Research on Conception of the Quality Standard and Evaluation System of Higher Vocational Colleges

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Keywords: Higher Vocational Colleges, Quality Standard, Evaluation System

Abstract. Higher vocational colleges themselves are complex systems in motion, which survive in the constantly developing environment. The most important task of higher vocational colleges is the cultivation of high-quality skilled talents. Under such development requirement, the construction of quality standard and evaluation system is an important and urgent task for every higher vocational college. According to the poly-system theory and total quality management theory, the quality standard and evaluation system of higher vocational colleges should be concentrated on the three factors, namely student, school running system, social environment, as well as their key nodes that are easy to be ignored. The paper integrates the three factors and the key nodes among them, and also puts forward a more complete and reasonable quality standard and evaluation system of higher vocational colleges.

1. Introduction

1.1. Interpretation of the national policies and actions

There are a series of key documents about vocational education in China, such as National Medium and Long-term Outline Plan for Education Reform and Development(2010-2020), Decision of the State Council on Accelerating the Development of Modern Vocational Education, Construction Plan of Modern Vocational Education System(2014-2020), Several Opinions of Ministry of Education on Further Deepening the Reform of Vocational Education Teaching and Comprehensively Improving the Talent Cultivation Quality of Vocational College, and Guidelines on Diagnosis and Improvement of Internal Quality Assurance System for Higher Vocational College, etc. These documents point out requirements for the quality of vocational education from the holistic view, insightfully emphasize these aspects that should be aware of in the pursuit of the quality of vocational education. “Establishing assurance mechanism for the talent cultivation quality on a regular basis, guiding continuous improvement of internal quality assurance system construction of vocational college, promoting the improvement of internal quality assurance effectiveness and sustaining the improvement of the talent cultivation quality” are clear instructions from the national level.

National Standard for Teaching Quality of Undergraduate Specialty in General Colleges and Universities has been issued. “Quality is the King; Standard is the priority.” The national standard for teaching quality of undergraduate stipulates basic provisions from the aspects of cultivation objective, cultivation specification, major, curriculum system, teaching condition, faculty, quality assurance, etc. Based on the national standard, in accordance with self-development condition, vocational colleges should establish more specific quality standard and evaluation method, which are benchmarked against work procedure.

The national certification for some majors has been launched. The certification standard follows the rule of output-oriented and certification-oriented. It is an inspiration for us to interpret the national quality standard and implement during the actual education and teaching process. Under the guidance of professional certification, each major should foster the self-conscious diagnosis and improvement of professional quality, greatly promote improvement of talent cultivation quality.

The relevant theoretical basis and quality evaluation standard of ICDE (International Council for
Open and Distance Education) have been referenced or locally applied by domestic colleges. Obviously, utilization of international experience can stimulate inspiration and promote improvement.

1.2. Two basic theories of quality standard and evaluation system research at colleges

1.2.1. The first one is system theory.

The main task of system theory is to essentially explain its structure, function, behavior and dynamic state by taking system as the research object and studying the relationship between the whole system and the factors that make up the whole system. Systematic thought is the cognitive basis of general system theory and the fundamental understanding of the essential attributes of the system.[1] Vocational colleges is complex and open systems. According to system theory, vocational colleges are composed of three key factors: main body, system and environment. The main body is student, the system is school, and the environment is social and economic environment. We need to investigate these three factors and their relationship, in order to better understand the operation of vocational colleges and the process of talent cultivation. The system is complex itself. According to management science, we investigate in terms of behavior, organization and rule.

1.2.2 The other is total quality management theory.

TQM (Total Quality Management) takes product quality as the core, establishes a set of the scientific, rigorous and efficient quality system, provides products or services to meet the users’ need, and involves in all activities. It is the management approach of an organization, its core concentrates on quality. Based on full participation, it aims at achieving long-term success through satisfying customer and benefitting all members and the whole society. The concept of quality is related to realization of TQM objective. TQM is comprehensive, personnel-wide, preventive, service and scientific.[2] It follows the PDCA cycle, also known as the Deming Cycle. PDCA cycle is a scientific procedure, which improves product, service or work quality. P (plan) is the plan, D (do) is the implementation, C (check) is the check, and A (action) is the processing. These four phases are repeated. There is no beginning point, but ending point.

Quality management of vocational colleges follows the principle of TQM. The product of vocational colleges is "student". The product quality assurance is not only a test process, but also a qualified operating process in all phases. "Student" should satisfy not only parent, but also society, government and student itself.[3] All members in the school running system of vocational colleges participate in the output of this product, and ensure the quality of each step. Finally, the product quality can be guaranteed. The whole process also follows the PDCA cycle. The quality standard and evaluation system of vocational colleges correspond to the P phase, also known as the planning phase. In this phase, the product quality standard is built and evaluation arrangement is made. The evaluation arrangement exists in the next three steps, and it exists in real time.

Therefore, before analyzing the quality standard and evaluation system of vocational colleges, we should analyze the operating system of the vocational college to find the key nodes, and formulate scientific quality standard and evaluation system for each key node, which makes up comprehensive quality standard and evaluation system in total.

