

Construction of the Quality Assurance System for Collaborative Education of Schools and Enterprises Cooperation in Local Universities

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Abstract—Construction of the Quality Assurance System for School-enterprise cooperation in production and education has become an important way for the transformation of local undergraduate colleges. On the basis of years of cooperation experience, this paper constructs a teaching management system that adheres to the training of double-teachers and the performance appraisal of teachers. It adheres to the "two-line monitoring" jointly implemented by colleges, professional associations and enterprises, and builds a school-enterprise cooperation council. Collaborative Education Group, Professional Steering Committee, and Professional Leaders Association "Four Levels Management", establish a "four-party evaluation" system in which colleges, enterprises, vocational education experts, and students participate in the teaching operation and comprehensive evaluation of personnel training quality, and improve personnel training. The quality system has established a quality assurance system for school-enterprise cooperation and education. Practice has proved that the system is suitable for school-enterprise cooperation in local colleges and universities, and has strong promotion and application value.

Keywords—Quality Assurance System, Collaborative Education, Schools and Enterprises Cooperation

I. INTRODUCTION

Collaborative innovation is the realistic need to promote the connotative development of higher education. It is a major action to deepen the reform of the science and technology system. It is of great significance to improving the innovation ability of higher education institutions and supporting the construction of innovative countries and human resources. Collaborative education is an inevitable requirement for the in-depth development of collaborative innovation in colleges and universities, which in turn promotes more in-depth development of collaborative innovation. In December 2017, the General Office of the State Council issued the "Several Opinions on Deepening the Integration of Production and Education", bringing the integration of production and education and collaborative education to a new height. Collaborative education has become a hot issue in higher education research and practice in recent years. Therefore, a review of the research on the collaborative education of local colleges and universities in China in recent years is carried out, and it is very necessary to propose the research problems or directions of the coordinated education of local universities and enterprises in the future [1].

Yuan Guiren, former Minister of the Ministry of Education, clearly pointed out at the 2016 National Education Work Conference: Innovative talent training mechanism, deepening the integration of production and education, school-enterprise cooperation, and more training of applied and technical skills. The integration of school and enterprise has become an important way for undergraduate colleges and universities, especially the transformation and development of new undergraduate colleges. According to data provided by the Michaels Institute, 50% of the 2014 graduates are employed in "private enterprises/individuals", and the highest proportion of employers are small and medium-sized employers of 300 or less, accounting for 47% of the total. From the perspective of the level of school-enterprise integration, the cooperation of new undergraduate colleges is mainly for small and medium-sized enterprises. Establishing a quality assurance system that balances the responsibilities, rights and interests of the two is a key issue for the success of school-enterprise cooperation. This paper explores the establishment of a quality assurance system from the perspective of political schools and enterprises[2].

II. THE CURRENT PROBLEMS IN THE QUALITY ASSURANCE SYSTEM OF SCHOOL-ENTERPRISE COOPERATION

As a local undergraduate college, Zaozhuang University always adheres to the philosophy of “serving local and characteristic development”, actively promotes the transformation and development to applied universities, and leads the reform of applied talents through the integration of production and education, school-enterprise cooperation and ZTE. , Huihe and other well-known enterprises at home and abroad to carry out school-enterprise cooperation in running schools, has established the "Zhongxing Communications Institute" and "Dawning Big Data Academy". The Ministry of Education's six production and education integration promotion projects "Zhongxing ICT Production and Education Integration Innovation Base", "Data China 100 School Project", "Fenghuang Education University Digital Media Industry and Education Integration and Application Demonstration Base", "Green China Double The “100 Plan”, “Internet + Made in China 2025” and “Scientific Work Capacity Improvement Plan (100 Million Project)” have been settled in our school. In 2017, the number of undergraduate majors (directions) for deep school-enterprise cooperation reached 22, accounting for 40.7% of the total number of undergraduate programs. The school won the honorary title of “Shandong Provincial Enterprise Cooperation and Training Advanced Units” for three consecutive years. In the year, he was awarded the title of “the most undergraduate college with characteristics of running a school in Shandong”.

