

Research and Practice on the Quality Evaluation of Specialty Construction from the Perspective of Diagnosis and Improvement

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Abstract:

The quality of professional construction has a direct impact on the quality of high-quality technical and talent development. How to ensure the quality of professional construction has always been a research topic for educational managers. This paper begins with the existing problems in the quality evaluation of specialty construction, such as the homogenization of evaluation criteria, the disconnection between evaluation and improvement, and the inconsistency between process and outcome evaluation. On this basis, combined with the characteristics of specialty diagnosis and improvement, starting from the construction of specialty classification, determine the important factors affecting the quality evaluation of specialty construction. By constructing professional quality evaluation mechanism, evaluation and diagnosis model, evaluation index system, data analysis platform, provides a practical plan for quality evaluation of specialty construction, and implementation.

Keywords: *Self-diagnosis, Classified construction, Quality evaluation, Diagnostic model.*

I. INTRODUCTION

Professional construction always stands out in the reform and development of schools. From national model school, core school, to high-quality school construction and "double-high plan", it is always inseparable from professional construction, which reflects the importance of professional construction quality. In September 2015, the Ministry of Education issued the Action Plan for Innovation and Development of Higher Vocational Education (2015-2018), in which the first part of the main tasks and measures proposed to improve the professional construction level, focus on professional construction, improve the quality of factors, innovate the form of development, expand the total amount and coverage of high-quality education resources, and improve the balance degree and social recognition of regional higher vocational education^[1]. In February 2019, one of the key tasks in the National Vocational Education Reform Implementation Plan issued by the State Council was to initiate the implementation of the "Double-High Plan" to build a group of higher vocational schools and core majors (groups) leading the reform, supporting development, Chinese characteristics and world-level^[2]. As the basic platform of talent training in schools, the quality of specialty construction directly affects the quality of training high-quality

technical and skilled talents. How to ensure the quality of specialty construction has always been a research topic for education managers.

Since 2016, based on the construction of internal quality assurance system, the College has continuously promoted diagnosis and improvement, and established the diagnosis and reform operation mechanism based on specialized classified construction projects. Through continuous improvement of the mechanism construction, it clarified the professional construction objectives, optimized the talent training scheme, reformed the curriculum system, implemented the dynamic optimization and adjustment of majors, carried out the professional assessment diagnosis and reform, promoted the construction of various professional factors, and formed a perfect professional construction quality evaluation mechanism from the perspective of diagnosis and reform. During 2017-2019, 6 majors of the University were rated as provincial-level advantageous specialties, and 5 majors were rated as provincial featured specialties. It accounts for 39.3% of all majors in the school. In 2019, 6 majors were selected as core majors of the Ministry of Education.

II. THE CONNOTATION OF PROFESSIONAL CONSTRUCTION QUALITY EVALUATION FROM THE PERSPECTIVE OF DIAGNOSIS AND REFORM

2.1 Quality Assurance and Professional Quality Assurance

The concept of Quality Assurance (QA) first appeared and applied in western enterprises in 1950s and 1960s, and was introduced into service industry and other social public fields. Quality assurance is defined by the International Organization for Standardization as "all planned and systematic activities carried out in the quality system and substantiated as required in order to provide sufficient confidence that the entity can meet the quality requirements ^[3]. Quality assurance was limited to the circulation field at the beginning, and then gradually extended to the whole process of enterprise production and operation, i. e. from customer demand identification, including the whole process of design, manufacturing, inspection and pre-sale, in-sale and after-sale service. With the release of a series of ISO9000 quality management and quality assurance standards, the real quality assurance becomes more perfect, systematic, normative, consistent, applicable and feasible. "

At the end of December 2015, the Ministry of Education issued the "Guidance Scheme for Diagnosis and Improvement of Internal Quality Assurance System in Higher Vocational Colleges (Trial)"(JZCSH [2015] No. 168), in which "professional quality assurance" is one of the five medical treatment reform items in the guidance program. The concept of professional quality assurance also originates from the concept of "quality assurance" in quality management, which is the main content of school quality evaluation. Therefore, professional quality assurance can fully draw lessons from the Total Quality Management (TQM) theory, take the quality improvement of personnel training as the core, and determine the professional construction objectives and standards according to the professional development plan, professional construction scheme and standards, etc. Through consummate process and data combination information quality monitoring, guide teachers to participate in professional construction throughout the

whole process, optimize talent training program, reform curriculum system, promote construction of all kinds of professional factors, establish diagnosis combining internal and external specialty, continuously improve evaluation quality, form a normal professional internal quality diagnosis and reform mechanism, and promote professional dynamic optimization and adjustment.

