Research on the Cooperative Education Mode of Schools and Enterprises in the New Era

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Abstract. The development of China has put forward new requirements for the cultivation of talents in colleges and universities under the background of the new era. The paper mainly explores the school-enterprise collaborative education model based on the “School-Enterprise Cooperative Education Steering Committee”, and investigates the current status of the school-enterprise collaborative education mechanism from the perspectives of enterprises, students and graduates. Formulating the program of talents training from four aspects, including the construction of school-enterprise cooperation faculty, the construction of the curriculum system, the innovation of teaching forms, the establishment of the evaluation system, the improvement of the teaching quality monitoring and security system, and thus truly realize the new era of students-college-enterprise win.

Introduction

Since entering the new era, China’s higher education is in the key period of connotation development, quality improvement, reform and the key stage of improving the ability of personnel training and building a strong country in higher education\cite{1}. The development of higher education in China has made historic achievements since the new era. The comprehensive reform of higher education has been promoted in an all-round way. The running of colleges and universities has focused more on the training of talents and achieved remarkable results. However, the central position of talent cultivation is not strong enough. Some universities’ leadership, teachers, students and resources are still not in place. Their educational concepts are still lagging behind. The evaluation criteria and policy mechanism orientation are still not focused enough.

At present, many universities in China, especially higher vocational colleges, actively carry out reforms and explorations from multiple perspectives, and introduce and learn from foreign advanced talent training models\cite{2}. However, due to the large differences in regional culture, development needs and policy orientation, the school-enterprise collaborative education model is
only a paper agreement and the teaching of universities cannot be deeply integrated with enterprises. In order to achieve the synchronization of personnel training and knowledge links, it is necessary to break through the restraint of the existing system and mechanism of school-enterprise collaborative training. Focusing on fully exploiting the potential of talent cultivation, the training units should focus on integrating many barriers that are not conducive to knowledge circulation and knowledge cognition between schools and enterprises, within universities and enterprises, so as to unify the training methods of universities and enterprises and achieve complete unimpeded personnel cultivation for both sides.

**Establishing the Responsibility System of “School-Enterprise Cooperative Education Steering Committee”**

As shown in Figure 1, the “School-Enterprise Cooperative Education Steering Committee” is composed of industry experts with rich working experience and senior professional and technical positions and subject teachers in schools. They will organize visits to students, graduates in recent five years, teachers in schools and related enterprises. Based on the analysis of the survey results and according to the needs of enterprises and the characteristics of students’ development, schools and enterprises jointly formulate talent training plans program, build teachers team of school-enterprise cooperation, perfect the construction of course system, innovate teaching forms, set up the assessment and evaluation system, improve the monitoring and guarantee system of teaching quality and timely feedback on the use of graduates and the requirements of enterprise development for graduates so as to ensure smooth and efficient operation of school-enterprise collaborative education.

**Interview and Investigation**

Only by fully understanding the needs of enterprises for talents, understanding the satisfaction of students in the training model, and understanding the opinions or ideas of graduates on the school training model can we brake the scientific talent training plan and cultivate new talents for the new era. The “School-Enterprise Cooperative Education Steering Committee” should set up a research team to visit employers to understand the needs of different enterprises for talents, invite enterprises to evaluate the knowledge structure of graduates, master the requirements of talents and capabilities of enterprises, and understand the gap between the talents delivered by the model and the needs of
society under the current training. The research team should issue questionnaires (including curriculum practicability, teaching methods, employment planning, and so on.) to listen to the real voices of students and graduates in different grades and majors.

Formulating a Talent Training Program

On the basis of the demand for talents in relevant industries, the universities should define the training objectives of professionals, and construct and improve the training mode of “teaching-learning-production” integration.

Building Teachers Team of School-Enterprise Cooperation

The development of education is closely related to the close cooperation of enterprises. In the new era, enterprises should participate in the whole process of higher education, not only to optimize personnel training, professional courses, teaching methods and other needs of the industry, but also to give full play to the enormous role of enterprises in teacher training[3]. The universities should strengthen the construction of school-enterprise cooperative teaching staff, support colleges and universities to build training bases for teachers’ practical ability relying on large and medium-sized enterprises, establish a system of full-time teachers’ posting in enterprises, encourage young teachers to enter the production line of enterprises, and understand the advanced production technology and enterprise needs of enterprises in time. Enterprises provide university teachers with two opportunities to learn in the near future every year, so as to ensure that university teachers can keep up with the needs of industry development and update teaching content according to social needs. In addition, Hire the backbone of production, scientific research and management in scientific research institutes and enterprises as part-time teachers, set up elective courses, hold periodic academic reports, academic exchanges and so on, so as to ensure that the supply of universities is not derailed from the needs of the new era. Continuously improve the evaluation and assessment procedures of teachers inside and outside schools, cultivate teachers’ awareness of keeping pace with the times, study and practice teaching methods according to the development needs of the times, constantly update teaching cases, innovate teaching forms, and help students master more effective skills.