In recent years, Zaozhuang City has actively promoted supply-side structural reforms, accelerated the conversion of new and old kinetic energy, and proposed six major advantageous industries such as big data, high-end equipment and high-end chemicals. In order to adapt to the regional economy of Zaozhuang, and serve the information industry such as Zaozhuang Big Data, we have actively established related majors such as cloud computing, big data, and internet of things.

However, at present, there is still a problem in the cooperation between school and enterprise that quality is difficult to guarantee. The main analysis is as follows:

A. *Quality Standards and Quality Assurance Systems are not Perfect*

The outstanding performance is that the quality monitoring organization is not perfect, the duties and relationships between the departments are not straightened out, the information transmission is not smooth, and it cannot be issued. The monitoring system of colleges, departments, and enterprises is not perfect, and the monitoring role of students' internships has not been exerted. The quality evaluation standards are not uniform, the evaluation mechanism is not standardized, and there is a lack of social assessment of the quality of students. The evaluation of human factors is too much, and the randomness is large, which cannot accurately reflect the problems of students in the cultivation process.

B. *The System in Which Schools and Enterprises Jointly Monitor the Quality of Personnel Training is not Sound.*

At present, the quality assurance system of higher vocational colleges focuses on quality monitoring of classroom teaching and theoretical teaching, but lacks monitoring and safeguarding measures for other practical teaching links and professional ability training, especially during students' internships. The performance is particularly outstanding. In the context of deepening the cooperation between schools and enterprises in higher vocational colleges, if the monitoring of the quality of personnel training lacks the participation of enterprises, it is impossible to talk about the improvement of the quality of high-end skilled personnel training.

C. *Quality Monitoring Information Feedback Is not Timely, the Effect is not Obvious.*

The teaching department often lacks overall planning for the collection and retention of “quality certificates” (data) [3], and does not establish a good evaluation system for quality factors. Pre-control, evaluation after the event, evaluation has conclusions, lack of timely feedback and effective solutions to the problems found in the process of quality monitoring and evaluation of personnel training, resulting in the problems found in the previous year's inspection still exist in the next year, the quality of teaching The improvement is difficult to get real implementation.

III. THE SCHOOL-ENTERPRISE COOPERATION AND EDUCATION QUALITY ASSURANCE SYSTEM CONSTRUCTION

According to the characteristics of the current higher education personnel training model, aiming at the problems in the quality assurance of personnel training under the situation of school-enterprise cooperation, the quality standard and quality assurance system are adopted as the criteria, with “four-level management” as the means and “four-party evaluation”. To ensure a relatively complete school-enterprise collaborative education quality assurance system[4].

A. *Improve the Quality Assurance System*

Formulate quality assurance systems involving employers, industry associations, students and parents, research institutions, etc., such as teaching quality monitoring system, practice base management system, part-time teacher management system, teaching inspection system, teacher evaluation system, and teaching accident identification treatment Institutions, information feedback systems, graduate tracking systems, student internship management systems, and school-enterprise cooperative teaching management systems.

B. *Improve Quality Evaluation Standards*

According to the professional teaching standards of the Ministry of Education, combined with industry standards, corporate standards, professional qualification standards and job specifications, schools and enterprises jointly develop quality evaluation standards for professional personnel training, evaluation criteria for personnel training programs, professional construction evaluation standards, curriculum construction evaluation standards, and courses. Assessment criteria, teacher evaluation criteria, teaching operation management evaluation standards, practical teaching evaluation standards, student post-internship evaluation standards, and internal and external training base management quality evaluation standards[5].