2.2 The Connotation of Quality Evaluation of Specialty Construction from the Perspective of Diagnosis and Reform

The evaluation of professional quality from the perspective of diagnosis should pay more attention to overall consideration, target setting and long-term planning. With the overall goal of school development and talent training promotion, paying attention to the output achievements, closely combining the annual work task of the school and the department and specialty construction planning, clarifying the specialty construction objective chain, paying attention to the relationship between "results and causes" generated by the professional achievements, and based on the concept of "diagnosis and reform", construct the normal internal quality diagnosis and reform mechanism of the specialty, promote the dynamic optimization and adjustment of the specialty, so as to continuously improve and continuously improve the professional quality.

In the whole evaluation process, the role of guidance and performance shall be further emphasized, the index boundary with professional evaluation, advantages and specialty selection shall be clearly defined, and the continuous improvement and development of specialty shall be promoted through data analysis and professional analysis based on problem-oriented, and the combination of process and result shall be further emphasized. Instead of paying too much attention to the construction status of a certain stage, such as year-end evaluation, in the original professional construction evaluation, and neglecting the specific procedures and stages experienced in the course of professional construction and development. Further emphasis is placed on the combination of quantitative and qualitative evaluation. Quantitative evaluation decomposes the professional construction task into a series of specific, measurable and verifiable indicators through the application of data, and collects, counts and analyzes the data through reasonable design of evaluation index system or formulation of standards, so as to reflect the professional construction achievements. The qualitative evaluation shall be combined with professional research and analysis, professional process materials, professional construction scheme, enterprise, parents and students' evaluation and external quality evaluation, so as to fully and truly understand the professional construction process and development trend. They closely combine, verify and promote each other to realize the benign complementarity of evaluation, so as to evaluate the professional quality objectively and comprehensively.

III. SOME PROBLEMS WORTH THINKING ABOUT IN THE QUALITY EVALUATION OF HIGHER VOCATIONAL EDUCATION MAJORS

3.1 Significant Homogeneity of Professional Quality Evaluation Standards

The homogenization of professional quality evaluation standards can be understood as the decision in the process of professional quality evaluation, in which the evaluation subject formulates or adopts similar

standards to measure the evaluation object or uses the unified expected result to examine different evaluation objects. In the process of specialty construction, the homogenization of evaluation standards is bound to produce homogenized competition and homogenized imitation construction, which will lead to the lack of prominent advantages and characteristics of specialty construction. In the evaluation, some evaluation subjects fail to fully distinguish between regional development and regional development, and adopt unified criteria to evaluate the development of specialties in different regions, for example, the popularity of a certain major is measured by indexes such as admission score and salary of students. Some evaluation subjects use the same criteria to evaluate the construction of each major in the whole school, ignoring the differences in the construction basis, construction time and construction advantages. For example, a set of indicators shall be used for evaluation of superior specialty, characteristic specialty, core specialty and new specialty. The reason lies in the lack of professional management mode, assessment mode and management evaluation system based on different scales, levels and development processes in the course of professional construction, resulting in the same evaluation standards and weak pertinence.

3.2 The Inconsistency between Process and Outcome Evaluation

In the process of evaluation, the target value has strong detectability and predictability, which leads to the over-reliance of some evaluation subjects on the result-oriented evaluation. Such as the professional employment rate, certificate passing rate, the number of national projects and other indicators to measure a professional construction. However, overemphasizing the result orientation and neglecting the influence of other factors will lead to more and more extensive professional management, or even bad competition. If too much emphasis is placed on individual performance and results, it is bound to affect the construction and development of professional teams, while too much emphasis on professional performance and performance is bound to affect the construction and development of the whole professional group. Therefore, in professional quality evaluation, we should deal with the combination degree of process evaluation and result evaluation correctly, fully consider the relationship and logic between individual and team, specialty and specialty group, and manage, guide and supervise professional system construction, team construction, curriculum construction, practice teaching, plan execution and so on.

