing on the characteristic majors and advantages of the colleges and universities, we should create characteristics and highlight the advantages, integrate and connect with the local economy and industry, focus on the local economic industry chain, and combine with other majors of the colleges and universities, so as to form professional groups and support each other. Gradually condensed "network, chain, group", the construction of professional system, to achieve connotative development, characteristic development, sustainable development. We will promote the connection between the specialty and the needs of the industry, curriculum content with vocational standards, graduation certificates with vocational skills, and vocational education with lifelong learning, and promote the spirit of craftsmanship, exemplary workers, and professional dedication. Using market demand as a guide, we will focus on practical capacity training, cultivate morality and technology,

and improve the quality of talent training.

We will carry out reforms in teachers, teaching materials and teaching methods, and focus on improving the quality of curriculum construction. First, strengthen the construction of "double-qualified" teachers in vocational colleges at the undergraduate level<sup>[4]</sup>, Improve the standards and identification methods of "double-qualified" teachers, and build a number of structured teacher teaching (scientific research) innovation teams. Second, focus on the development needs of local key industries, the construction of school-enterprise "dual" cooperative development of teaching materials. Establish and improve the management system and incentive system, strengthen the construction of school-enterprise "dual" cooperation in the development of professional courses and teaching materials, advocate the use of new loose-leaf, work manual type teaching materials and supporting the development of information resources, and effectively improve the level of teaching material construction. Third, we will deepen reform of teaching methods. Advocate and implement modular teaching, project teaching and other teaching methods, fully stimulate students' interest and enthusiasm in learning<sup>[5]</sup>. We will actively carry out special workshops on personnel training in modular teaching reform, pilot modular teaching programs in specialties with special characteristics or advantages, and implement modular teaching with division of labor and cooperation among teachers. It is necessary to organize the activity of "one excellent course for one teacher, and one brand for one college" to promote the comprehensive improvement of teaching quality in vocational colleges. We have promoted online and offline hybrid teaching, project teaching, case teaching, situation teaching, modular teaching and other teaching methods, and made extensive use of modern information technology in teaching.

## **5.2. To strengthen the chain group, the integration of production and education**

It is necessary to strengthen policy guidance, in line with the principle of "resource sharing, mutual cooperation, mutual benefit and common development", and steadily promote the construction of "five-in-one" industry-education integration training base integrating practical teaching, industry-university-research cooperation, teacher and enterprise training, enterprise mentor source, and student internship and employment<sup>[6]</sup>. We will deepen cooperation between universities and industry's leading enterprises in personnel training, technological innovation, social service, employment and entrepreneurship, and cultural inheritance, so as to form a community of shared future between universities and enterprises. A modern apprenticeship system with Chinese characteristics of joint school-enterprise training and dual-master movement has been implemented, as well as a task-oriented training mode that is tailored to the real production environment of enterprises. Schools and enterprises jointly build industrial colleges, experimental and training bases, master workshops for skills, master workshops for teaching or workshops for intangible cultural heritage inheritance, promote organic links in the education chain, the talent chain, the industrial chain and the innovation chain, and promote structural reform of the supply side of human resources.

## **5.3. Fill the group with the chain and combine education and training**

It is necessary to take Occupational Demand as the guidance, take the cultivation of practical ability as the core, adhere to combined engineering, pay attention to the integration of scientific spirit and humanistic spirit, strengthen the cultivation of students' ideological and moral quality, cultural quality, professional quality and physical and mental quality, inherit the craftsman spirit, guide students to be rigorous, dedicated and professional, excellence and pursuit of excellence<sup>[7]</sup>. We should pay attention to the combination of morality and technology, integrate knowledge and practice, teach students in accordance with their aptitude, implement the system of academic certificate + vocational skill level certificate, highlight the characteristics of vocational undergraduate education, and focus on cultivating a group of high-level and high-quality vocational and technical skills with the spirit of craftsmanship, innovation and entrepreneurship with "thick foundation, heavy practice and strong ability".

There is a need to improve the level of regional economic and social development with high quality, train high-level and high-quality technical and technical personnel to meet the needs of the

industry, strengthen the transformation and promotion of new technological achievements, serve the industrial technology research and development and product upgrading, and promote the accumulation, inheritance and innovation of technology and skills. It is necessary to implement the statutory duty of vocational schools to implement both academic education and training, build staff training bases and continuing education bases with industries and enterprises, and carry out continuing education for all groups of people community education for the elderly, the establishment of lifelong learning system for the whole people, to achieve the scale growth of annual training.

### Acknowledgements

**Subject Name:** Research and Practice on comprehensive education Mode of "Job course Competition Certificate" in Vocational Colleges and Universities- Jiangxi University Of Software Professional Technology for example. **Project Number:** JXJG-21-87-1.

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