2. Logical Deliberation on Construction of the Quality Standard and Evaluation System of Vocational Colleges

2.1. Three factors are the key observation points.

The three key factors are body, system and environment. The three factors form a symbiotic system of vocational education.
According to Poly-system, the three factors form the subsystem. Especially the school running system, as the core part it is an open system with complex contents. The three factors have their independent connotations, meanwhile, they are mutually related. The main body is the fundament, the system is the core, and the environment is the premise.

The student is the main body. According to the product orientation, student enters vocational college, completes quality transformation with development support of the school, and becomes qualified and excellent graduates. “For all students, all for students.” The body is fundamental, the system serves the body, and the environment also serves the body. The body complies with the output orientation and becomes a qualified product meeting the graduation requirement and training objective after being processed by the "factory" school.

The system refers to the school system, with its independent organizational structure. According to the theory of management science and stemmatological science, we can understand that the system includes three levels: organization level, behavior level and rule level. The organization level is the physical structure, including organization of professional construction, organization of teaching management, organization of support service. Obviously, both the teaching management and the support service organizations support the professional construction work, and finally serve the main body development. The behavior level is the action taken by each organization. Professional construction organization focuses on the professional construction, such as the faculty construction, the teaching condition creation, the talent training scheme formulation, the teaching process implementation, the student learning guidance and so on. On the other hand, teaching management organization supports various behaviors of professional construction, such as daily teaching arrangement, teacher training, implementation of expectational control and operational control and feedback control to teaching quality. Support service organization, including support services outside the teaching management organization, such as the logistics organization, etc. The long-term development of vocational colleges should aim at improving the quality of school running. Firstly, the quality standard that can be continuously improved should be established at the rule level. Secondly, the standard should be practically implemented at the operation level. At the same time, we should continuously evaluate, diagnose and improve the operation level according to the standard. This is a circular process, which needs to rely on the operation of a good organizational structure.

Environment, mainly refers to the social environment for school running and student development. For vocational education, important points are professional talent needs with the industry development, enterprise requirement for talents, professional talent evaluation of government, news media and parent. There are macro, medium and micro environments, where the main body always lives. The environments effect on the main body. The social background and regional development belong to macro environment, the school system is medium environment, the teaching class and all teaching phases belong to micro environment.
2.2. Related nodes analyses of the three factors

Student body, school running system and social environment constitute a symbiotic system, and there is a relationship chain among them, which is also the focus of our research. With the function of the relationship chain, the product output works. What is the relationship among them?

For the relationship between main body and school running system, the relationship between input and output, the system serves the body, and the body develops when it is served. This relationship is achieved through theoretical and practical teaching process, learning process, and various project activities. This is the key node that the relationship presents. The teaching procedure includes professional talent cultivation objective, graduation requirement, curriculum system, curriculum objective, teaching process, teaching methods and other contents. The learning process includes career development goal, gradation goal, professional cognition, curriculum cognition, learning process, learning method and other contents.

Figure 3. Diagram of key nodes between student body and school running system

The relationship between the main body and the environment. The main body comes from the environment and eventually returns to the environment. The main body serves the environment, the environment also supports and promotes the development of the main body. The body is subject to the examination and evaluation of the environment. The key nodes between them are the employment and the feedback generated around employment. The government, enterprise, news
media and parent in the environment constitute the external evaluators of the system.

The relationship between school running system and environment. The environment mainly presents industrial development, enterprise requirement and social identity effects. The relationship nodes between them are the development of career orientation and the integration of industry and education.

Figure 4. Diagram of key nodes among the three factors

3. The Conception of Basic Framework of the Quality Standard and Evaluation System of Higher Vocational Colleges

Based on the observation of the three factors, we find out the linked relationship among the three factors. As shown in figure 4, the relationship nodes among factors are the key for factors to play functions. The nodes are also the characteristics of the system. They cannot be ignored in TQM theory. Many articles on the quality of colleges generally focus on the internal systematisms of the school running system or the three factors themselves. And the key relationship nodes among the three factors are ignored. From the above three relationship nodes, it is not difficult to find out that the most important node is the dual process between teaching and learning and its quality control. And other factors serve this node.

Based on the above analyses, we consolidate the three factors and the relationship nodes among them, finally form the quality standard and evaluation system for higher vocational colleges. The system can also be referred to as talent cultivation mode at vocational college. The key task for higher vocational colleges is to cultivate high-quality skilled talent, and the most critical node in the framework of the system is dual-process control between teaching and learning, which acts directly on the main body.
4. Conclusion

Based on the actual operating mechanism study of higher vocational college, observed three factors of the student body, school running system and social environment, studied the relationship of the key nodes among three factors, referred to related national standards, combined with system and total quality management theories, then formed the basic framework of the quality standard and evaluation system of higher vocational colleges. This basic framework as the talent cultivation mode of higher vocational colleges can be applied to promoting the development of higher vocational colleges.

Acknowledgment

In this paper, the research was sponsored by Yunnan Open University Teaching Reform Research Project, Research on Quality Standard and Evaluation System of Yunnan Open University.

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