3.3 Disconnection between Professional Quality Evaluation and Professional Improvement and Promotion

It is very important to grasp the purpose and final result of professional quality evaluation, but in actual use, the evaluation purpose of some evaluation subjects is relatively single, such as the basis for professional assessment and the ranking of evaluation. This leads to the disconnection between professional quality evaluation and professional improvement. Therefore, the author thinks that the evaluation of professional quality should be a prerequisite, and the final destination is professional diagnosis and reform. Only through the evaluation to make the profession obtain the unceasing promotion, and further defines the professional orientation and the development direction, is the final professional quality evaluation target value embodiment. Therefore, professional quality evaluation and professional improvement should complement each other. Only by forming the internal mechanism of professional

self-improvement and self-perfection can we finally promote the sustainable development of specialty.

IV. SPECIFIC IMPLEMENTATION PATH OF PROFESSIONAL CONSTRUCTION QUALITY EVALUATION FROM THE PERSPECTIVE OF DIAGNOSIS AND REFORM

At present, the quality evaluation mainly includes government-led mode, intermediary organization certification mode and university self-management mode. For example, the evaluation of teaching quality in the United States is mainly initiated by specialized agencies and non-governmental organizations, including non-official, non-governmental organization accreditation, ranking and doctoral evaluation; in the United Kingdom, the university self-management mode is adopted, the university enjoys greater autonomy, and the university itself is responsible for the university quality, which is specifically judged by academic experts, with less government intervention ^[4]. At present, there are three kinds of professional construction quality evaluation in Chinese schools, such as government-led selection of national and provincial majors, non-government-led certification of majors, and internal self-evaluation of schools. As a vocational college, it mainly serves the development of regional economy, and considers whether to meet the needs of high-quality skilled personnel cultivation and whether to meet the needs of students' all-round development. Therefore, the quality evaluation of higher vocational education construction from the perspective of diagnosis and reform integrates the concept of self-diagnosis and reform, fully considers the needs of stakeholders, and adopts the evaluation mode of independent evaluation and effective participation of stakeholders.

4.1 Establish Professional Evaluation Mechanism for Department Coordination, Classified Evaluation and Dynamic Management

Professional construction quality evaluation is complex system engineering. It is necessary to meet the evaluation needs of professional internal management as well as the needs of economic and social development and comprehensive human development evaluation. Therefore, the whole evaluation is not only a department or a specialty, but also involves teaching management, recruitment and employment, international cooperation, quality control and production-university cooperation. Outside needs education management department, education evaluation department, enterprise, graduate and so on multi-participation. Classification evaluation is to change the original "one-size-fits-all" construction mode in professional construction, further analyze the connotation of specialty construction, establish relevant system of "classified construction, classified management, classified financing and classification assessment", carry out the classification construction of brand, advantages and features, core and new specialty for all majors, and carry out professional classification assessment and classification evaluation, as shown in Fig1. Digitize the content of professional construction, pay attention to process management, effectively incorporate the core construction data of specialty as the basis of professional dynamic adjustment, gradually establish the relevant mechanism of professional dynamic adjustment and dynamic adjustment and upgrading mechanism of professional projects, abandon the phenomenon that the original professional construction management only pays attention to the result assessment and neglect the process management; establish the mechanism of professional construction department coordination, change the

common view in the original specialty construction that the specialty construction is the matter of the teaching management department and the specialty, so as to form the construction synergy and promote the professional construction level.

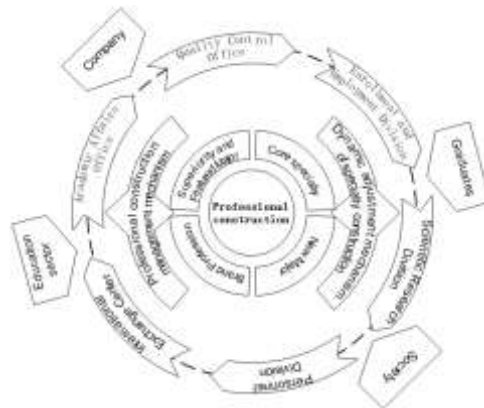


Fig1: Professional management mechanism for classified construction, dynamic management and department coordination

4.2 Establish the Evaluation and Analysis Model of Classification Analysis and Self-Diagnosis

Based on the overall promotion of professional classified construction projects, a normal professional self-improvement and self-improvement internal quality diagnosis and correction mechanism shall be established, and quality evaluation and diagnosis of professional construction shall be carried out on a regular basis to find and solve problems in time. In accordance with the construction principle of objective chain, standard chain and implementation chain, analyze and arrange the planning, objective and scheme of professional construction, and construct the standard of professional classification construction, as shown in Fig 2. Based on the platform, the four links of the specialty from declaration, management, assessment and acceptance are organically connected for dynamic analysis and tracking, so as to provide decision-making basis for the promotion and correction of professional construction [5].