C. *Build a "Four-Level Management" Mode*

The college and the cooperative enterprises jointly set up a school-enterprise community, and implement the school-enterprise cooperation council--the collaborative education team--the professional steering committee--the professional person in charge joint meeting. The School-Enterprise Cooperation Council is mainly responsible for formulating the "Articles of Association for School-Enterprise Cooperation Council", determining the composition, rights, obligations and responsibilities of the members of the Board of Directors, and building and improving the operational mechanism of the Board of Directors. Study and formulate school-enterprise cooperation development planning, enterprise participation in school personnel training, two-way communication between teachers and enterprise technicians, advanced technology application between schools and enterprises, technology development and technical services, staff training and continuing education, graduate employment, etc. Raise funds for running schools in various forms, promote schools and enterprises to jointly build resource-sharing internship training bases, study and formulate school-enterprise cooperation system and mechanism, and evaluate and reward measures, and promote the government of "government-led, industry guidance, enterprise participation, and school main body" A long-term mechanism for school-enterprise cooperation that is closely integrated with industry enterprises and schools.

The Collaborative Education Working Group is primarily responsible for communication between the School-Enterprise Cooperation Council and the Professional Steering Committee[6].

The professional steering committee is mainly responsible for formulating professional construction and planning, determining the direction of talent training mode and curriculum system reform, formulating and optimizing talent training programs, researching and solving problems arising in the process of professional talent training, and introducing professional courses for enterprise technology standards development. Task-driven, project-oriented teaching mode, explore multi-semester, segmented teaching organization mode, organize students to internship in enterprises, absorb industry enterprises to participate in personnel training and evaluation, organize and implement the industry-university-research cooperation project of this major, develop new School-enterprise cooperation enterprises, maintaining good relations with existing school-enterprise cooperation units[7].

The professional responsible person association is mainly responsible for the specific implementation of the school-enterprise cooperation work, including daily teaching work, professional construction, curriculum construction, teacher training, teacher training, student internship, and teaching supervision. Organize the implementation of professional joint construction, curriculum construction, teacher training and part-time teacher recruitment, internship training base construction, student internship training and employment, advanced technology research and development application and promotion, and enterprise employee training. Promote professional co-construction, cooperative education, cooperative employment, and cooperative development.

D. *Establish "two-Line Monitoring" Organization*

The talent training work is monitored through two lines inside and outside the school. One line is an internal monitoring system consisting of the functional department of the college—teaching department—teaching and research room. Through teaching inspection, teaching supervision, leadership lectures at all levels, teaching situation notification, teaching Information feedback, leadership patrol, teacher's comprehensive ability assessment, etc., monitor, evaluate and feedback the quality of personnel training. The other line is an external monitoring system consisting of the functional department of the cooperative enterprise - the project department - the project development team and the internship instructor and the intern student. Through the investigation of the professional construction committee members, employers, enterprise teaching instructors, parents of students[8], the previous graduates will monitor, evaluate and feedback the quality of the personnel training, and improve the problems in the talent cultivation process based on the feedback information.

E. *Create a "Quartet Evaluation" Mechanism*

Each major establishes a teaching quality evaluation committee jointly participated by the college, employer, vocational education experts and students, and regularly carries out quality evaluation of talent training. The evaluation is divided into the evaluation of professional talent training and the evaluation of students' comprehensive quality. Evaluate the degree of professional teaching content and the qualifications of industry and enterprise qualifications, evaluate the conformity of students' professional ability and professional position requirements, and evaluate the proximity of students' humanities quality and corporate culture. The above information can be obtained by means of questionnaires, evaluation of vocational education experts, corporate visits, graduate symposiums, and network information platforms.

IV. CONCLUSION

In summary, under the situation of school-enterprise cooperation and joint training of talents, local undergraduate colleges should improve and perfect professional standards, curriculum standards, assessment standards and other quality standards, and develop and improve teaching process monitoring, teaching quality assurance, and training base management. The enterprise management system, enterprise training and management, enterprise training and management, part-time teacher appointment and performance appraisal, etc., adhere to the "double line monitoring" of the college, department and enterprise, and establish a school-enterprise cooperation council, collaborative education team, professional The "four-level management" talent training quality monitoring system of the joint committee of the professional committee of the steering committee, the establishment of the "four-party evaluation" system of the colleges, enterprises, vocational education experts and students to participate in the teaching operation and the comprehensive evaluation of the quality of personnel training, and improve the personnel training work. State data platform collection mechanism, annual quality of teaching system, gradually improve the quality of personnel training, and improve the competitiveness of running schools.

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