Perfecting the Construction of Course System

Basic theory courses should be compressed to 7-8 courses. By offering specialized elective courses to meet the needs of different students, and students can choose more practical courses according to their own characteristics and research directions to improve learning efficiency. Strengthen students’ practice teaching, improve the characteristic innovation and entrepreneurship education system, construct the practice teaching platform of linking the practice teaching base inside the school with the practice base outside the school, speed up the construction of the shared practice teaching base between the school and enterprise, promote the guidance of students to advance early topics, laboratories and teams, timely transform the latest scientific research achievements into educational teaching content, and jointly construct the specialty with the enterprise. The curriculum system should correspond to the requirements of professional teaching and enterprise post skills, and realize the docking of professional curriculum content and professional standards. The “School-Enterprise Cooperative Education Steering Committee” should organize teachers from both schools and enterprises to jointly develop high-quality core courses and actively introduce new technologies and technologies into the classroom. Regular updating of teaching syllabus, timely revision of professional textbooks, scientific construction of curriculum system, update the teaching
content, promote the teaching method reform, implement the inquiry, discussion and other teaching methods using new theory, new knowledge and new technology of social development in the new era[4]. Give play to the role of student leadership and promote the cultivation of students' innovative consciousness.

**Innovating the Teaching Form**

Teaching form has a direct impact on the quality of classroom teaching. On the one hand, innovating and improving teaching form according to students’ needs can stimulate students’ interest in learning and mobilize students’ active participation in the classroom. On the other hand, it is helpful for teachers and students to establish good relations, cooperate with each other and improve classroom efficiency together. The new era is the era of Internet+ rapid development. Cloud computing, Internet of things, big data and other emerging information technologies have directly promoted the deepening of teaching methods[5]. Emerging technologies has enriched educational resources, increased learning platforms and opportunities, directly broken the time and space constraints, and to a great extent, it has diversified the manifestations of information. At the same time, it has improved the way students participate in learning and realized the sharing of learning and education resources. Therefore, universities should actively use new media to innovate teaching mode, such as opening “online classroom” and “rain classroom” and carrying out MOOCs, and so on. Students can learn at any time according to their own needs and interests, so as to truly improve students’ autonomous learning ability. Teachers should break the traditional one-way indoctrination model and realize the importance of teaching communication in teaching activities. Teachers can make full use of the mobile phone resources in the hands of students to extend the limited time of classroom teaching to pre-class or after-class activities, so that teaching is no longer subject to time and geographical constraints[6].

**Establishing the Assessment and Evaluation System**

Comprehensive and effective evaluation can not only determine the actual effect after the implementation of the training mode, but also find out the problems in the implementation process in time, so as to realize the promotion of construction by evaluation and improve the quality of talents. Therefore, the quality of personnel training should be assessed by stages, levels and links, and a multi-evaluation system based on ability is established to highlight the assessment of students’ learning, practical and innovative abilities. According to the characteristics of teachers’ duties in different positions, the contents and methods of evaluation are formulated in different levels and disciplines, and the evaluation and assessment of teachers’ educational and practical abilities both inside and outside schools are strengthened. In addition, the evaluation mechanism and reward and punishment system should be established to arouse the enthusiasm of teachers. For the assessment of students, the universities should not only examine their understanding and mastery of practical knowledge, but also analyze their theoretical knowledge structure, innovative ability and sustainable development ability, and incorporate their practical ability, situational understanding and adaptability into the assessment system. Students are encouraged to improve their comprehensive abilities by participating in social practice, scientific research, innovation and entrepreneurship, and competitions. To formulate scientific and reasonable evaluation methods and standards for dissertations, such as summary reports of practical work, innovative use of product instructions, and entrepreneurial project plans can be used instead of research dissertations, focusing on the practical application value of research results[7]. Teachers can constantly understand students’ learning situation and learning effect, and play a positive role in cultivating students’
interest in learning, monitoring and guiding learning in this process. In addition, out-of-school instructors should conduct a weekly high-tech seminar or academic seminar to achieve effective complementarity with in-school classroom teaching.

**Improving the Monitoring and Guarantee System of Teaching Quality**

The “School-Enterprise Cooperative Education Steering Committee” should organize and construct a large data platform for teaching process, adopt appropriate ways to evaluate performance, and establish a dynamic adjustment mechanism. In the course of classroom teaching, the teaching methods are assessed through expert evaluation, student feedback and periodic inspection. The educational effect of this training mode is evaluated comprehensively from the aspects of students’ entrance evaluation, periodic examination, graduation evaluation, employment situation and enterprise feedback. Strengthen the summary and propaganda of typical cases in the process of teaching and practice, give play to the leading role of demonstration, strengthen the follow-up of the implementation process, discover problems in construction in time, and put forward suggestions for improvement. Strengthen the implementation process of management and strengthen dynamic monitoring so as to form an incentive and restraint mechanism, enhance the actual effect of construction, constantly improve the construction of monitoring and guarantee system of teaching quality, improve the effectiveness of monitoring and supervision means of teaching process and production practice process, pay attention to the collection, statistics and analysis of teaching quality information, strengthen information feedback and improve the implementation and application of opinions[8]. At the end of each semester, the “School-Enterprise Cooperative Education Steering Committee” should also follow up and investigate the employers’ satisfaction with the trained personnel, timely feedback the employers’ opinions, and do a good job in the next semester's deployment.

**Summary**

In the new era, new journey and new requirements, universities must conform to the needs of the times, actively explore the mode of school-enterprise collaborative education, mobilize enterprises to actively participate in management and training, give full play to the advantages of enterprises in school-enterprise collaborative education, introduce enterprise executives, engineers and other professionals into the classroom, impart advanced production technology and enterprise development needs to students, and effectively improve students’ professional practical ability and social adaptability, constantly improve and improve the “teaching-learning-production” integration of talent training mode, to achieve seamless docking between the output of university talents and the input of social talents in the new era.

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**References**