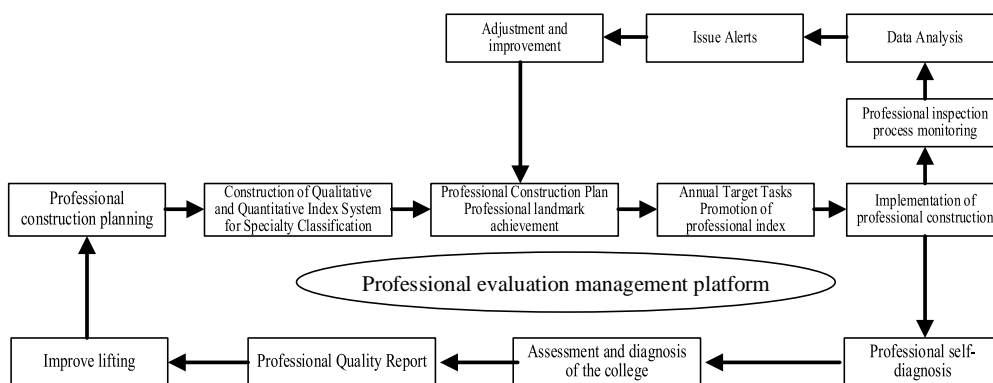


Fig 2: Analysis model of classification analysis and self-diagnosis professional diagnosis evaluation

4.3 Establish Professional Evaluation Index System Combining Process Assessment, Qualitative and Quantitative Evaluation

The evaluation pays attention to dynamics, impartiality and process. Therefore, attention shall be paid not only to the specific implementation, promotion and task completion process of the whole project of professional construction, but also to the specific achievements and actual effects of the project, so as to facilitate timely implementation in the construction process and promptly rectification and improvement in case of problems. Therefore, in the construction of professional evaluation index system, the assessment of teaching, personnel, scientific research, quality monitoring and other eight departments is effectively combined with the change point of attention, and the achievement degree of enterprise demand and student growth demand is combined, and the professional evaluation indicator system with multi-participation, qualitative and quantitative combination is constructed^[6]. The index system mainly includes the indexes of process assessment, qualitative and quantitative analysis. Through task management system, in combination with professional planning and professional scheme, track and evaluate professional construction task execution, fund execution, completion effect, etc., timely analyze and correct the tasks not completed on time; pay full attention to the combination of qualitative and quantitative, establish qualitative assessment indicators of 7 first-level indicators, and conduct a comprehensive assessment and evaluation on overall professional construction by means of expert evaluation outside the school; establish quantitative assessment standards of 9 first-level indicators and 50 secondary indicators, carry out portrait, early warning and real-time dynamic analysis for the specialty.

In the composition of the whole professional evaluation index system, the thousand mark examination mechanism is adopted, the result orientation of the examination is paid attention to, and the importance of quantification is highlighted. For example: the professional orientation and talent training mode mainly set qualitative indicators from three aspects: professional orientation, personnel training mode reform, talent training scheme design, etc., and set quantitative indicators from the number of similar majors of the school and the number of students in the school; cooperation between schools and enterprises sets qualitative indicators from the construction of professional school-enterprise cooperation system and mechanism construction, the planning of internal and external training bases, the number of practical training bases outside the school, the average annual acceptance and retention rate of student internships, the number of ordered classes, and the professional coverage of student internship; the teaching team mainly sets qualitative indicators from the full-time and part-time structure of teaching team, team training and assessment mechanism, and the ratio of students to teachers, double teachers, The ratio of part-time teachers, etc. Therefore, the overall level of majors can be assessed comprehensively. And set different assessment levels according to different majors; the evaluation is carried out through the data provided by relevant departments of the school, students, enterprises and education evaluation institutes, which fully reflects the fairness and dynamic nature of the evaluation.

4.4 Establish Professional Evaluation Management Platform for Real-Time Dynamic and Data Analysis

In order to realize the dynamic nature of professional construction quality evaluation, objective collection monitoring and real-time process management, professional evaluation management system based on school data platform must be constructed, as shown in Fig 3. Based on the management data of teaching, scientific research, personnel, students and social services, the system collects and mines real-time data and historical data. According to the classification of each specialty, the system effectively collects the data in real-time on the school-based state data platform. Based on the specific platform data of school-based state, the system constructs a process management system, an index analysis system, an indicator early warning system and a diagnosis and correction feedback system, which is further refined and transformed into observable and easy-to-collect indicators, and sets different target values, standard values and early warning values according to different specialties. In order to realize the informatization and intelligence of professional construction monitoring and early warning^[7], through the establishment of the platform, the specialty is organically connected from the four links of declaration, management, assessment and acceptance to carry out dynamic analysis and tracking, so as to provide decision-making basis for professional diagnosis and reform.

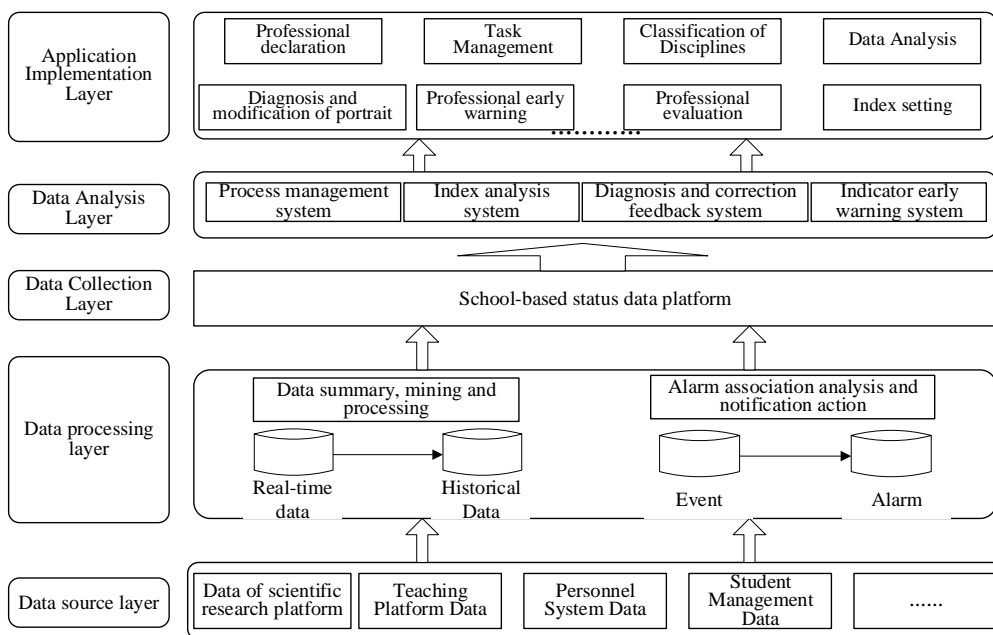


Fig 3: Professional evaluation management platform

V. CONCLUSIONS

Specialty is the link between higher vocational education and social demand. The quality of specialty construction determines whether higher vocational education can achieve level, characteristics and results, and also determines the survival and development of higher vocational colleges in the future. Based on the

development demand of higher vocational colleges and the characteristics of specialty construction, this paper analyzes and summarizes the problems existing in the professional construction and professional quality evaluation. Taking the specialty construction of Zhejiang Economic & Trade Polytechnic as an example, this paper designs and analyzes the system of professional evaluation mechanism, evaluation index and evaluation management platform from the level of specialty construction and quality evaluation. Only by changing the original "one-size-fits-all" evaluation method of specialty construction, effectively combining the process evaluation with the result evaluation, effectively combining the evaluation, examination and diagnosis improvement to carry out the classified specialty construction, fully grasping the basic elements of professional construction and constructing the scientific and reasonable professional quality evaluation mechanism, can the actual effect and the baton function of the specialty construction evaluation be brought into full play, and the professional construction quality and talent training quality can be improved in an all-round way.

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